URBANIZATION, MIGRATION AND INDUSTRIALIZATION : A CASE STUDY OF ORISSA AND PUNJAB, 1981-91
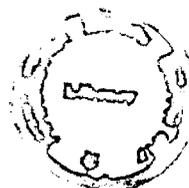
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MASTER OF PHILOSOPHY

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CERTIFICATE

This is to certify that this dissertation entitled "URBANIZATION, MIGRATION AND INDUSTRIALIZATION: A CASE STUDY OF ORISSA AND PUNJAB, 1981-91", submitted by **Sanjay Mishra**, in partial 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.

(M. SATISH KUMAR)
SUPERVISOR

(SUDESH NANGIA)
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TO MY PARENTS

AND

SISTER

ACKNOWLEDGEMENTS

CONTENTS

LIST OF TABLES

LIST OF MAPS

CHAPTER I

INTRODUCTION

1.1 Introductory Statement

As a country undergoes economic development along with an increase in population, there is bound to be a shift from the rural to the urban way of life. The classical view of urbanization characterisises an urban place as an economic parasite thriving on the agricultural surplus produced in its hinterland (the area linked economically and socially to an urban area). From Kautilya's Arthashastra we find that industry and trade were vital components of the urbanization process as early as the 4th century B.C. Medieval cities may be classified either as "towns with predominantly political and intellectual functions" or as having "a predominant economic function" (Hoselitz, 1953). Today, the city is a focal point of productive activities. Primarily, it exists and grows on the strength of the economic activities existing within itself. Looked at from this angle, urbanization in modern times is essentially an economic process.

From the geographical point of view there are three major types of spatial movements relevant to the urbanization process. These are (a) the migration of people from

rural villages to towns and cities, (b) the migration of people from smaller towns and cities and capitals, and (c) the spatial overflow of metropolitan population into the peripheral urban fringe villages. The first type leads to the general process of urbanization, while the second leads to metropolitinization and the third to a process of suburbanizatioin.

1.2 **Review of Literature**

Urbanization studies in India, particularly since the last three decades have received considerable attention of Social Scientists and Planners. Some have gone to the extent of analysing the interrelated aspects of urbanization, migration and industrialization. They have viewed the process on the parameter of causes and consequences, relationships, economic development and policy descriptions.

When we view the entire gamut of urbanization research in India we find that the earlier works were highlighting the promminent features of urbanization dealing with the broad patterns of urbanization. More recently the attention of the Urban Geographers have been diverted towards the major issues of urbanization accompanied with the process of regional development and mostly with the population dynamics which related urbanization with migration. In the forthcoming paragraph we proceed to highlight the main

2

issues of urbanization that have been raised by the authors.

Premi (1974) discussed about the regional pattern of growth of towns in India during 1961-71. According him the new towns generally develop contiguous to an existing urban place which on the other hand established an intimate functional relationship with the other. The growth of independent townships dispersed over a wider geographical area signifying a proliferation of economic and urban functions, leading to a blanaced regional development.

Raza and Mahmood (1987) observed that urbanization is very much linked with the development process as an essential part of the contemporary economic system. Looking at it in a much wider perspective it is the spatial redistribution of population arranged in a hierarchical system of settlements of varying sizes. They have raised the issues of vertical shifts in the workforce structure and horizontal mobility. These are of crucial significance to development process.

Markandey (1990) observed that large towns have a tendency towards a greater concentration and smaller towns have a tendency to decay. In her study she brought out more clearly the picture that the medium and large towns are expanding at the expense of the small towns. In this process of expansion of large cities urban to urban migration

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Kamra (1991) tried to examine the impact of urban growth on social change. For this purpose urban communities of Punjab were investigated. The study revealed that although there is a clear-cut relationship between urbanization and social change, the relationship is mediated by the traditional value patterns particularly in communities which have trade as the dominant activity. Another important point which emerged from his discussion was that those communities having undergone high levels of growth, depict relatively small degree of change particularly in the area of female labour force participation. In our study we will bring out this fact more clearly while dealing the female labour force participation in Punjab.

Premi (1991) holds that the 1991 census data showed that the growth of urban population in India had slowed down in the recent decade. Similar was the case of net migration to the cities. He argued that the industrial activity during the 7th Plan picked up and as a consequence the urban growth should have been much higher. But this was not the case. He raised the question whether the industrialisation process was more capital intensive and as such could not create much avenues for employment.

Panda and Meher (1992) showed that during the early 1980s the emphasis of the State Government was on small scale industries, but they did not help much in accelerating the pace of industrialisation in a balanced manner. On the other hand, it led to regional disparities and slowing down of industrial growth at the aggregate level.

Rukmani (1994) in her study on Tamil Nadu identified 4 distinct phases of urbanization and later she explained the underlying socio-economic factors. In her explanation she pointed out that the spurt in urbanization in the 1960s in Tamil Nadu may be largely due to state induced agricultural and industrial growth.

Meher and Pasayat (1995) analysed the pattern of urbanization and the underlying process in the caseof Orissa. They observed that the spatial spread of urbanization in the state was uneven mostly because of the low level of industrialization and a higher level of socio-econommic disparity at the inter-district level. The setting up of a few large and medium scale industries during the 1950s and 1960s in the tribal districts of the state led to the emergence of new towns. Whether the state government's policy in reducing the regional disparity helped in the process of urbanization in Orissa?

Kundu (1997) observed that a high rate of unemployment in rural areas was expected to accelerate migration to urban areas, increasing the pressure on limited infrastructure. The new development strategy of linking the country with the global economy would accelerate rural-urban migration and boost urban growth. Much of the industrial growth and consequent growth in employment would be within or around the existing urban centres.

Coming to the discussion of urbanization in the world level we are having some important literature, which are worth discussing here.

Sovani (1964) critiqued the Davis and Golden formulation of the over-urbanization thesis. Davis and Golden's study reflected a high degree of correlation between industrialization and urbanization as the point of departure. Sovani however pointed out that the countries which were overurbanized on the basis of this criterion are Egypt, Greece and Korea. His correlation analyses between the two indices of industrialisation and urbanization was much higher for the developing countries than for the developed countries.

Mera (1973) suggests there is a positive correlation between growth of the largest cities and economic development. Large cities are more productive and that the largest

cities are likely to be particularly productive to other cities.

Coming to migration we find that the `Rural-Push' theory seems to dominmate the whole gamut of migration researches in India. It is argued that the flow of migration depend largely on the differential level of economic development of different regions. Economists like (Lewis, 1954; Todaro, 1968; Harris and Todaro, 1970; Grenwood, 1971) have suggested various models to explain the volume and direction of labour mobility. They have generally assumed that most developing countries have experienced rural-to-urban and possibly some urban-to-urban migration.

Zacharia (1964) had conducted a number of studies on the nature and characteristics of rural-urban migration in India. The general conclusions of these studies was that the propensity to migrate to urban areas was much higher among the literate and educated people than among the illiterate and that as the level of education rises the distance travelled increases.

Sovani (1966) held that the main cause of `over urbanization' in this country was the pressure of population on land in the rural areas. Economic pressure on push in the countryside mounts continuously and pushes out people to the cities in search of employment and livelihood. The rural-

urban migration that leads to overurbanization was mainly a consequence of this `push' from the countryside, rather than the demand for labour by developing economic activities in the towns and cities or what is called their "pull" factor.

Alagh, Bhaduri and Bhalla (1978) showed that higher investment and concentration of modern agricultural inputs in a few pockets, and consequent productivity and wage differentials will attract migrant workers from other regions.

Premi (1980) on the basis of 1971 census data found that the rural to rural migration which constitute 70 per cent of the total migration inside the country, is dominated by women. This has been explained in terms of `marriage' and `associational' migrations. He also pointed out that the female migration might also be the result of broken marriages, widowhood, desertion and destitution.

Mitra (1993) examined the urban employment, migrant labour and structural adjustment in India. The study finds that urban employment structure recorded a deceleration in the share of manufacturing in total workforce during 1981-91. The employment prospects in high productive sector in urban areas appear to be bleak. The rural-urban migration rates more importantly for economic reason have ben comparatively less during the 1980's and the rates are found to

have declined further during the 1990's. The author tried to calculate the projected proportion of rural to urban migration for economic reasons under the assumption that structural adjustment programme would be implemented successfully.

Kundu and Gupta (1996) analysed the dynamics of migration and urbanisation in the context of the changing structure of economic development. The authors are of the opinion that the policy of liberalisation, would imply greater movement of capital and natural resources, thereby being associated with growing immobility of workforce and population.

Coming to the aspects of industrialization and economic development we find that in most of the studies a causal relationship is established between the two. In India during the last two decades many works have been done relating to industrialization and urbanization on the one hand and industrialization, urbanization and economic development on the other.

Kundu and Sharma (1983) observed that industrial activities required a certain scale of operation for their efficient functioning. Industrial linkages lead to the agglomeration of production units and consequently to the emergence or growth of urban centres.

Chakravarty (1987) notes the alarming proportion of workers in primary and household sectors of the urban economy of India restrained dynamic urban growth. He, however, observed that since 1961, the secondary and tertiary sectors have been acquiring prominence in generating urban growth in India.

Vyasulu and Arun Kumar (1997) on the basis of their study of industrialisation in Orissa found that the present pattern of industrialisation is largely inadequate. The state has a few big industrial units. The state has to actively intervene in the promotion of those industries suitable to the resource endowment of the state. The authors suggested that the main issue will be to work out strategies that helped in the sustainable growth of industries.

While analysing the literature we find that several issues were raised by social scientists and planners. It is highly doubtful whether mobility patterns in Third World countries have been following or will inevitably evolve along some predetermined path already blazed by western countries. In the current research on migration, the dynamics of migrant adoptation to the environment and culture have not been adequately dealt with.

STUDY AREA

PUNJAB

ORISSA
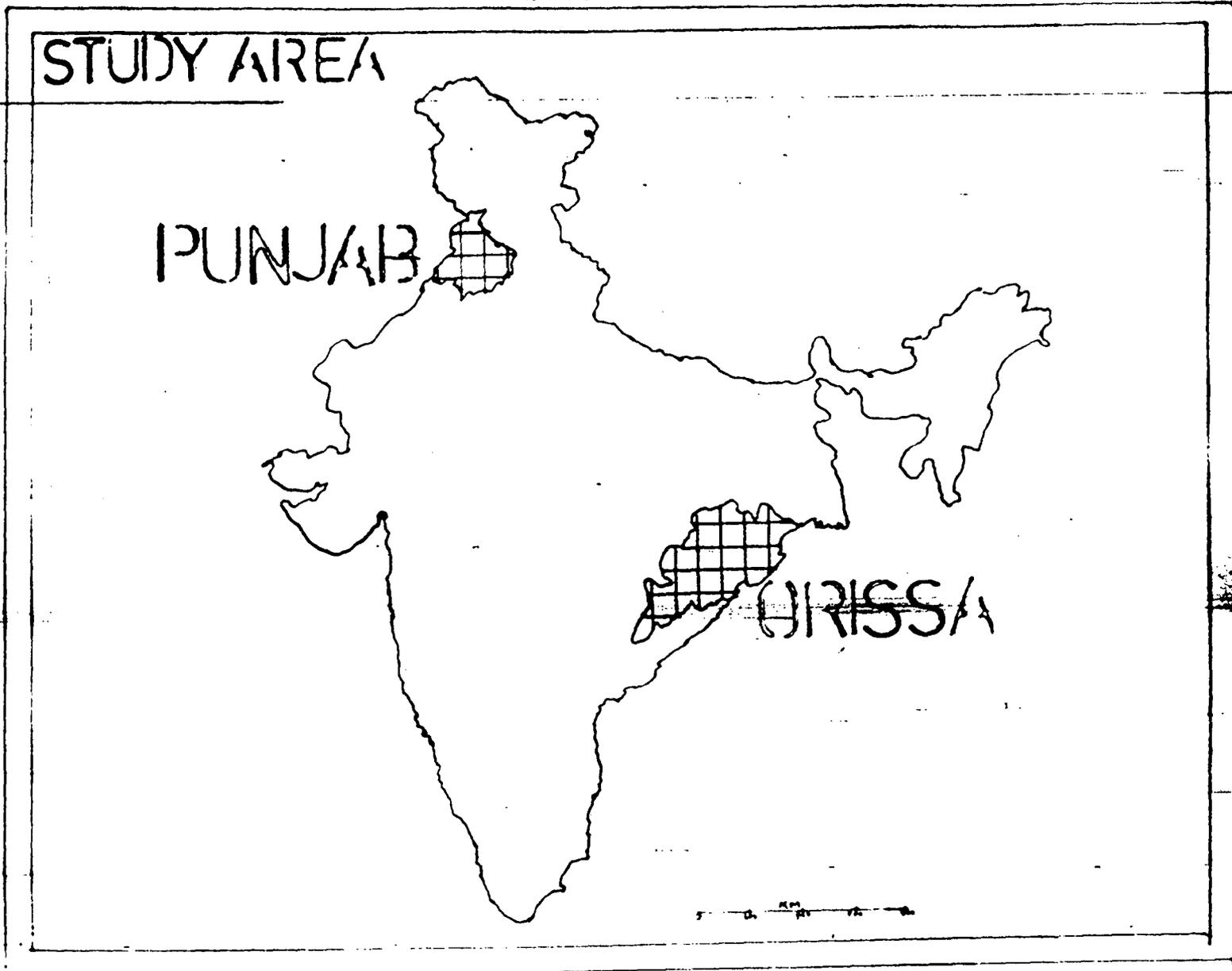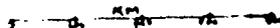
Some authors like Sarkar (1988) holds the view that urbanization in India, as in many other third world countries, is not coterminus with industrialisation. The rate of growth of population in the urban sector now far exceeds the rate at which the industrial and job opportunities are expanding. The essence of our research will be to throw light on these issues, raised by the authors.

1.3 Choice of Study Area

The study consists of a district level analysis of two states viz., Orissa and Punjab. It enabled us to study the patterns of urbanization, migration and industrialization of these two states for the period 1981 and 1991. The following districts were taken for study.

(A) Orissa - Sambalpur, Sundargarh, Kendujhar, Mayubhanj, Baleshwar, Cuttack, Dhenkanal, Phulbani, Balangir, Kalahandi, Koraput, Ganjam and Puri (thirteen districts).

(B) Punjab - Gurdaspur, Amritsar, Kapurthala, Jalandhar, Hoshiarpur, Rupnagar, Ludhiana, Ferozepur, Faridkot, Bathinda, Sangrur and Patiala (twelve districts).

The study area was chosen for the following reasons:

(i) These two states fall in two different agro-climatic regions. When Orissa falls under the Eastern

11

Plateau and Hills Region, Punjab falls under the Trans-Gangetic Plains Region.

(ii) The two states are having agrarian mode of economy. Orissa falls under rainfed wet rice agriculture, the latter falls under irrigated wheat agricultural zone.

(iii) The agricultural development in Orissa showed a dismal picture with a sluggish growth. As a result the economy of the state is mostly backward. On the other hand, Punjab showed a rapid growth in agriculture. Because of the developed economy rural transformation is also taking place. This enabled us to give a comparative picture of urbanization in the two states.

1.4 Objectives

The major objectives of this study were to analyse the patterns, and interrelated factors or ubanization, migration and industrialisation with reference to Orissa and Punjab.

The specific objectives of the study are as follows:

i) to analyse the trends in urbanization and urban growth for the period 1901-1991;

ii) to examine the character of the patterns of internal migration;

iii) to study the sectoral distribution of workforce, the occupational structure and the structure of manufactur-

ing and tertiary workers.

1.5   The study is based on the following propositions:

  i) Growth of town is a function of population size;

 ii) Urbanization and non-agricultural activities are di-
     rectly related;

iii) There exists a positive relationship between urbaniza-
     tion and industrial activities;

 iv) The shift from primary to secondary or tertiary sectors
     of economy usually takes place along with the migration
     of population from rural to urban areas.

  v) Areas where there is a shift of occupation from primary
     to secondary are also areas with increasing rate of
     economic development;

 vi) The share of rural to urban migration is directly
     related with urbanization.

1.6 **Database:** The sources of data for the present study were
the following:

     Urbanization:

  i) General Population Tables, Part II-A, Series 16 Orissa
     Census of India, 1981.

 ii) General Population Tables, Part II-A, Series 17 Punjab
     Census of India, 1981.

iii) Primary Census Abstract, Part II-B(ii) Volume II India,
     Census of India, 1991.

Migration:

i) Migration Tables, Part VA&B Series 16 Orissa, Census of India, 1981.

ii) Migration Tables, Part VA&B Series 17 Punjab, Census of India, 1981.

iii) Migration Tables, Census of India, 1991.

Industrialisation:

i) General Economic Tables, Part IIIA&B, Series 16, Orissa, Census of India, 1981.

ii) General Economic Tables, Part III A&B, Series 17, Punjab, Census of India, 1981.

iii) Primary Census Abstract, Part II-B(i) Volume II Census of India, 1991.

Development Indicators: The indicators have been collected from the Statistical Abstract of the respective states and CMIE.

1.7 Organisation of the Study

The present study is presented in six chapters.

Chapter I presents the problem and the objectives of the study. It also provides an overview of the state of urbanisation, industrialisation, migration and economic development.

Chapter II deals with the analysis of urbanization and urban growth in Orissa and Punjab. Part I critically examines the different approaches adopted in defining the concept of `urbanization' in general, and in particular the conceptual problems involved in defining the `urban' places in India. The analysis of trends in urbanization and urban growth for period 1901-91 were analysed in Part II for the state as a whole. The analysis of the patterns of urban growth for the period 1981-91 have been dealt with at the district level.

Chapter III presents the analysis of patterns of internal migration in Orissa and Punjab in relation to sex, distance and by rural/urban flows. The Section II of the chapter deals with the sectoral distribution of migrant workers.

Chapter IV discusses the workforce participation, the sectoral distribution of workers and the structure of manufacturing and tertiary workers inthe two states.

Chapter V attempts to explore the interdependence of urbanization, migration, industrialisation and socio-economic development.

Chapter VI presents the summary and conclusion of the research.

CHAPTER II

MORPHOLOGY OF URBANIZATION IN ORISSA AND PUNJAB, 1981-91

2.1 India's tradition of urbanization goes back to nearly five thousand years when the Indus Valley Civilization saw the birth of some of the earliest urban settlements in human history. In course of time, urbanization spread to several other parts of the country and came under the impact of varied forces operating in successive periods ancient, medieval and modern (Bala, 1986). As a consequence, India's urbanization today is a mosaic of the pre-British, colonial and post-Independence periods.

The "State of India's Urbanization (1988), NIUA, New Delhi" gives the salient features of India's urbanization:

(a) Though relatively less urbanized, the size of India's urban population is one of the largest in the world.

(b) India's urban growth rate is high in itself but is still significantly lower than in several developing countries.

The 1991 Census revealed a significant acceleration in the absolute number of urbanized population in the country. In the last decade (1981-91), the increase has been particularly large of about 56 million. The total urban population of India in 1981 was greater than the urban population of

16

all other countries except China, Russia, and the USA. However, given India's size and diversity, any discussion of urbanization would be incomplete without a regional perspective. Comparison of two states (Orissa and Punjab), having different urban characteristics (the former shows the predominance of rural population than the latter from the beginning of the century) helps to throw some light on the regional diversity of the urbanization process in India. Thus an attempt has been made to give a comaprative picture of the patterns of urbanizatiojn in Orissa and Punjab.

2.2 Concept of Urban Areas in the Indian Census 1981 and 1991

The following criteria were adopted in treating a place as urban for the 1991 Census:

(a) All statutory towns, i.e., all places with a municipality, corporation, cantonment board or notified town area committee, etc.

(b) All other places which satisfied the following criteria:

i) A minimum population of 5,000;

ii) At least 75 per cent of the male working population engaged in non-agricultural pursuits and allied activities.

iii) A density of population of at least 400 per square
     kilometres.

The urban criteria of the 1981 and 1991 censuses varied
slightly from that of 1961 and 1971 censuses. The workers
in occupations of forestry, fishing, livestock, hunting,
logging, plantations, and orchards etc. (falling in indus-
trial category III) were treated as coming under non-
agricultural activities in 1961 and 1971 censuses whereas in
the 1981 and 1991 censuses, these activities have been
treated as agricultural activities for purpose of determin-
ing the male working population in non-agricultural pursuits
(Census of India 1991, Final Population Totals 1992, India).

2.3 **Methodology:**

Urbanization can be measured in a number of different
ways. The following methods have been used for measuring
urbanization.

2.3.1. **Degree of Urbanization:** It is generally measured in
terms of absolute or relative number of people living in
urban areas. One index of the degree of urbanization is the
per cent of urban population to total population (Census
Monograph No.1, Census of India, 1981).

2.3.2 **Tempo of Urbanization:** It refers to the growth rate of
urban population measured in terms of simple and experien-

tial rate of growth. Simple growth rate shows the percent-
age change in urban population in relation to the base level
population (Census of India Monograph No.1).

2.3.3. **Urban-Rural Growth Differentials (URGD):** It gives a
good sense of the magnitude of the rural-urban transforma-
tion that is presently taking place. It is the difference
between the rates of annual population growth between urban
and rural areas (Mohan and Pant, 1982). The URGD measure
offers three types of advantage: 1. the avoidance of absurd
consequences, 2. the compatibility with common sense and 3.
the consistency with a logistic curve describing the rise of
percentage in urban population. These are discussed as
folows.

While the level of urbanization is low, the rural
population increases almost as rapidly as the total popula-
tion, and the corresponding urban population can increase
considerably more rapidly than the total; on the other hand
when the level of urbanization is high, the urban population
increases only slightly more rapidly than the total and the
rural population can increase considerably less rapidly and
possibly decrease. These are the consequences of an indefi-
nite continuance of a given URGD.

In terms of common sense, the urbanization process gets
influenced by comparative advantages or disadvantages

perceived inboth the urban and the rural environment. These are known as "push" and "pull" factors. In the long run, a regulatory mechanism is needed to control urban-rural growth differences.

Finally, the rate of rise in the percentage level of urbanization depends upon the level attained at any moment. The relationship between given level and rate of rise can be presented through a logistic curve. The level is likely to rise by smaller amounts per unit of time when it is either very low or very high, than when it is in some intermediate range.

2.3.4. **Decadal Growth Rate of Urban population in towns above 20,000:** This criterion has been used by (Mohan and Pant, 1982) in their analysis of the morphology of urbanization in India. It is a common practice to analyse the pattern of decadal growth rate of urban population above a certain cut off point (generally the population of class III 20,000 population) and above towns are considered for such an analysis.

2.4 Trends and Patterns of Urbanization and Urban Growth in Orissa and Punjab

2.4.1 Urbanization Record since 1901:

Table 2.1: Some Key Statistics on Urbanization in Orissa and Punjab, 1901-91

Census Year	No. of Towns/UA		Total Urban Population		Population in Tonws above 20,000		Level of Urbanization	
	Orissa	Punjab	Orissa	Punjab	Orissa	Punjab	Orissa	Punjab
1901	14	76	254684	934766	147307	430186	2.47	12.28
1911	18	62	275159	813224	145032	414364	2.42	12.08
1921	20	59	281498	869526	122432	477113	2.52	12.15
1931	21	66	317254	1168413	160653	697482	2.54	14.58
1941	29	75	412528	1657414	179924	1138516	3.00	17.26
1951	39	110	594070	1989267	302903	1333002	4.06	21.71
1961	62	106	1109650	2567306	599284	1964281	6.32	23.05
1971	81	106	1845395	3216179	1286757	2526693	8.41	23.73
1981	108	134	3110287	4647757	2358380	3764976	11.82	27.68
1991	124	120	4232455	6000882	3335593	5223218	13.43	29.72

Census Year	Annual Growth Rate of Urban Pop.		URGO		Town Density		Annual Growth Rate in Town Pop. in Towns Above 20,000 per cent	
	Orissa	Punjab	Orissa	Punjab	Orissa	Punjab	Orissa	Punjab
1901	-	-	-	-	0.08	1.50	-	-
1911	0.80	-1.36	-0.24	-0.3	0.11	1.23	-1.54	-3.67
1921	0.23	3.69	0.43	0.08	0.12	1.17	-15.58	15.14
1931	1.27	3.43	0.08	2.54	0.13	1.30	31.22	46.18
1941	3.0	4.18	2.03	2.58	0.18	1.48	11.20	63.23
1951	4.4	2.0	3.88	2.97	0.25	2.18	63.35	19.08
1961	8.67	2.90	6.98	1.0	0.39	2.10	104.06	47.35
1971	6.63	2.52	4.41	0.52	0.52	2.10	113.13	28.63
1981	6.85	4.45	5.28	2.71	0.66	2.66	82.10	49.00
1991	3.61	2.91	1.49	1.00	0.76	2.38	41.43	38.73

Source: (i) Census of India 1981, General Population Tables.
(ii) Census of India 1991, Primary Census Abstract, Vol.II, India.

Orissa: According to the Final Population Results of 1991 Census, the State of Orissa has 4.23 millions of urban population in 124 towns of different size classes, ranging in population from less than 5,000 to more than 4.3 lakhs, which accounts for 13.43 per cent to the total population.

The data according to 1991 census show that the urban population is unevenly distributed among different size classes of towns and cities. More than 40 per cent of the urban population in Orissa is concentrated in the cities, which constitute 6.5 per cent of the total towns. In contrast to this, the small towns (Class IV, V & VI), which accounts for 62 per cent of the total towns, contributes only 34.38 per cent of the total population. These results reveal that the distribution of urban population in Orissa, according to 1991 census is top heavy (large towns and cities have been growing much faster than smaller cities and towns). (Table 2.3)

Punjab

According to the 1991 census Punjab had 6 million urban population spread over 120 towns of different size classes, constituting 29.72 per cent of the State's population.

The Class I towns, account for 8.33 per cent of the total towns having 54 per cent of the State's urban population. The small towns on the other hand, accounts for 55

per cent of the total number of towns, having 12.96 per cent of the urban population. The figures for Punjab more or less resembles the situation of Orissa and is also top heavy. (Table 2.3)

2.5 Degree of Urbanization in Orissa and Punjab
Orissa

At the beginning of the century, the level of urbanization in Orissa was around 2.5 per cent only. It rose to about 13.5 per cent by 1991 (Table 2.1). In other words, the degree of urbanization has increased more than five-fold in a period of eight decades. During the pre-Independence period, the urban share of population increased from 2.47 per cent in 1901 to 3.0 per cent in 1941. The year 1991 is even marked with a slight fall in the share. This is precisely because of the fact that during 1901-11, the growth rate of urban population (8.03 per cent) was smaller than that of the rural population (10.50 per cent). It is the post-Independence period where we experienced continuous but gradual increase from 4.06 per cent in 1951 to 6.32 per cent in 1961. 8.41 per cent in 1971, 11.82 per cent in 1981 and finally 13.43 per cent in the year 1991.

Punjab

At the beginning of the century the degree of urbanization was 12.4 per cent which became 29.72 per cent in the 1991 census. It shows a clear two and half times increase in the degree of urbanization (Table 2.1).

Till 1931 the level of urbanization was more or less stagnant with a minor change. But in the subsequent decades it has shown a rising trend. In the pre-Independence period the level of urbanization was far below 20 per cent. A sudden leap in the urban population was marked between 1941-51 decade. In 1941, 17.26 per cent of the total population were living in the urban areas, which became 21.71 per cent in 1951. This may be because of the exodus of population in large number during the time of partition. It may be mentioned here that a large number of these population were settled in the urban areas. Another significant increase is observed during 1971-81, when the level of urbanization rose from 23.73 per cent in 1971 to 27.68 per cent in 1981. "The fact that Punjab's rural population increased by only 16.6 per cent (as against 43.7 per cent in towns), which is lower than the rate of natural increase, suggests that a substantial part of the growth of urban population is attributable to rural-urban migration from both within and outside the state (Gosal, 1987). Another study by (Khurana, 1988) suggests that there has been regular immigration of labour-

ers from the rural areas of Bihar and western Uttar Pradesh to Punjab in search of jobs. However, during 1961-71 Punjab's urban population experienced still lower rate of growth 25.72 per cent. This is perhaps due to 1965 war with Pakistan, which had its own negative impact on the process of industrial and urban development. Subsequently the reorganisation of Punjab in 1966 on a linguistic basis reduced the state to its present size and brought the whole of it under the shadow of international border, aggravating material as well as psychological barriers in the path of industrialisation and urbanization in this tract.

2.6 Growth of Urban Population in Orissa and Punjab

Orissa: If the decadal rate of growth in population is looked into, we again come across two distinct phases - (i) the pre-Independence period and (ii) post-Independence period.

The growth rate of urban population during pre-Independence phase was much lower than that of the post-Independence period (Table 2.1). During the first decade in present century i.e. 1901-11 the percentage growth of urban population was below 10 per cent. In the following decade the growth rate has gone down to 2.3 per cent. The death toll, being very high as a result of severe natural calamities during this period is one of the main causes of this

25

extreme low rate of population growth. This phenomenon had far reaching effects on the overall population growth throughout the country (Misra and Puri 1987). It is only during 1921-31 and 1931-41 decades that the urban growth exceeded 10 per cent mark, the figures for both the periods were 12.70 and 30.03 per cent respectively. This low rate of urban growth during the pre-Independence period was the result of stagnant colonial economy. During the British rule, the local economy could not prosper as a result the urban industrial growth came to a halt (Samal, 1989).

The 1951-61 decade was largely free from the impact of `abnormal' circumstances such as epidemics, war and partition. It was also the first decade for the initiation of the planned economic development and a decade of rapid industrialisation all over the country. Bose (1974) was right when he said for a proper understanding of industrialisation, urbanization and economic growth this decade should be considered to be the beginning or starting point. The growth of urban population during the first decade of planned economy (1951-61) was nearly double of the previous decade. While the urban growth during 1941-51 was only 44.01 per cent jumped to 86.79 per cent during 1951-61. This was the largest growth rate during the entire decade of current century. This is probably the result of rapid initiation of industrial era during the Second Five Year

Plan. The urban growth in the following decade (1961-71) however came down to 66.30 per cent. With a marginal increase, it rose to 68.50 per cent during 1971-81 and 36.10 per cent in 1981-91.

Punjab:

During 1901-11 Punjab was having negative growth of urban population (-13.60 per cent). The heavy mortality in this decade was due to the epidemics of Plague and Influenza, resulting in a 13 per cent decline in population. During 1911-12 the growth rate was 36.92 per cent.

The year 1921 is known as a divide in the demographic history of India (Gosal, 1966:105). This decade marked a continuous decline of the mortality rate in the state. Owing to a decline in mortality rate the urban population increased by 34.37 per cent during 1921-31 (Gosal, 1966:105).

The urban population of the state increased by 41.85 per cent during 1931-41 as the outbreak of war led to the growth of various economic activity which, in turn, stimulated the growth of towns. During 1941-51, the growth of urban population once again recorded a decline, due to partition of the country leading to subdivision and large scale migration out of the state. It may be mentioned here

that almost half of the increment (increment was 20.02 per cent during 1941-51) in urban population during 1941-51 was due to addition of many new towns (Gill, 1984). Growth rate slowed down to 25.27 per cent in 1961-71, but the decade 1971-81 recorded unprecedented growth of 44.51 per cent the highest so far, in both population and in number of urban centres which rose from 108 to 134. The period 1951-81 coincides with the first three decades of planned development in the country. On account of rapid growth of the tertiary activities associated with the social and economic infrastructure development, the 1951-61 decade, recorded a distinct acceleration in the growth of urban population (Gill, 1984). But the subsequent decennial period failed to maintain this pace of urbanization and the urban growth came down during 1961-71. However, the growth rate again slowed down in 1981-91, when it became of the order of 29.11 per cent.

2.7 Urban-Rural Growth Differentials (URGD) in Orissa and Punjab

Orissa: URGD measure (column 6, Table 2.1) shows large variations between decades. According to this measure, the pace of urbanization was higher in 1951-1961 decade (6.98) than in all others. It was from the beginning of the century till 1931 the urban and rural growth were close to each other. It was after 1931 they started showing a dif-

ferent trend. During 1981-91 the URGD figure comes to 1.49. During 1921-61 Orissa witnessed high urban growth rates (Table 2.1), though new towns may result in high urban growth rates, the high rural-urban growth differences also indicates the possibility of urban migration. A combination of both is the possible feature during this period.

Punjab: Both urban and rural growth go parallel to each other for 1901-11 and 1911-21 but after that it is slowing a diverging trend with minor fluctuations. But unlike Orissa the gap is not as much wide in Punjab. Continuously, for three decades starting from 1921 to 1951, it showed a rising trend, followed by a sharp fall in the following two decades and then again showed a rise.

2.8 **Decadal Growth rate of Urban Population in towns above 20,000 Population** (Table 2.1, column 8)

For the first two decades of the present century there occurred a negative growth in urban population of such towns, whereas there was a positive, though moderate, growth in total urban population during the same period. This was mainly because the expansion of urban population was the result of the inclusion of reclassification of lower order towns. That is why while urban population in Class III and above towns decreased considerably, total urban population managed to increase somewhat at a very slow rate. Secondly, the decadal growth rate of all the years, except 1931-41 and

29

1971-81 kept increasing. The decade 1961-71 showed the highest growth rate that is 113.13 per cent. It is worth mentioning here that the decadal growth rate of total urban population came down considerably during 1961-71 in comparison to previous decade. The record growth in case of class III towns and above is mainly because of the fact that in 1971 census not many additions were made in the lower order towns and a major portion of the net increase in the total urban population came from the towns having population of 2000 and above.

Punjab:

The growth of such towns was negative in 1901-11 decade. In the same decade the total urban population of the state has declined fro 934,766 to 813,224 (-13 per cent). In all other decades there has been positive growth. However, the highest growth (63.23 per cent) has taken place during 1931-41 decade.

2.9 Town Density:

It has been defined as the number of towns per thousand sq km (Rukmani, 1994). The town density for Orissa has been calculated in table 2.1. It reveals that the town density for the state is low. It is primarily because of the low level of urbanization in the state. There is more scope for

30

the emergence of new towns, and as the new towns are mostly small towns, the degree of concentration would also be small.

Punjab: The state appears to be better in terms of the level of urbanization, town density and also the concentration of urban populations, in towns belonging to the larger size classes. According to the 1981 census there were 134 towns in the state, which decreased to 120 in the 1991 census (21 towns were declassified, Table 2.4). As a result, the town density also declined (2.66 to 2.38) during this period.

2.10 Index of Primacy for Orissa and Punjab

Table 2.1(a)

| | Index of Primacy | |
Year	Orissa	Punjab
1901	0.68	1.38
1911	0.73	1.27
1921	0.71	1.27
1931	0.86	1.68
1941	0.87	1.58
1951	0.92	1.04
1961	1.05	0.83
1971	0.79	0.60
1981	0.60	0.60
1991	0.54	0.85

Index of Primacy - Jefferson (1939) assessed the degree of primacy by computing the ratio of the the size of the second and third ranking cities to that of the largest one.

According to him there were many reasons for a city to exceed if neighbours in size, but once it did so this "mere fact gave it an impetus to grow and it drew away from all (other cities) in character as well as in size."

Ginsburg (1961) observed that primacy in an urban system is not a simple indicator of national income or of former colonial status, and no single relationship between development and primacy is obvious. Ginsburg did point out that primate city patterns te be more common in poorer countries which have achieved political independence only recently. He also speculated about the apparent significance of the size of the population and area of a country and suggested that countries with small homogeneous populations and areas with few barriers to spatial integration would be more likely to exhibit primate city distributions.

Orissa: In case of Orissa the primacy indicators showed rising trend till 1961 (1921 was one exception when the primacy index decreased), after that it showed a continuous declining trend. This analysis shows that the position of Cuttack as a primate centre increased in the first half of this century. However, the initiation of planned development in the country led to the emergence and growth of new cities like Rourkela, and Bhubaneswar, which reduced the importance of Cuttack in the second half of this century

to some extent.

Punjab: The case of Punjab on the other hand, showed continuous decline (except in 1931 census, when the index showed 1.68). Till 1971 census Amritsar dominated the urban scene of the state. After 1981 Ludhiana city surpassed Amritsar and became a metropolitan city in the 1991 census. The continuous decline of the primacy figure reveals that the growth is being spread to other towns and cities of the state. This may be because of the Government Policy to decentralise industries, so that the pressure on large cities can be reduced to some extent. At the same time, development of hinterland due to policies of rural development during the plan period offered scope for greater integration of space economies.

2.11 Pace of Urban Growth:

Having examined the trends in urbanization, it is necessary, at this stage, to analyse the pace of urban growth during the period 1901-91. This is being examined, broadly, in relation to: (1) growth of towns by size-classes, (2) growth of population in different size-class of towns and cities, and (3) the decadal percentage variation in population in different size classes of towns.

2.11.1 Growth of Towns by Size
Orissa and Punjab

Orissa: The number of towns of different size classes, for the period 1901-91 (Table 2.2), shows that the number of towns have almost increased 9 times during 1901 to 1991. In 1901, there were 14 towns, and the number rose to 124 by 1991. Till 1951 Orissa did not have any city. In the year 1951 Cuttack became the first class-I town in Orissa with a population of 1.02 lakh. By 1991 the number of cities rose to 8. The group of medium towns increased by about ten times during the period 1901-91, i.e., from 4 in 1901 to 39 by 1991. Within this group of towns, Class-II towns have increased ten times, while class III towns have increased more than nine times. During the same period the smaller towns have increased eight-fold in their number from 10 in 1901 to 77 in 1991. Within this group the class IV towns have increased ten times, from 5 in 1901 to 52 in 1991, the class V towns have registered 5 fold increase and class VI owns have increased only 3 fold.

Table 2.2: Size Class Distribution of Urban Units, Orissa and
Punjab 1901-91

Year	No. of urban units in size-class									Percentage of urban population in size-class								
	Cit-ies	Medium Towns			Small Towns					Cities	Medium Towns			Small Towns				
	I	II	III	II+III	IV	V	VI	IV+V+VI	Total	I	II	III	II+III	IV	V	VI	IV+V+VI	Total
ORISSA																		
1901	-	1	3	4	5	4	1	10	14	-	20.17	37.67	57.84	29.87	10.56	1.73	42.10	100.0
1911	-	1	3	·4	5	6	3	14	18	-	19.09	33.62	52.71	28.09	14.21	4.99	47.29	100.0
1921	-	1	2	3	·6	9	2	17	20	-	18.12	25.37	43.49	33.09	20.54	2.88	56.51	100.0
1931	-	1	3	4	6	10	1	17	21	-	20.57	30.07	50.64	26.78	21.53	1.05	49.36	100.0
1941	-	1	3	4	8	16	1	25	29	-	18.01	25.60	43.61	27.53	27.93	0.93	56.39	100.0
1951	1	1	5	6	8	23	1	32	39	17.26	10.49	23.24	33.73	18.15	30.03	0.83	49.01	100.0
1961	1	3	8	11	22	25	3	50	62	16.10	20.55	20.27	40.82	25.86	16.39	0.87	43.08	100.0
1971	4	2	20	22	23	30	2	55	81	39.60	3.94	27.85	31.79	15.47	12.69	0.45	28.61	100.0
1981	6	8	26	34	40	25	3	68	108	41.63	12.77	21.81	34.58	17.04	6.31	0.44	23.79	100.0
1991	8	10	29	39	52	22	3	77	124	44.43	14.65	19.73	34.30	16.97	3.94	0.28	21.19	100.0
PUNJAB																		
1901	1	2	4	6	14	38	17	69	76	17.38	12.97	15.67	28.64	20.45	27.47	6.06	53.98	100.0
1911	1	2	4	6	10	29	16	55	62	18.78	14.78	17.39	32.17	16.44	24.60	8.01	49.05	100.0
1921	1	3	5	8	12	27	11	50	59	18.43	20.38	16.06	36.44	18.15	22.24	4.74	45.13	100.0
1931	1	4	6	10	16	31	8	55	66	22.67	23.74	13.29	37.03	19.04	19.06	2.20	40.3	100.0
1941	3	2	13	15	20	32	5	57	75	38.49	9.19	21.01	30.20	16.14	14.06	1.11	31.31	100.0
1951	3	2	17	19	20	36	32	88	100	33.11	7.73	26.17	33.9	14.44	13.18	5.37	32.99	100.0
1961	4	5	23	28	20	35	19	74	106	38.25	10.15	28.11	38.26	10.44	10.38	2.67	23.49	100.0
1971	4	8	22	30	31	29	12	72	106	40.52	15.84	22.11	38.04	13.32	6.84	1.28	21.44	100.0
1981	7	10	27	37	36	40	14	90	134	46.38	14.39	20.24	34.63	11.28	6.50	1.21	18.99	100.0
1991	10	18	25	43	44	16	7	67	120	54.36	19.79	12.89	32.68	10.46	2.03	0.47	12.96	100.0

Source: (i) Census of India, General Population Tables.
(ii) Census of India, Primary Census Abstract, Vol.II, India.

Punjab: As against a solitary city of Amritsar in the beginning of the century, we now have as many as ten cities, three having been added in 1981 and three more in 1991. Between 1901-91 there has been 9 fold increase in the number

of class II towns. Jalandhar and Patiala were the only two, class II towns in the beginning of the present century. By the 1991 census their number has increased to 18. The number of class II towns has increased from 4 in 1901 to 25 in 1991. Taking the class II and class III towns together, the medium towns have increased from 6 in 1901 to 43 in 1991 i.e. 7 fold increase. The small towns have shown a fluctuating trend. Within this group while class IV towns have shown an increasing trend from (14 to 44) in 1901 to 1991, both class V and class VI towns have shown a declining trend in their numbers.

2.11.2 Differential Pace of Urban Growth in Size Class Distribution of Orissa and Punjab

Orissa: The proportion of population in cities has increased by more than two and half times i.e. from about 17.26 per cent in 1901 to 44.43 per cent by 1991 (Table 2.2). In contrast to this, the medium and small towns have experienced a marked decline in the proportion of population throughout the period 1901-91. Though the medium and small towns show a declining trend in their population size, yet sometimes fluctuations are also noticed. The small town population showed an increasing trend in 1921 (56.51 per cent). Similarly in 1941 it again showed an increase with 56.39 per cent of the urban population.

Punjab: The urban population living in cities has been consistently on the rise except during the decade 1941-51, when the country and the state experienced partition. In the beginning of the century 17.38 per cent of the urban population lived in the cities. But in 1991, the class I cities of Punjab shared 54.36 per cent of the urban population of the state. The population growth in the medium towns did not show any sharp increase. Over the years the growth is more or less stagnant. However, the small towns have shown sharp decline in their trend. In 1901, 53.98 per cent of the urban population lived in these towns but it has come down to 12.96 per cent in 1991.

2.11.3 Decadal Variation in Population in Size Class Towns of Orissa and Punjab

Orissa: The addition to the population in each successive census has been quite high in the bigger size classes of towns as compared to the smaller size classes (Table 2.3). During 1981-91 decade the lower size class towns comprising of class V and VI are losing their population, the other size classes on the other hand are showing growth in their population.

Table 2.3: Decadal Percentage Variation in Population in Different
Size Classes of Towns in Orissa and Punjab, 1901-91

Size Class of Towns	1901-11	1911-21	1921-31	1931-41	1941-51	1951-61	1961-71	1971-81	1981-91
PUNJAB									
Class I	-5.96	4.88	65.30	140.87	3.26	49.06	32.72	65.43	51.33
Class II	-0.93	47.51	56.50	-45.07	0.90	69.60	95.39	31.29	77.57
Class III	-3.43	-1.27	11.18	124.29	49.49	38.64	-1.04	31.69	-17.77
Class IV	-30.03	18.01	41.02	20.22	7.37	-7.72	59.91	22.43	19.62
Class V	-22.12	-3.32	15.17	4.65	12.49	1.62	-17.46	37.29	-59.57
Class VI	14.97	-36.68	-37.70	-28.75	483.66	-35.73	-40.06	+36.95	-49.98
All Towns	-13.00	6.92	34.37	41.85	20.02	29.06	25.27	44.51	29.11
ORISSA									
Class I	-	-	-	-	-	55.88	357.38	77.19	45.21
Class II	2.27	-2.90	27.95	13.83	-16.08	358.39	-74.57	446.53	56.15
Class III	-3.58	-22.79	33.55	10.74	30.69	34.75	176.25	32.00	23.10
Class IV	1.58	20.54	-8.80	33.68	-5.09	166.19	-0.53	85.63	25.34
Class V	45.47	47.84	18.14	68.64	54.87	1.71	29.07	-16.24	-15.03
Class VI	212.87	-41.10	-58.88	15.00	29.57	94.81	-13.44	65.24	-12.99
All Towns	8.00	2.30	12.70	30.03	44.01	86.79	66.30	68.54	36.08

Source: (i) Census of India 1981, General Population Table.
(ii) Census of India 1991, Provisional Population Totals Rural-Urban Distribution,
Series I, India, Paper 2.

Punjab: Like Orissa, Punjab also shows a similar case where the lower class towns are losing their population while the higher class towns have received population (1981-91). In the previous decade (1971-81) the decadal variation in population in different size classes have been more or less uniform. In her study (Ghosh, 1988) concludes that industrial development has led to the growth of big cities in Punjab along particular transport routes, agricultural development has led to the growth of small towns spread all

over the state. The relative evenness in Punjab's spatial distribution of urban population is therefore largely attributable to this spatial uniformity in agricultural development.

2.11.4 New Towns in Orissa and Punjab 1991

Orissa: In the 1991 census, 124 towns were identified in Orissa as against 108 in 1981. Out of 124 towns, as many as 102 are Statutory Towns and 22 are Census Towns as against 95 and 13 respectively in 1981. Only one town (Paparahandi NAC) in Koraput district is declassified in 1991 census. Besides, there is no town which is fully merged with other towns during 1981-91 (Table 2.4). Orissa shares 17 new towns of which six are statutory and the remaining are added in the Cuttack district followed by three each in Puri and Sundargarh districts, two in Dhenkanal and one each in Baleshwar, Sambalpur, Kendujhar and Koraput districts of the State.

Table 2.4: Salient Features of New Towns in Orissa and Punjab, 1991

Districts	New Towns	Mereged Towns	Declassified Towns	Total Towns
Sambalpur	1	-	-	11
Sundargarh	3	-	-	9
Kendujhar	1	-	-	7
Mayurbhanj	-	-	-	4
Baleshwar	1	-	-	7
Cuttack	5	-	-	14
Dhenkanal	2	-	-	11
Phulban i	-	-	-	3
Balangir	-	-	-	7
Kalahandi	-	-	-	5
Koraput	1	-	1	14
Ganjam	-	-	-	20
Puri	3	-	-	12
ORISSA	17	-	-	124
Gurdaspur	2	-	1	12
Amritsar	2	-	3	10
Firozpur	1	-	-	10
Ludhiana	1	-	1	10
Jalandhar	-	-	2	24
Kapurthala	-	-	5	3
Hoshiarpur	-	-	1	9
Rupnagar	-	-	1	8
Patiala	-	-	1	12
Sangrur	-	-	2	12
Bathinda	-	-	1	11
Faridkot	1	-	3	9
Punjab	7	-	21	120

Source: Census of India, 1991, Provisional Population, Totals.

Punjab: In the 1991 census, 120 towns were identified in the State as against 134 in 1981. As many as 21 towns of the 1981 census are reported declassified in the State. As the table shows, as many as 5 towns were declassified in Kapurthala, 3 each in Amritsar and Faridkot, 2 each in Jalandhar and Sangrur and one each in Gurdaspur, Ludhiana, Hoshiarpur, Rupnagar, Patiala, and Bathinda. We do not have any other town which was fully merged with other towns

during 1981-91. Coming to the distribution of new towns we find that 2 town each were added in Gurdaspur and Amritsar. One each were added in Firozpur, Ludhiana and Faridkot.

Table 2.5: Levels of Urbanisation and Urban Growth in Orissa and Punjab, 1981-91

District	Levels of Urbanization		Growth of Urban Population
	1981	1991	1981-91
	ORISSA		
Sambalpur	15.49	17.18	+30.71
Sundargarh	30.60	33.46	+28.19
Kendujhar	11.34	12.67	+31.95
Mayurbhanj	5.72	6.19	+27.95
Baleshwar	8.25	9.46	+42.23
Cuttack	10.28	12.31	+42.36
Dhenkanal	7.82	9.89	+51.97
Phulbani	5.26	5.95	+35.29
Balangir	9.13	9.64	+23.33
Kalahandi	6.01	6.53	+28.99
Koraput	11.31	11.26	+20.23
Ganjam	14.25	14.97	+23.66
Puri	14.79	19.76	+63.30
	PUNJAB		
Gurdaspur	21.72	21.99	+24.24
Amritsar	32.92	34.09	+18.35
Firozpur	29.70	23.90	+28.47
Ludhiana	35.41	50.28	+58.59
Jalandhar	14.60	35.95	+20.55
Kapurthala	21.98	25.76	+1.29
Hoshiarpur	42.10	15.26	+23.46
Rupnagar	22.51	25.37	+49.78
Patiala	24.10	29.89	+25.03
Sangrur	22.82	24.44	+28.91
Bathinda	22.91	22.50	+18.68
Faridkot	29.63	25.41	+27.31

Source: (i) Census of India, 1981, General Population Table.
(ii) Census of India, 1991, Primary Census Abstract, Vol.II, India.

2.12 Regional Pattern of Urban Growth in Orissa and Punjab 1981-91

2.12.1 Pattern of Urbanization:

Orissa: For a better understanding for the process of urbanization in Orissa, it is necessary to disaggregate the the trends in urbanization at district level. The Table 2.5 shows the levels of urbanization for the periods 1981 and 1991. The proportion of urban population increased in all the districts in 1991 as compared with that of 1981. The variation in the levels of urbanization among the districts is very large. For example, according to 1991 census, the percentage urban population varies from 5.95 in Phulbani to 33.46 in Sundargarh. It is evident from the data that four out of 13 districts stand out prominently as highly urban- ized when compared with the State's average for the period under consideration. These are districts of Sundargarh, Puri, Sambalpur and Ganjam. In 1991 the combined urban population of these four districts formed 51 per cent of the total urban population of Orissa. By itself, Sundargarh district contributes more than 12 per cent to the total urban population of the state. Similarly, Sambalpur con- tains around 11 per cent. Puri district accounts for 16 per cent of the total urban population. Sundargarh is the most urbanized district among the 13 districts of the state. This is the only district in the state where the proportion of urban population is even well above the national average of

25.72 per cent. Sundargarh has achieved this status only because of Rourkela city. If Rourkela UA is excluded then Sundargarh stands at only 10.78 per cent. Similarly Puri district becomes the second most urbanized district in the state only because of two urban centres, viz. Bhubaneswar and Puri. The remaining nine districts fall below the state average. In the districts of Phulbani, Mayurbhanj, Kalahandi, Baleshwar, Bolangir and Dhenkanal more than 90 per cent of the population lives in rural areas.

A sharp contrast is observed between the four coastal districts and that of the inland districts. The coastal districts of Puri, Cuttack, Ganjam and Baleshwar comprise of 50.04 per cent of the state's urban population, which shares 38.62 per cent of the state's urban area. The inland region with 61.38 per cent of Orissa's urban area accounts for only 49.96 per cent of its urban population.

Phulbani district has recorded the lowest percentage of urban population. Among other districts which have recorded low percentage of urban population are Mayurbhanj and Kalahandi. The low degree of urbanization of these districts shows the general backwardness of the districts with predominant tribal population.

ORISSA

URBAN POPULATION 1981

PERCENTAGE OF URBAN POPULATION

- ENTIRELY URBAN
- 58.00 & ABOVE
- 46.01 - 57.99
- 31.01 - 46.00
- 25.51 - 31.00
- 19.01 - 25.50
- 12.51 - 19.00
- 12.50 & BELOW   State Average 11.79
- ENTIRELY RURAL
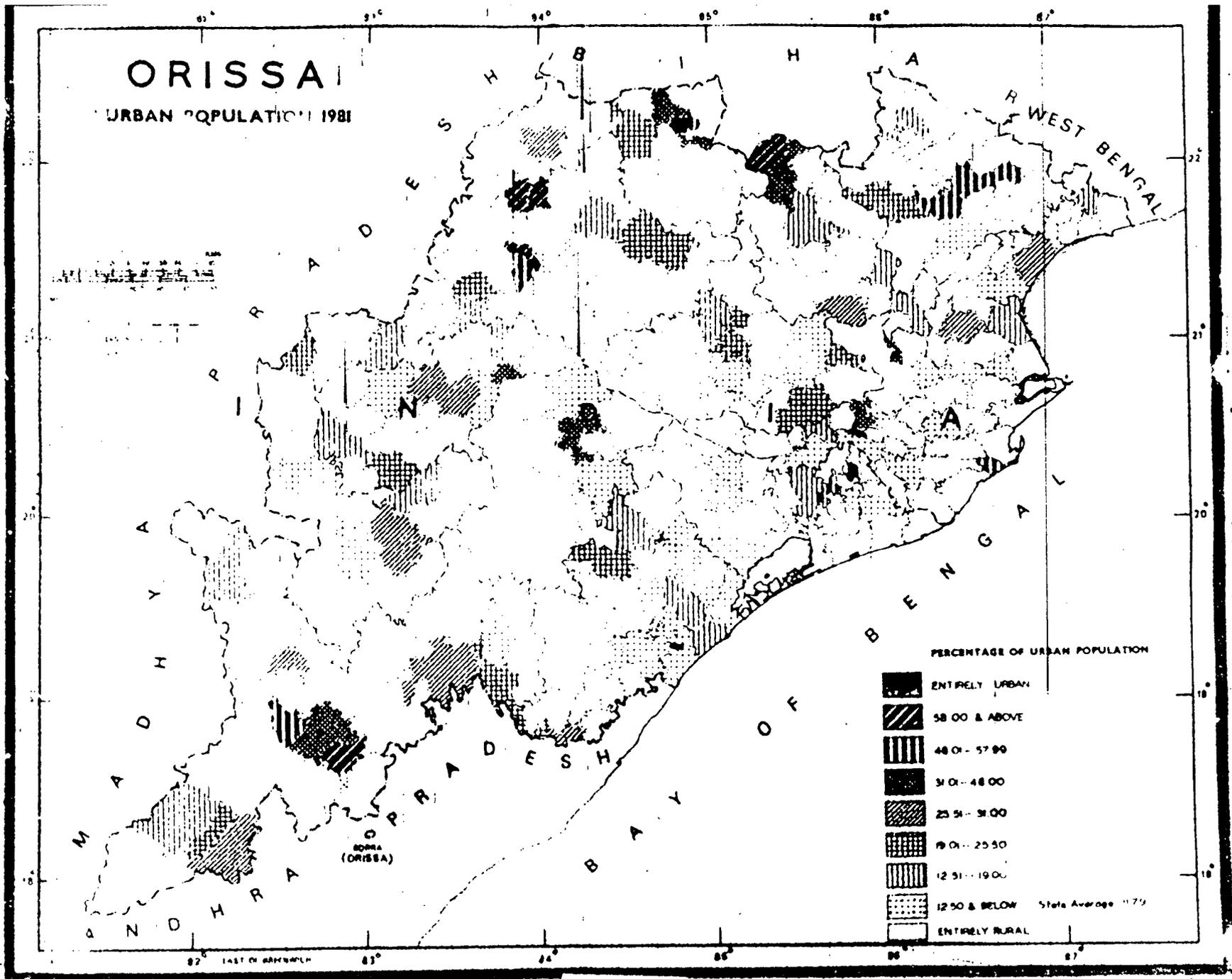
2.12.2 Pattern of Urban Growth 1981-91:

Orissa: The rates of growth of urban population have been calculated for all the districts for the period 1981-91 (Table 2.). It reveals that Puri district has recorded the highest growth rate in urban population i.e. 63.30 per cent, followed by Dhenkanal 51.97 per cent and Cuttack 42.36 per cent. Koraput on the other hand has the lowest growth rate i.e. 20.23 per cent in urban population. Districts like Dhenkanal, Baleshwar, and Phulbani having registered a higher decadal growth rate of urban population during 1981-91 have a low proportion of urban population. On the other hand, there are districts like Sundargarh, having the highest proportion i.e. 33.46 per cent of urban population in 1991 with a low decadal growth of 28.19 per cent during 1981-91.

2.12.3 Patternof Urbanization

Punjab: In 1991 census Ludhiana emerged as the most urbanized district in the state with 50.28 per cent of urban population. On the other hand Hoshiarpur is the least urbanized district with merely 15.26 per cent of urban population. Thus as against Ludhiana, where every alternate person lives in urban centres, in Hoshiarpur 1 out of 7 persons is an urbanite.

The concentration of urban population is more in cen-

tral and western parts of the state comprising Ludhiana, Jalandhar, Kapurthala, Amritsar and Ferozpur districts. These five districts together account for 56 per cent of the total urban population of the state. The concentration of industrial activities are more in these districts. (Appendix-I)

The concentration of urban population is increasing over a period of time with some district dominating the state scenario. Ludhiana district alone accounts for one-fifth (20.90 per cent) of the urban population of the state wheras its share of total population is merely one-tenth (12.10 per cent). Three districts - namely, Ludhiana, Amritsar and Jalandhar - share about one-half of 46.73 per cent of the state's total urban population while the districts of Kapurthala, Hoshiarpur and Rupnagar account for only 32 per cent of the state's urban population thereby reflecting a wide disparity in the distribution of urban population amongst different districts of the state. Except Hoshiarpur, Firozpur and Bathinda all the districts have shown an increasing trend in their levels of urbanization in 1991.

2.12.4 **Pattern of Urban Growth 1981-91:**

Punjab: District Ludhiana shows the highest growth rate i.e 58.59 per cent during 1981-91 decade, followed by Rupna-

PUNJAB
URBAN POPULATION
1981
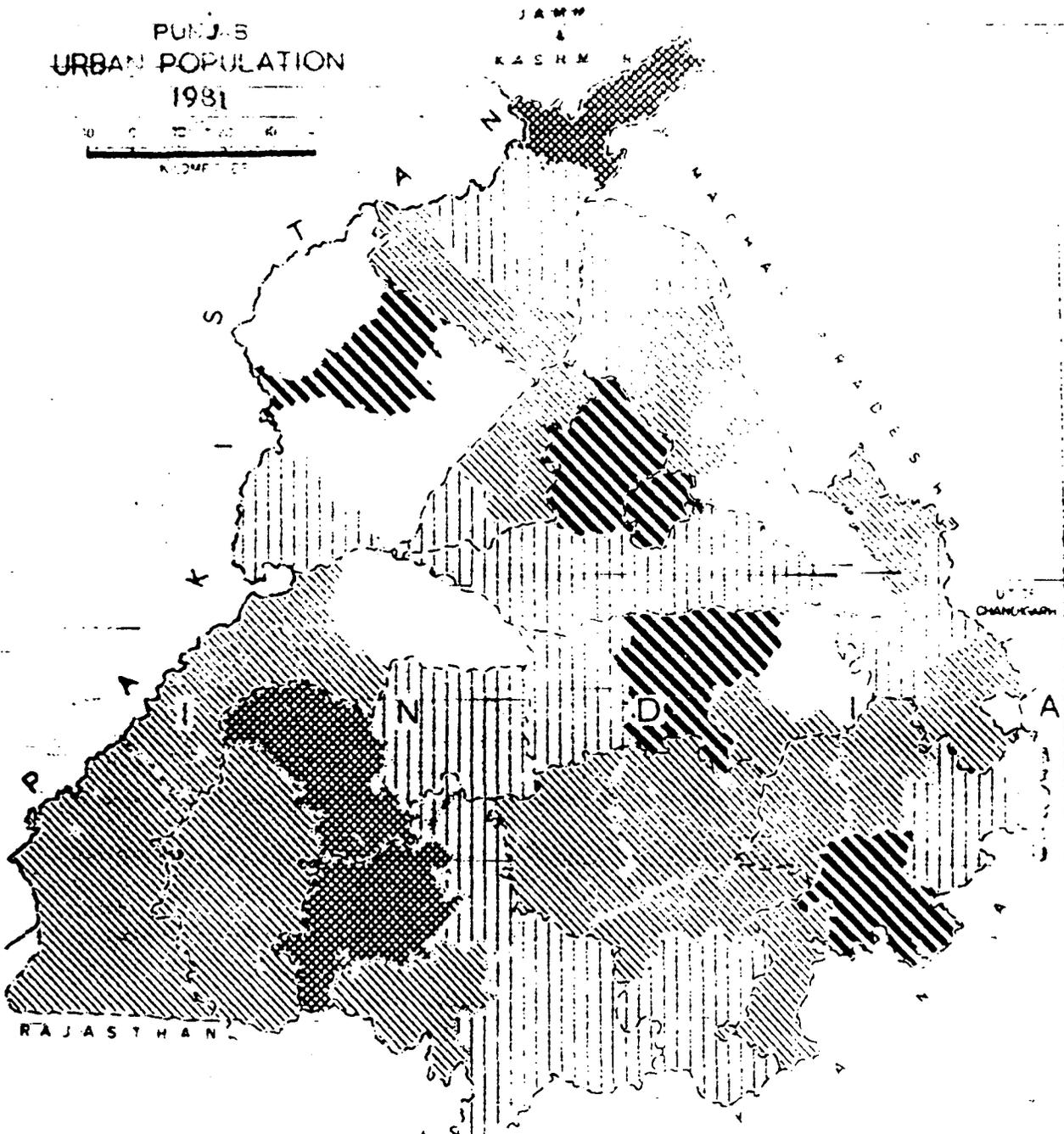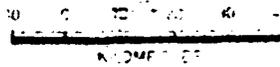
gar 49.78 per cent. The district Kapurthala has shown the lowest growth rate during the same decade i.e. 1.29 per cent. Though the levels of urbanization in case of Firozpur and Hoshiarpur has decreased in 1991 yet the growth rate in urban population is high in this district.

2.13 **Conclusion:**

The analysis of trends in urbanization and urban growth at the aggregate level of the state suggests that the decade of the fifties (1951-61) appeared to represent a watershed decade in case of Orissa. The rate of urbanization showed an increasing trend up to this decade when it reached its peak (86.78 per cent) and appeared to show a declining trend thereafter. This is the decade which witnessed installation of a number of large and medium industries. New commercial, administrative and industrial townships developed which paved the way for a phenomenal growth in urban population.

In Orissa the degree of urbanization had increased more than five-fold in a period of eight decades. During the pre-Independence period, the urban share of population increased from 2.47 per cent in 1901 to 3.0 per cent in 1941. The post-Independence period witnessed a continuous but gradual increase from 4.06 per cent in 1951 to 13.43 per cent in 1991.

During 1921-61 Orissa witnessed high urban growth rates and the rural-urban growth differences were also high. During 1981-91 the URGD figure was 1.49. The town density of the state remained low because of the low levels of urbanization in the state. The index of primacy for Orissa showed that the position of Cuttack as a primate city increased in the first half of this century. However, the emergence of new towns during the post-Independence period reduced the importance of Cuttack city.

The number of towns in Orissa have almost increased 9 times during 1901 to 1991 (14 towns in 1901 to 124 towns in 1991). While the proportion of population in cities has increased by more than two and half times, the medium by more than two and half times, the medium and small towns have experienced a marked decline in the share of the population.

Punjab on the other hand, appears to display a different growth pattern. No marked watershed appears in its growth process. While the rate of urbanization in this case showed an increasing trend till the thirties (1931-41), when it reached a growth rate of 41.85 per cent but it is difficult to say whether thirties represent a watershed decade for the state. The rates took a precipitous plunge in the very next decade and then showed an increasing trend till the seventies when it attained a growth rate of 44.5 per

cent. It again declined in the next decade i.e. 1981-91. The distribution of urban population by size-class of towns and cities over the period showed the intensity of spatial concentration of population in the class I towns of Orissa and Punjab. The degree of urbanization in Punjab showed a clear two and half times increase between 1901 to 1991 (it increased from 12.4 per cent in 1901 to 29.72 per cent in 1991).

The rural-urban growth differentials were high in Punjab, but unlike Orissa they did not show extremeties in Punjab. It showed a series of rise and fall in the URGD figure. The state had a high level of urbanization. Here the urban population increased only slightly more rapidly than the rural population. As a result the differences between the urban growth and rural growth were not that much wide. The town density in Punjab declined in 1981-91 only because of the declassification of 21 towns in 1991 census. Coming to the primacy index we find that till 1971 Amritsar dominated the urban scene of the State. After 1981 Ludhiana surpassed Amritsar and became a metropolitan city in 1991.

The analysis at districts show that 4 out of 13 districts in Orissa viz. Sundargarh, Puri, Sambalpur and Ganjam stand out prominently as highly urbanized when compared with the average of the state for the period 1991. Looking at

the decadal growth rate of urban population during 1981-91 we find that the coastal districts of Orissa like Puri, Cuttack, Baleshwar etc. have shown higher growth rates. This is because the coastal districts still enjoy the benefits of the initial high level of urbanization (districts like Baleshwar, Cuttack and Puri were part of Bengal presidency), but the other parts of the state, specially the districts contiguous to Andhra Pradesh and Madhya Pradesh are still backward and have low levels of urbanization. Similarly in case of Punjab districts like Ludhiana, Amritsar, Jalandhar and Patiala were highly urbanized compared to other districts in the state, mainly because they comprise the industrial belt of the State.

In the developing countries the current concern with economic and social conditions reflects a growing emphasis on a particular aspect of population distribution i.e., the increasing concentration of people in urban places, particularly in big cities. This process is closely associated with the migration from rural areas of persons who have not been fully absorbed by productive employment in urban areas. So our next chapter deals with the issues of migration.

CHAPTER III

PATTERNS OF INTERNAL MIGRATION IN ORISSA AND PUNJAB, 1981-91

3.1 Migration is an integral feature of demographic trans-
formation. Migratory movements have also been "viewed as
physical events shaped by environmental forces" (Abu-
Lughod). Both historically and structurally, like every
primary process, the institution of migration is self-
sustaining for which it is rightly said that "almost all
societies have been shaped at least to some extent by migra-
tion" Patterson).

3.1.1 Conceptual Framework:

Bose (1977) observed that the process of urbanisation
has essentially been one of migration to the city. The
largest cities have attracted the largest numbers of mi-
grants from the rural areas because, unlike the small towns,
they offer a wide range of employment opportunities which
require various degrees of skill and what is more important,
the big cities can provide employment to rural migrants who
are largely unskilled and illiterate.)

Mitra et. al. (1980) analyzed the pattern of inmigra-
tion to 101 Indian cities during 1961-71 in relation to the
industrial structure of their male work forces and the

concentration of capital investment in those cities during 1971. The results of the analysis indicate that in 66 of the cities, majority of the migrants came from rural areas. About 40 to 50 per cent migrants were illiterate or semi-literate. The researchers found a positive relationship between the number of migrants from urban areas and the magnitude of capital investment in the organized sector.

Mahmood (1975) using 1961 census data and principal component analysis, analyzed the characteristics of inmigrants to Class I cities and found that long distance industrial pull, youthfulness of the migrants, rural push with weak industrial pull, short distance industrial pull, old migration, and service pull explained 81.2 per cent of the variance in migration to the various cities.

Kundu (1997) observed that a high rate of unemployment in rural areas is expected to accelerate migration to urban areas, increasing pressure on limited infrastructure.

(Having linked the process of globalisation of the economy with that of the urban growth, the author was of the opinion that global economy would accelerate rural-urban migration and boost urban growth in the 1990s and the following decade.) The massive flow of capital, both from within and outside the country would give impetus to the process of urbanisation in the country since much of the

51

industrial growth and consequent growth in employment would be within or around the existing urban centres.

Premi (1985) using 1971 census data, tried to examine the phenomenon of migration to Indian cities focusing on the city characteristics of size, growth rate, functional specialisation, period since city status was obtained and regional location. In his study he used a schematic model to show the relationship between the dominance of intra-district, interdistrict and interstate migration streams on the one hand and the cities on the other.

In this chapter an attempt has been made to analyse the broad patterns of internal migration in Orissa and Punjab. Section I of this chapter contains the general features of internal migration and the detailed analysis of the patterns of districtwise migration. Section II presents the distribution of migrant workers by occupational categories.

3.2 **Methodology:**

Since this chapter is concerned primarily with internal migration, the migrants `unclassifiable' and the International migration are excluded from computations.

Proportion of migrants for the various streams have been estimated, namely: (i) rural to rural, (ii) rural to urban, (iii) urban to rural, (iv) urban to urban. These are

percentages out of the total migrants. Similarly according to distance three categories of migration, namely: (i) intra-district, (ii) inter-district and (iii) inter-state migrations have been computed. These computations have been worked out for 1981 and 1991 census both for Orissa and Punjab.

In the Section II of this chapter, proportion of total migrant workers for the broad industrial categories have been calculated. The broad industrial categories given in the Indian Census Reports:

   I.   Cultivators.

  II.   Agricultural Labourers.

 III.   Livestock, Forestry, Fishing, Hunting and Plantation, Orchards and Allied Activities.

 IV.   Mining and Quarrying.

V.(a) Manufacturing and Processing in Household industry workers.

V.(b) Manufacturing and Processing in other than Household industry workers.

 VI.   Construction.

VII.   Trade and Commerce.

VIII.   Transport, Storage and Communication workers.

 IX.   Other services.

Here it may be noted that the 1991 census data of

migrant workers are available only for I, II, Va and IX categories in Orissa. Whereas, for Punjab the data is available for all the 9 industrial categories. That is why the sectoral distribution of migrant workers have been calculated for the state Punjab, whereas for Orissa, it is shown as categories:proportion of workers in category I, II, Va and IX of the industrial category.

<div align="center">SECTION-I</div>

3.3 General Features of Internal Migration in Orissa and Punjab 1981-91

3.3.1 Rural/Urban Flows:

On the basis of the place of birth data, stratified by rural/urban components, four types of migration streams were identified.. These are:

(i) Rural to rural migrants namely those who were born in a rural area and have been enumerated in a rural area.

(ii) Rural to urban migrants refers to those who were born in a rural area and have been enumerated in an urban area.

(iii) Urban to urban migrants are composed of such migrants who were born in an urban area and have been enumerated in another urban area.

(iv) Urban to rural migrants are those who were born in an urban area but were enumerated in a rural area.

Table 3.1 presents the relevant data according to flows

and by sex composition for both Orissa and Punjab.

Table 3.1: Migration Types in Orissa and Punjab
Based on Place of Birth, 1991

Migration Type	Males		Females		Total		Sex Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

ORISSA

Migration Type	Males		Females		Total		Sex Ratio
I Rural to Rural	1002593	(54.86)	5398788	(84.83)	6401381	(78.14)	5384
II Rural to Urban	555743	(30.41)	579444	(9.10)	1135187	(13.89)	1042
III Urban to Rural	80433	(4.40)	181715	(2.85)	262148	(3.20)	2259
IV Urban to Urban	188707	(10.32)	204071	(3.20)	392778	(4.79)	1081
V Total Migrants out of rural areas	1558336	(85.27)	5978232	(93.93)	7536568	(92.00)	3836
VI Total Migrants out of urban areas	269140	(14.72)	385788	(6.06)	654926	(7.99)	1433
VII Total Migrants out of rural areas	1083026	(56.26)	5580503	(87.68)	6663529	(81.34)	5152
VIII Total Migrants into Urban Areas	744450	(40.73)	783515	(12.31)	1527965	(18.65)	1052
IX Overall Total of Migrants	1827476	(100.00)	6364018	(100.00)	8191497	(100.00)	3482

PUNJAB

Migration Type	Males		Females		Total		Sex Ratio
I Rural to Rural	693930	(41.56)	3121076	(41.56)	3815006	(59.99)	4497
II Rural to Urban	492649	(29.50)	623434	(13.29)	1116083	(17.55)	1265
III Urban to Rural	108336	(6.48)	316104	(6.74)	424440	(6.67)	2917
IV Urban to Urban	374879	(22.45)	628199	(13.39)	1003078	(15.77)	1675
V Total Migrants out of rural areas	1186579	(71.06)	3744510	(79.86)	4931089	(77.54)	3155
VI Total Migrants out of urban areas	483215	(28.93)	944303	(20.13)	1427518	(22.45)	1954
VII Total Migrants out of rural areas	802266	(48.04)	3437180	(73.30)	4239446	(66.67)	4284
VIII Total Migrants into Urban areas	867528	(51.95)	1251633	(26.69)	2119161	(33.32)	1442
IX Overall Total of Migrants	1669794	(100.00)	4688813	(100.00)	6358607	(100.00)	2808

Note: (i) Figures in brackets show the percentages.

Source: Census of India, 1991, Migration Tables.

Orissa: It can be observed from the table 3.1 that in 1991, the total inmigrants in Orissa constitute 8.19 million (who are born in one district but enumerated in some other districts). The rural to rural migration stream share was 78.14 per cent, which was followed by the rural to urban stream 13.85 per cent; next in importance comes the urban to urban migration which had a share of 4.79 per cent. Urban to rural migration had the least share i.e. 3.20 per cent. This showed that the largest component of migration had been the movements from one rural area to another rural area. The rural to rural migration accounted for the largest share in Orissa. This may be because of the fact that the agricultural occupation in the state is mainly seasonal in nature. During the peak days of agricultural operations rural areas witnessed migration from other rural areas.

Punjab: In case of Punjab, the rural/urban flows exhibit almost the same pattern as that of Orissa. Here there has been a significant rural to rural migration (59.99 per cent), followed by the rural to urban movement (17.55 per cent). The movement from urban to urban areas was 15.77 per cent and finally the urban to rural movement which constituted the least share was 6.67 per cent.

Here it is important to examine the phenomena, that where do the migrants come from? In case of Orissa it was observed that total migrants to the extent of 92 per cent

come from rural areas and the rest 7.99 per cent were from urban areas. At the same time, it was evident from table 3.1 that 81.34 per cent migrants moved to rural areas and the rest 18.65 per cent moved into the urban areas.

Punjab mostly exhibited the same picture where 77.54 per cent migrants were from rural areas and 66.67 per cent of the migrants moves into rural areas of the state.

3.3.2 **Sex composition of Migrants:**

The sex composition i.e. the number of females per 1000 males have been computed for Orissa as well as Punjab in the table 3.1. It is evident from the table that the female migrant population have considerable lead in all categories in both the states. The sex ratio for rural to rural migration was as high as 5384 in Orissa and 4497 for Punjab. In all other streams also the female migrants were in the lead. But coming to the outmigration in rural areas the females in Orissa are in lead. But the outmigration in urban areas the males are in the lead. On the other side, the inmigration into rural areas showed that 87.68 per cent females were in the lead and movement into urban areas males had a lead. The picture in Punjab is almost identical as in Orissa. While the females were in lead in rural areas both in terms of outmigration and inmigration, the males are in lead in urban areas. A member of the household was considered to be

57

an immigrant if his usual place of residence on the day 365 days preceding the date of enquiry had been different from the place of enumeration and he did not belong to the same village/town where he resided at the time of survey (Premi, 1980).

Table 3.2: Migrants Classified According to Distance in Orissa and Punjab, 1991

Type of Migration Stream	Population			Percent		
	Total	Male	Female	Total	Male	Female
ORISSA						
1. Short Distance						
A. Rural to Rural	5365690	742527	4623163	65.50	40.63	72.64
B. Rural to Urban	578213	254618	323595	7.05	13.93	5.08
C. Urban to Rural	144612	37480	107132	1.76	2.05	1.68
D. Urban to Urban	106773	48680	58093	1.30	2.66	0.91
Sub-Total	6195288	1083305	5111983	75.63	59.27	80.32
2. Medium Distance						
A. Rural to Rural	760280	186897	573383	9.28	10.22	9.0
B. Rural to Urban	400995	219009	181986	4.89	11.98	2.85
C. Urban to Rural	78436	27783	50653	0.95	1.52	0.79
D. Urban to Urban	169633	85019	84614	2.07	4.65	1.32
Sub-Total	1409344	518708	890636	17.20	28.38	13.99
3. Long Distance						
A. Rural to Rural	275411	73169	202242	3.36	4.00	3.17
B. Rural to Urban	155979	82116	73863	1.90	4.49	1.16
C. Urban to Rural	39100	15170	23930	0.47	0.83	0.37
D. Urban to Urban	116372	55008	61364	1.42	3.01	0.96
Sub-Total	585862	225463	361399	7.16	12.33	5.67
Grand Total	8191494	1827476	6364018	100.00	100.00	100.00
PUNJAB						
1. Short Distance						
A. Rural to Rural	2417424	415507	2001917	38.01	24.88	42.69
B. Rural to Urban	471775	191484	280291	7.41	11.46	5.97
C. Urban to Rural	167501	35356	132145	2.63	2.11	2.81
D. Urban to Urban	246003	92802	153201	3.86	5.55	3.26
Sub-Total	3302703	735149	2567554	51.94	44.02	54.75

contd...

contd...

Type of Migration Stream	Population			Percent		
	Total	Male	Female	Total	Male	Female
2. Medium Distance						
A. Rural to Rural	1016970	170905	846065	15.99	10.23	18.04
B. Rural to Urban	363704	142871	220833	5.71	8.55	4.70
C. Urban to Rural	143229	32750	110479	2.25	1.96	2.35
D. Urban to Urban	415514	131856	283658	6.53	7.89	6.04
Sub-Total	1939417	478382	1461035	30.50	28.64	31.16
3. Long Distance						
A. Rural to Rural	380612	107518	273094	5.98	6.43	5.82
B. Rural to Urban	280604	158294	122310	4.41	9.47	2.60
C. Urban to Rural	113710	40230	73480	1.78	2.40	1.56
D. Urban to Urban	341561	150221	191340	5.37	8.99	4.08
Sub-Total	1116487	456263	660224	17.55	27.32	14.08
Grand Total	6358607	1669794	4688813	100.00	100.00	100.00

Sourcea:Census of India 1991, Migration Tables, Orissa and Punjab.

3.3.3 Migration and Distance:

On the basis of distance covered, the total internal migration have been classified into three categories. These are:

i) Intra-district migrants are those who have migrated within a district.

ii) Inter-district migrants are those who have migrated from one district to the another, but within the state of enumeration.

iii) Inter-state migrants are those who have migrated from one state to the other.

The relative share of these categories, for both Orissa and Punjab is given in table 3.2. It is evident from the table that intra-district or short-distance migrants constituted the largest share of the total migrants in Orissa (75.63) and Punjab (51.94). The inter-district (medium distance) and inter-state (long distance) migrants accounted for 17.20 per cent and 7.16 per cent, respectively, for Orissa and 30.50 per cent and 17.55 per cent in Punjab. In case of Orissa the female migrants dominate in intra-district migration, whereas the males take a lead in case of inter-district and inter-state migration. In Punjab, the females dominate in the intra-district and inter-district migration and the males dominate only in the inter-state migration. Premi (1979) on the basis of his study on urban out-migration from four selected towns of Haryana and Punjab, found that although there was a preponderance of females among the out-migrants, this was mostly due to marriage migration; the migration of females specifically was very few. In contrast to this the males migrate for economic reasons to far off places. With ncreasing distance, the strength of marriage as a reason for migration declined substantially, leading to an increased proportion of migrants for employment and asociational reasons (Premi, 1990).

3.4 Pattern of Migration:

3.4.1 Regional Pattern of Migration in Orissa and Punjab 1981-91

Orissa: The region of very high share of migrants to total population in 1981 is the northwestern part of Orissa highlands; comprising of districts like Sambalpur and Sundargarh (table 3.3). This region is important for industrialisation and mining activities. The whole of Utkal Coastal Plain, and few patches of Orissa Highlands (Kalahandi and Dhenkanal) have low share of migrants. These are neither industrially nor agriculturally developed and are characterised by low urbanization (9.89 per cent in Dhenkanal, 6.53 per cent in Kalahandi according to 1991 census). The density of Dhenkanal was 55 persons per square km. and for Kalahandi was 50.93 persons per square km.

Table 3.3: Distribution of Migrant Population according to Sex

District	Total Population		Total		Males		Males Percentage	
	1981	1991	1981	1991	1981	1991	1981	1991
ORISSA	26370271	31659736	7964937	8191494	2067963	1827476	25.96	22.30
Sambalpur	2280976	2697153	833925	898065	268260	260489	32.16	28.97
Sundargarh	1337871	1573617	524818	447738	217846	162962	41.50	36.39
Kendujhar	1114622	1337026	341082	375185	94131	88208	27.59	23.51
Mayurbhanj	1581873	1884580	470781	523268	117124	107872	24.87	20.61
Baleshwar	2252808	2802417	589207	692236	113382	106302	19.24	15.35
Cuttack	4628800	5522659	1311091	1430152	270558	249332	20.63	17.43
Dhenkanal	1582787	1908907	446716	407353	106667	81816	23.87	20.08
Phulbani	718280	863903	236245	246615	65058	57949	27.53	23.49
Balangir	1459113	1707753	445526	491882	106770	96047	23.96	19.52
Kalahandi	1339192	1600385	392997	388551	93487	65753	23.78	16.92
Koraput	2484005	3012546	742250	728458	238696	204738	32.15	28.10
Ganjam	2669899	3158764	750413	633301	183705	142498	24.48	22.50
Puri	2291045	3590026	877640	938489	195278	203506	22.25	21.68

District	Total Population		Total		Males		Males Percentage	
	1981	1991	1981	1991	1981	1991	1981	1991
PUNJAB	16788915	20281969	4967378	6358607	1441677	1669794	29.02	26.26
Gurdaspur	1513435	1756732	1141858	492498	664922	111562	38.23	22.65
Amritsar	2188490	2504560	522719	613543	130975	127492	25.05	20.77
Firozpur	1307804	1607817	341610	433412	107281	108479	31.40	25.02
Ludhiana	1818912	2471594	606487	894171	217949	316149	35.93	35.35
Jalandhar	1734574	2026787	541297	648031	177296	180794	32.75	27.89
Kapurthala	545249	646647	175021	214866	60176	62677	34.38	29.17
Hoshiarpur	1243807	1455028	378874	476918	97209	112900	25.65	23.67
Rupnagar	716662	915603	306358	373291	132831	122974	43.35	32.94
Patiala	1568898	1896242	464923	611016	148915	176616	32.03	28.90
Sangrur	1410250	1710120	413894	524936	92576	103643	22.36	19.74
Bathinda	1304606	1559963	455261	516022	128780	112213	28.28	21.74
Faridkot	1436228	1730876	438539	559903	104694	134295	23.87	23.98

	Females		Females Percentage		Sex Ratio of Migrants		Percentage of Total Migrants to Total Population	
	1981	1991	1981	1991	1981	1991	1981	1991
ORISSA	5896974	6364018	74.03	77.69	2851	3482	30.20	25.87
Sambalpur	565665	638376	67.83	71.02	2108	2450	36.56	33.32
Sundargarh	306972	284776	58.49	63.60	1409	1747	39.22	28.45
Kendujhar	246951	286977	72.40	76.48	2623	3253	30.60	28.06
Mayurbhanj	353657	415396	75.12	79.38	3019	3850	29.76	27.76
Baleshwar	475825	585934	80.75	84.64	4196	5511	26.15	24.70
Cuttack	1040533	1180820	79.36	82.56	3845	4735	28.92	25.89
Dhenkanal	340049	325537	76.12	79.91	3187	3978	28.22	21.33
Phulbani	171187	188666	72.46	76.50	2631	3255	32.93	28.54
Balangir	338756	395835	76.03	80.47	3172	4121	30.53	28.80
Kalahandi	299510	322798	76.21	83.07	3203	4909	29.34	24.27
Koraput	503554	523720	67.84	71.89	2109	2558	29.88	24.18
Ganjam	506708	490803	75.51	77.49	3084	3444	28.10	20.04
Puri	682362	734983	77.74	78.31	3494	3611	30.04	26.14
PUNJAB	3525702	4688813	70.97	73.73	2445	2808	29.58	31.35
Gurdaspur	476936	380936	41.76	77.34	7172	3414	75.44	28.03
Amritsar	391744	486051	74.94	79.22	2990	3812	23.88	24.49
Firozpur	234329	324933	68.59	74.97	2184	2995	26.12	26.95
Ludhiana	388538	478022	64.06	64.64	1782	1828	33.34	36.17
Jalandhar	364001	467237	67.24	72.10	2053	2584	31.20	31.97
Kapurthala	114845	152189	65.61	70.82	1908	2428	32.09	33.22
Hoshiarpur	281670	364018	74.34	76.32	2897	3224	30.46	32.77
Rupnagar	173527	250317	56.64	67.05	1306	2035	42.74	40.76
Patiala	316008	434400	67.96	71.09	2122	2459	29.63	32.22
Sangrur	321318	421293	77.63	80.25	3470	4064	29.34	30.69
Bathinda	326481	403809	71.71	78.25	2535	3598	34.89	33.07
Faridkot	333845	425608	76.12	76.01	3188	3169	30.53	32.34

Source: (i) Migration Table 1981, Orissa & Punjab.
     (ii) Migration Table 1991, Orissa & Punjab (in floppy).

Most of the districts of Orissa Highlands and southern part of the coastal plain also have medium to high share of migrants (Bolangir 28.80 per cent, Phulbani 28.54 per cent, Puri 26.14 per cent).

It is seen that, the female migrants represented 77.7 per cent of the total migrant population of the state. In case of most of the districts the proportion of females to respective total migrating population is more than 70.00 per cent whereas it is more than 80 per cent in some districts. Marriage is mainly responsible for the female migration in Orissa. (Table 3.6)

Punjab: The state according to 1981 census, had 29.58 per cent of its total population as migrants, which further increased to 31.35 per cent in 1991. Among the districts, Gurdaspur showed exceptionally high level of migrant population in its total population i.e. 75.44 per cent. Similarly Rupnagar also showed a level of migrants i.e. 42.74 per cent. These two districts fall in the semi-hilly region. Consistent with the activization of the process of socio-economic development in this semi-hilly region during 1971-81 decade, urban development has also responded correspondingly. The development activities undertaken by the State Government in these districts included a network of roads, development of tubewell irrigation, extension of electricity

and the emergence of small industrial units. It is for the first time during the present century that towns in this region have shown signs of positive growth (Gurdaspur 24.24 per cent, Rupnagar 49.78 per cent and Hoshiarpur 23.46 per cent) (Gosal, 1987). This led to the flow of migrants to this region during the 1970s. On the other hand, districts like Amritsar, Firozpur showed a low level of migrant population. These districts because of their close proximity to Pakistan and being in border zone has experienced a low growth in urban population and as a result the migration to this region is also low. During 1981-91 decade all the districts (except Gurdaspur, Rupnagar and Bhatinda) have experienced an increase in the proportion of migrant population.

Coming to the sex composition of the migrants it is observed that females dominate in all districts of the state except Gurdaspur where the males constitute 58.23 per cent of the total migrants. As it has been already mentioned in the previous paragraph that developmental activities like construction of roads, tubewells irrigation, emergence of industrial units in the semi-hilly region of Punjab during 1971-81 decade this region experienced male selective migration to this district. In 1991 census in all the districts female migrants are more in number than the male migrants. The preponderance of female migrants in all the

districts was due to marriage migration (where the females migrate to .their inlaws' house). The (Table 3.6) reveals that marriage was the most important cause for female migration.

3.5 Total Migrants Classified by Distance Covered:
3.5.1 Intra-District Migration:

Orissa: In the state as well as in individual districts the percentage of the intra-district (short-distance) migrants is the highest compared to other categories of migrants namely, inter-district and inter-state. Table 3.3 reveals that these short distance movers have occupied 74.65 per cent of the total migrating population in 1981 and 75.63 per cent in 1991 of the state. In twelve out of thirteen districts these migrants have occupied much more than three-fourths of the respective migrating population whereas in Sundargarh district the intra-district migrants constitute only 47.26 per cent of the total migrating population of the district in 1991 census.

Table 3.4: Total Migrants Classified by Distance Covered, Orissa & Punjab, 1981-91

District	Intra-District		Inter-District		Inter-State	
	1981	1991	1981	1991	1981	1991
ORISSA	74.65	75.63	16.71	17.20	8.62	7.16
Sambalpur	64.73	65.99	22.57	23.05	12.69	10.94
Sundargarh	44.28	47.26	25.56	26.84	29.96	25.89
Kendujhar	67.66	68.78	21.66	22.47	10.67	8.73
Mayurbhanj	78.16	78.04	11.58	12.64	10.25	9.30
Baleshwar	75.70	78.66	14.66	13.60	9.63	7.72
Cuttack	80.11	81.85	14.96	14.09	4.91	4.05
Dhenkanal	80.60	79.34	16.93	18.12	2.46	2.52
Phulbani	77.71	75.51	23.91	23.93	0.59	0.55
Balangir	77.63	79.29	19.92	18.80	2.43	1.90
Kalahandi	77.7	77.53	16.44	16.84	5.85	5.61
Koraput	73.94	75.74	13.57	13.91	12.47	4.46
Ganjam	88.57	88.74	10.43	6.12	6.32	5.13
Puri	76.50	75.10	19.85	21.81	3.64	3.07
PUNJAB	52.30	51.94	30.35	30.50	17.33	17.55
Gurdaspur	89.27	68.57	6.10	17.47	4.61	13.95
Amritsar	68.84	71.26	18.91	18.28	12.23	10.44
Firozpur	45.89	47.71	33.22	32.15	20.87	20.13
Ludhiana	45.87	41.62	34.83	35.39	19.28	22.97
Jalandhar	54.64	51.55	31.26	34.39	14.45	14.16
Kapurthala	29.94	29.03	54.66	55.83	15.39	15.12
Hoshiarpur	59.65	57.42	24.84	27.41	15.49	15.15
Rupnagar	53.37	41.72	21.66	27.92	24.96	30.35
Patiala	40.64	43.43	32.40	30.65	26.94	25.90
Bathinda	51.75	51.84	29.27	29.30	18.97	18.85
Faridkot	50.17	54.11	37.37	34.75	12.45	11.13

Source: Census of India, Migration Table, 1981, 1991.

From the inter-censal comparison, it is observed that in most of the districts the percentage of the intra-district migrants have improved during 1981-91 decade, although in five districts the picture was different.

Punjab: In Punjab the intra-district migration constitute the largest share of the total migrants at two points

of time i.e. 52.30 per cent in 1981 and 51.94 per cent in 1991. Among the districts there is great variation in the share of intra-district migration. It varies from 89.27 per cent in Gurdaspur to 29.94 per cent in Kapurthala. However, the other districts mostly fall within 40 per cent to 60 per cent range. During 1981-91 period (except Amritsar, Firoz-pur, Patiala and Bhatinda) all other districts have experienced a decline in the percentage of intra-district migration.

3.5.2 Inter-District Migration:

Orissa: In 1981, the number of inter-district migrants was 0.533 million in Orissa accounting for 16.71 per cent of total migrants in the state. The percentage of inter-district migration increased to 17.20 per cent in 1991 census. In 1981, 7 out of all the districts in the state have the share of inter-district migration more than the state average (i.e. 16.71 per cent). The four districts of Sundargarh, Sambalpur, Kendujhar and Phulbani experienced high share of inter-district migration. The inter-censal comparison 1981 and 1991 for the districts showed that among the inter-district migrants, the proportion of total mi-grants had increased in 9 districts, whereas the proportion has come down in the remaining four districts.

Punjab: The share of inter-district migration increased from 30.35 per cent in 1981 to 30.50 per cent in 1991. Like intra-district migration, large variation among the districts is observed so far as the inter-district migration is concerned. It varies from 6.10 per cent in Gurdaspur to 54.66 per cent in Kapurthala. Kapurthala is an urbanized and developed district which attracts migrants from other districts. The other districts fall in the medium range of 20.40 per cent. The inter-censal comparison shows that 8 out of 12 districts witnessed an increase in the percentage of migrant population.

3.5.3 Inter-State Migration:

Orissa: In 1981 census, the inter-state migration constitute 8.62 per cent which came down to 7.16 per cent in 1991. The table 3.3 shows that Sundargarh is the only district in the state having the highest percentage of inter-state migration 29.96 per cent in 1981, followed by Sambalpur 12.69 per cent and Koraput 12.47 per cent. During 1981-91 all the districts have experienced a decrease in the percentage of inter-state migration in the state.

Punjab: The state experienced an increase in the share of inter-state migration from (17.33 to 17.55) in 1981 and 1991 respectively. Among the districts Patiala showed the largest share of inter-state migration (26.94), followed by

Rupnagar (24.96) and Firozpur (20.87). The least share of migrants was in the district of Gurdaspur 4.61 per cent. The industrialized and developed districts of Punjab like Ludhiana, Jalandhar, Patiala etc. witnessed inter-state migration. These districts are industrially much more advanced. Comparing 1981 with that of 1991 census it is observed that all the districts (except Gurdaspur, Ludhiana, Rupnagar, Sangrur) experienced a decline in the proportion of inter-state migrants.

3.6 Migration Classified by Direction of Movements in Orissa and Punjab 1981-91:

3.6.1 Rural-rural migration:

Orissa: If formed the dominant migration stream in both the census accounting for more than 70 per cent of the internal migrants. The strength of the stream, however, declined in 1991, in comparison with 1981 in Orissa. The table 3.1 reveals that the sex ratio (females per 1000 males in the rural to rural stream was 5384, which is quite high. It shows the preponderance of female migrants in this stream.

Table 3.5: Total Migrants Classified by Direction of Movement, Orissa & Punjab, 1981-91

District	Rural to Rural		Rural to Urban		Urban to Urban		Urban to Rural	
	1981	1991	1981	1991	1981	1991	1981	1991
ORISSA	78.63	78.14	13.47	13.85	4.62	4.79	3.26	3.20
Sambalpur	76.84	75.32	15.01	15.80	4.06	6.60	3.06	2.27
Sundargarh	43.50	53.63	34.32	32.51	8.51	11.32	5.04	2.52
Kendujhar	78.93	79.35	15.37	14.50	3.13	3.69	3.13	2.44
Mayurbhanj	88.08	87.57	7.78	8.04	2.18	1.88	3.74	2.49
Baleshwar	87.00	84.93	7.81	9.52	2.18	2.57	2.99	2.96
Cuttack	81.25	79.70	11.83	13.76	3.81	3.61	3.09	2.91
Dhenkanal	83.87	80.78	10.18	13.38	3.33	3.53	2.60	2.29
Phulbani	90.36	86.87	6.21	7.04	2.70	2.71	2.93	3.36
Balangir	82.83	83.21	10.19	9.87	3.73	3.45	3.23	3.46
Kalahandi	87.74	88.18	6.29	6.16	2.75	2.33	3.20	3.30
Koraput	76.76	79.03	12.35	10.81	5.88	5.87	4.96	4.27
Ganjam	77.05	75.52	12.21	12.75	5.41	6.64	5.31	5.07
Puri	72.57	69.36	18.74	19.61	6.46	8.28	2.20	2.73
PUNJAB	61.64	59.99	17.67	17.55	13.86	15.77	6.80	6.67
Gurdaspur	77.37	67.88	1.54	13.09	19.50	10.78	1.57	8.23
Amritsar	61.54	61.24	18.87	19.87	13.59	13.46	3.43	5.41
Firozpur	64.97	65.92	13.05	14.33	13.98	12.79	7.98	6.94
Ludhiana	50.09	39.43	24.35	25.17	19.81	30.97	5.73	4.40
Jalandhar	58.31	56.45	18.90	18.73	16.71	17.36	7.17	7.44
Kapurthala	56.48	60.62	23.27	16.81	13.77	13.89	6.46	8.66
Hoshiarpur	74.07	72.26	10.69	11.96	6.48	7.43	8.75	8.33
Rupnagar	52.32	55.03	14.10	18.56	27.54	18.27	6.03	8.13
Patiala	57.93	59.48	19.06	16.61	16.31	16.54	6.68	7.34
Sangrur	68.63	66.62	16.11	16.87	9.18	10.35	6.05	6.14
Bathinda	63.28	64.90	18.20	16.50	12.87	12.13	5.63	7.17
Faridkot	64.47	66.46	16.92	14.85	11.48	12.65	6.88	6.02

Source: Census of India, 1981 and 1991, Migration Tales.

Among the districts Phulbani had the highest share of rural to rural migrants (90.36 per cent), followed by Mayurbhanj (88.08), Kalahandi (87.74) and Baleshwar (87.0). Out of these four districts except Baleshwar all the three other districts are tribal districts and have very low rate of urbanization. The high share of migration in this stream

70

of migration is mainly because of the bulk of female migration due to village exogamy. Sundargarh district has the least share of rural to rural migration (43.50 per cent). In Sundargarh, because of high rate of urbanization and industrialization intra-district migrants are mostly enumerated in the urban areas and this figure was the highest among all the districts.

During 1981-91, 8 out of 13 districts in the state experienced low share of rural to rural migration. The remaining five districts experienced an increase in rural to rural migration.

Punjab: Rural to rural migration constituted the largest proportion of total migrants in Punjab i.e. 61.64 per cent in 1981 and decreased to 59.99 per cent in 1991. Among the districts, Gurdaspur showed the largest proportion of rural to rural migration i.e. 77.37 per cent, followed by Hoshiarpur 74.07 per cent. Both the of these districts are located in the semi-hilly region and are mostly backward. A higher percentage of migration in this stream may be due to marriage. The percentage of rural to rural migration is less in the developed districts of Ludhiana (50.09), Jalandhar (58.31), Patiala (57.93). The 1981-91 decade shows that 6 out of 12 districts experienced a decline in rural to rural migration.

3.6.2 Rural to urban Migration:

Orissa: This migration formed about one-seventh of the total migration at two points of time. Sundargarh (34.32 per cent), Puri (18.74 per cent) experienced high level of rural to urban migration in Orissa. On the other hand, districts like Phulbani (6.21 per cent), and Kalahandi (6.29 per cent) experienced a low migration These districts are mostly backward and dominated by tribals. Since the rural to urban migration is low these districts have low rate of urbanization. During 1981-91 period 8 districts have shown an increase in rural to urban migration.

Punjab: In 1981 census, 17.67 per cent migrants moved from rural to urban areas, which decreased to 17.55 per cent in 1991. Ludhiana shared the largest migrants in the rural to urban category (24.35 per cent) followed by Kapurthala (23.27 per cent), Patiala (19.06 per cent). These are industrially developed districts. Punjab witnessed strong streams of rural-urban and urban-urban migrants of the kind never experienced before, the migrants were from far off areas as Bihar and eastern Uttar Pradesh during 1971-81 (Gosal, 1987).

Khurana (1988) in his study on Bihar and Punjab confirmed that the demand for wage paid non-farm labour has increased in recent years on account of launching of devel-

72

opment programmes by central and State governments (Punjab) such as construction of storage facilities, godowns, expansion of drainage and water supply facilities, etc. All this have contributed to the growth of migrant labour in Punjab.

Gurdaspur experienced the lowest share of rural to urban migration i.e. 1.54 per cent. The period 1981-91 witnessed an increase in rural to urban migration in seven districts of the state.

3.6.3 Urban to Urban Migration:

Orissa: Urban to urban migrants are important in the developed areas of Orissa like Sundargarh, Puri and Sambalpur. In both the adjoining districts of Mayurbhanj and Baleshwar the urban to urban migration is the lowest. In the period 1981-91. 8 districts have shown a rise in their urban to urban population. These are Sambalpur, Sundargarh, Keonjhar, Baleshwar, Dhenkanal, Phulbani, Ganjam and Puri. People in these districts have mostly migrated from small towns to medium and large towns. This may be because of the availability of more employment opportunities in large towns compared to small and medium towns of these districts.

Punjab: It formed 13.86 per cent of the total migrants in Punjab, which further increased to 15.77 per cent in

1991. The table 3.4 shows there exists large variation among the districts in urban to urban migration to the extent of 27.54 per cent in Rupnagar, followed by Ludhiana (19.81 per cent) and Gurdaspur (19.50 per cent). Whereas the lowest share of urban to urban migration is observed in Hoshiarpur (6.48 per cent). A large share of the urban to urban migrants are from Bihar and eastern Uttar Pradesh.

3.6.4 Urban to Rural Migration:

Orissa: The districts of Ganjam and Sundargarh experienced high level of urban to rural migrants. In Sundargarh district the percentage of workers engaged in the secondary sector has reduced (23.29 per cent in 1981 to 20.22 per cent in 1991). This is mainly because of no further expansion of industry in that districts. On the other hand, the district has shown an increase in primary activity (57.26 per cent in 1981 to 57.80 per cent in 1991). On the other hand, Puri and Dhenkanal districts show low level of urban to rural migration. It seems that on account of lack of employment opportunities in the rural areas people are pushed to the nearby urban areas in the more developed section and to the distant urban centres from the less urbanized agricultural plain, but again they are pushed back to the rural areas (Bose, 1974).

Punjab: The urban to rural migration in Punjab declined from 6.80 per cent in 1981 to 6.67 per cent in 1991. Among the districts Gurdaspur has the least share of urban to rural migration (8.75 per cent). Gurdaspur is predominantly a less developed district located in the sub-mountainous tract in the Northern Punjab. This district is agriculturally not so developed devoid of sub-soil and potable water, agriculture and forests, (NCU report, 1988 August 320). As a result the people from rural areas are pushed to urban areas and the reverse movement of population is hardly seen During 1981-91 decades 8 districts in the state have experienced an increase in the rate of urban to rural migration.

3.7 Reasons for Migration in Orissa and Punjab (1981-1991)

In the Indian Census, data on reasons for migration were collected for the first time in the 1981 census. The classification used was (1) employment, (2) education, (3) family moved (association), (4) marriage, and (5) others (largely covers those migrants who arrived at their present destination to meet relatives to go on pilgrimage, to settle after retirement, to settle after two wars with Pakistan, and, in the case of a number of married women, to deliver the child at their parents' home (a custom prevalent in India). It may also include those who are in a state of flux at their new destination and are unable to indicate the exact reason of migration (Premi, 1990).

However, the 1991 census brought two more reasons (business, natural calamities) for migration.

Orissa: It is found that among male migrants to urban areas (rural to urban and urban to urban) employment was the most important reason (41.77 per cent and 42.05 per cent, respectively in 1981 and 39.47 per cent and 38.17 per cent in 1991). Roughly half of the rural-urban male migrants moved for employment purposes. Education accounted for only 8.44 per cent of the rural-urban male migrants in 1981 which increased to 8.69 per cent in 1991. On the other hand among male migrants to rural areas (urban to rural and rural to rural) it was observed that migrants moving for "other causes" constituted the largest percentage (35.52 and 33.13 per cent respectively in 1981 and 23.63 per cent and 66.11 per cent respectively for 1991 census).

(Female): Among the females it was observed that marriage accounted for roughly three-fourths of the migrants. In the rural-rural stream the female migrated because of marriage (84.75 per cent in 1981 and 87.24 per cent in1991). Among the female migrants employment accounted for about 5 per cent in urban to urban stream in 1981 and 1991. Education accounted for about 2.5 per cent of the migrants to urban areas.

Punjab: Among the rural-urban and urban-urban male migrants employment accounted for roughly 40 per cent of the migration. Male migrants showing reasons for migraton as `family moved' were also in all the streams. Education roughly accounted for 2 per cent in case of male migrants.

(Females): In the rural-rural stream marriage accounted for 86.24 per cent of the female migration. Similarly it was also high for urban to rural stream (76.19 per cent in 1991). Among women migrants, employment and education accounted for about 4 per cent in urban areas and less than 3 per cent in rural areas.

Table 3.6(a): Reasons for Migration in Orissa and Punjab 1991
(All Duration of Residence)

	Employment		Business		Education		Family Moved	
	M	F	M	F	M	F	M	F
ORISSA 1991								
Rural-Rural	12.08	0.60	4.05	0.26	6.93	0.52	33.71	5.08
Urban-Rural	26.84	2.97	6.44	3.96	4.74	1.05	29.13	16.79
Rural-Urban	39.47	3.93	11.61	1.01	8.69	2.63	20.39	30.80
Urban-Urban	38.17	5.33	11.12	1.23	6.23	2.75	26.49	39.36
PUNJAB 1991								
Rural-Rural	20.04	1.44	1.19	0.17	1.57	0.41	31.96	5.91
Urban-Rural	28.12	2.44	1.38	0.24	2.04	0.63	35.09	12.78
Rural-Urban	45.42	4.03	3.48	0.41	2.12	1.09	29.15	22.39
Urban-Urban	36.66	3.50	3.29	0.56	2.14	1.04	31.44	20.49

	Marriage		Nat.Calamities		Others		Total	
	M	F	M	F	M	F	M	F
ORISSA 1991								
Rural-Rural	11.35	87.24	3.31	0.36	66.11	4.82	100.0	100.0
Urban-Rural	4.29	68.20	0.98	0.38	23.63	9.27	100.0	100.0
Rural-Urban	2.67	52.18	0.99	0.40	16.13	8.39	100.0	100.0
Urban-Urban	1.75	40.76	0.33	0.25	15.88	10.29	100.0	100.0
PUNJAB 1991								
Rural-Rural	6.65	86.24	0.70	0.10	37.85	6.00	100.0	100.0
Urban-Rural	3.48	76.19	0.48	0.12	29.38	7.57	100.0	100.0
Rural-Urban	2.60	64.13	0.39	0.16	16.80	7.76	100.0	100.0
Urban-Urban	3.76	64.49	0.48	0.21	22.19	9.68	100.0	100.0

Source: Migration Tables 1991, Census of India.

Table 3.6(b): Reasons for Migration in Orissa and Punjab, 1981
(All Duration of Residence)

	Employment		Education		Family Moved		Marriage		Others		Total	
	M	F	M	F	M	F	M	F	M	F	M	F
ORISSA 1981												
Rural-Rural	12.32	0.53	5.19	0.34	41.89	8.24	7.64	84.75	33.13	6.11	100.0	100.0
Urban-Rural	28.74	3.47	3.93	0.87	29.73	25.00	2.07	56.84	35.52	13.79	100.0	100.0
Rural-Urban	41.77	3.37	8.44	2.56	22.02	36.27	1.05	44.53	2.67	12.53	100.0	100.0
Urban-Urban	42.05	5.37	5.46	2.55	29.46	47.63	0.64	31.14	2.36	13.29	100.0	100.0
PUNJAB 1981												
Rural-Rural	23.54	1.20	2.06	0.61	33.46	8.37	3.37	82.12	37.56	7.68	100.0	100.0
Urban-Rural	31.13	2.77	2.29	1.27	34.09	16.62	1.51	68.76	30.96	10.55	100.0	100.0
Rural-Urban	50.04	3.46	2.70	1.61	27.86	27.13	0.96	57.95	18.42	9.86	100.0	100.0
Urban-Urban	40.27	3.32	3.82	1.81	30.93	28.03	0.95	54.09	21.36	12.72	100.0	100.0

Source: Migration Table, 1981 Census of India.

SECTION-II

3.8 Migrant Workers by Occupational Categories in Orissa and Punjab:

The proportion of migrants by industrial categories have been computed for the four streams, namely, (i) Rural to urban, (ii) Rural to Rural, (iii) Urban to urban, (iv) Urban to rural.

Table 3.7: Distribution of Migrant Main Workers by
Industrial Categories, Punjab and Orissa, 1991

Industrial Category	Rural-Rural M	Rural-Rural F	Rural-Urban M	Rural-Urban F	Urban-Urban M	Urban-Urban F	Urban-Rural M	Urban-Rural F	Total M	Total F
					PUNJAB					
I	159630	21270	11040	870	4500	520	9970	1500	185140	24160
	(38.76)	(20.04)	(3.39)	(2.78)	(1.77)	(1.14)	(17.17)	(9.69)	(17.63)	(12.19)
II	102280	42140	19030	2100	10760	1280	10390	3910	142460	49430
	(24.83)	(39.71)	(5.85)	(6.70)	(4.23)	(2.81)	(17.89)	(25.77)	(13.57)	(24.94)
III	6170	1290	7320	580	3500	710	1130	140	18120	2720
	(1.50)	(1.22)	(2.25)	(1.85)	(1.38)	(1.56)	(1.95)	(0.92)	(1.72)	(1.37)
IV	120	100	250	10	160	100	30	10	560	220
	(0.30)	(0.09)	(0.08)	(0.03)	(0.06)	(0.22)	(0.05)	(0.07)	(0.05)	(0.11)
Va	5040	2940	3900	870	3100	1110	780	690	12820	5610
	(1.22)	(2.71)	(1.20)	(2.78)	(1.22)	(2.44)	(1.34)	(4.55)	(1.22)	(2.83)
Vb	43360	7340	92020	2890	69060	3190	10310	1030	214750	14450
	(10.53)	(6.92)	(28.27)	(9.23)	(27.16)	(7.01)	(17.75)	(6.79)	(20.45)	(7.29)
VI	10580	1060	17900	600	12140	580	2210	200	42830	2440
	(2.57)	(1.00)	(5.50)	(1.92)	(4.17)	(1.27)	(3.81)	(1.32)	(4.08)	(1.23)
VII	21700	2630	58550	1940	58820	3850	6090	710	145160	9130
	(5.27)	(2.48)	(17.99)	(6.19)	(23.13)	(8.46)	(10.49)	(4.68)	(13.82)	(4.60)
VIII	12720	770	27630	500	20870	690	2760	190	63980	2150
	(3.09)	(0.73)	(8.49)	(1.60)	(8.21)	(1.52)	(4.75)	(1.25)	(6.09)	(1.08)
IX	50250	26590	87890	20960	71350	33500	14400	6790	223890	87840
	(12.20)	(25.05)	(27.00)	(66.92)	(28.06)	(71.58)	(24.81)	(44.76)	(21.32)	(44.33)
Total	411850	106130	325530	31320	254260	45530	58080	15170	1049720	198150
	(100.)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)

Industrial	Rural-Rural		Rural-Urban		Urban-Urban		Urban-Rural		Total	
Category	M	F	M	F	M	F	M	F	M	F

<center>ORISSA</center>

Industrial Category	Rural-Rural M	Rural-Rural F	Rural-Urban M	Rural-Urban F	Urban-Urban M	Urban-Urban F	Urban-Rural M	Urban-Rural F	Total M	Total F
I	244050	260188	6481	2170	1370	240	9150	4339	261051	266937
	(35.17)	(28.26)	(1.80)	(4.00)	(1.00)	(1.34)	(14.59)	(18.07)	(20.86)	(26.26)
II	189325	518472	13365	11200	1942	949	6160	9980	210792	540601
	(27.28)	(56.33)	(3.72)	(20.65)	(1.42)	(5.32)	(9.82)	(41.56)	(16.84)	(53.18)
III										
IV										
Va	27115	54518	5312	2524	1920	858	1910	1753	36257	59653
	(3.90)	(5.92)	(1.48)	(4.65)	(1.41)	(4.81)	(3.04)	(7.30)	(2.89)	(5.86)
Vb										
VI										
VII										
VIII										
IX	233310	87198	333607	38335	130901	15775	45452	7940	743270	149248
	(33.62)	(9.47)	(92.98)	(70.69)	(96.15)	(88.51)	(72.52)	(33.06)	(59.39)	(14.68)
Total	693800	920376	358765	54229	136133	17822	62672	24012	1251370	1016439
	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)

Note: The data for Orissa is available for category I, II, Va, and X.
Source: Migration Tables 1991.

Orissa: As per 1991 census, the total migrant male workers accounted for 1.25 million and female migrant workers 1.01 million (Table 3.7). The table reveals that 59.39 per cent of the total male migrant workers were engaged in other services, whereas the corresponding figures for the females was quite low at 14.68 per cent. This may be because of the fact that the other workers in case of 1991 census in Orissa includes the secondary activities (except

manufacturing in household industries), and tertiary actvi-
ties, where a significant proportion of the male migrants
work. Among the total female migrants 53.18 per cent were
engaged as agricultural labourers. It is mainly because of
the seasonal nature of agricultural operation in the state
where a significant proportion of female labourers partici-
pate.

**Table 3.8: Distribution of Migrant Workers
in Orissa and Punjab, 1991**

	I	II	V(a)	IX	Percentage of Migrant Workers from Total Migrants
ORISSA	23.27	33.13	4.22	39.34	27.68
Sambalpur	24.37	36.55	6.95	32.09	35.56
Sundargarh	15.52	14.32	2.45	67.66	35.57
Kendujhar	25.82	27.19	2.79	44.15	30.58
Mayurbhanj	31.57	40.64	7.34	20.4	35.79
Baleshwar	22.88	33.46	2.91	40.71	15.41
Cuttack	12.89	23.34	3.52	60.22	16.12
Dhenkanal	18.86	33.27	4.72	43.11	24.10
Phulbani	31.79	39.47	4.29	24.41	36.38
Balangir	23.18	41.29	6.17	25.02	28.73
Kalahandi	24.06	47.7	4.65	23.56	27.96
Koraput	33.21	36.15	1.71	28.89	40.54
Ganjam	26.34	40.98	2.9	29.58	34.16
Puri	9.07	18.47	3.32	69.1	20.24
	PRIMARY	SECONDARY	TERTIARY		
PUNJAB	33.82	23.53	42.64		19.62
Gurdaspur	39.64	17.87	43.07		15.66
Amritsar	28.98	21.69	49.37		16.90
Firozpur	56.35	11.33	32.21		22.12
Ludhiana	19.86	41.37	37.84		26.36
Jalandhar	32.49	20.94	46.55		20.31
Kapurthala	35.94	31.97	32.08		24.13
Hoshiarpur	35.59	22.28	42.11		17.18
Rupnagar	20.30	22.32	57.36		22.47
Patiala	34.49	22.04	43.46		20.49
Sangrur	35.66	21.14	43.19		13.72
Bathinda	37.78	15.11	47.09		16.28
Faridkot	49.73	13.71	36.54		17.62

Source: Migration Table 1991 (in floppy).

Table 3.7 presents the distribution of migrant workers (both male and female) by broad industrial categories. The pattern of these four categories (I, II Va and IX) differs very significantly in the four migration streams and can, therefore, be taken as indicative of certain characteristics of the migrants.

In the rural to rural stream of migration, it is observed that among male migrant workers 35.17 per cent work as cultivators, followed by other service workers 33.62 per cent and agricultural labourers 27.28 per cent. Among the female migrant workers 56.33 per cent work as agricultural labourers. It is because of the low wage rates among the female workers compared to male workers, females are preferred in such activities like agricultural labourers. Among the females 28.26 per cent work as cultivators. In all the other three streams the proportion of females are found to be more compared to males in activities like cultivation, and agricultural labourers and manufacturing and household activities.

Punjab: As it is evident from the table 3.7 the total migrant workers among males accounted for 1.09 million and for females it was 1.98 million. Looking at the distribution of migrant workers in the 9 fold industrial categories, it is observed that the male migrants are mostly employed in

manufacturing and other than household industries. They constitute 20.45 per cent, this is followed bgy cultivators (17.63 per cent) and agricultural labourers (13.57 per cent). A significant proportion of migrant workers (21.32 per cent) are engaged in other services. Whereas, female migrant workers are mostly engaged in other services (44.33 per cent). In the category of `other services' we presume that a large majority of the working women should be engaged as maid-servants, scavengers, etc. (Premi, 1980). This is followed by agricultural labour category (24.94 per cent) and cultivator category (12.19 per cent). Looking at the streams of migration it is found that in rural to rural movement male migrant workers are mostly engaged as cultivators, followed by agricultural labourer category. The proportion of male migrant workers engaged in manufacturing other than household industry is also significant i.e. 10.53 per cent. But in case of female migrant workers a significant proportion i.e. 39.71 per cent are employed as agricultural labourers, followed by cultivators (20.04 per cent). Among the other streams, the share of migrant workers in `other services' both among males and females is relatively higher, which indicates the capacity of this sector in providing employment opportunities. It is clear from table 3.7 that both in the secondary and tertiary sectors the proportion of male migrants are more than the female migrants in all the streams of migration.

3.9 Share of Migrant Workers in

Orissa and Punjab: 1991

Orissa: Figures for Orissa showed that the migrant workers to the total migrants constituted 27.68 per cent of the state (Table 3.8). The districtwise picture reveals that the proportion of migrant workers to the total migrants are less in the coastal districts than in the inland districts. There is great variation in the proportion of migrant workers. It varies from as low as 15.41 per cent in Baleshwar to 40.57 per cent in Koraput. In the northwestern districts of Orissa like Sambalpur, Sundargarh, Mayurbhanj etc. the percentages of migrant workers is higher, mainly because of the mining and industrial activities in this region. Similarly southern districts like Koraput and Ganjam also showed higher percentage of migrant workers. This is mainly because of their proximity to Andhra Pradesh these districts have experienced high female work participation rate (because Andhra Pradesh shows one of the highest female work participation in India) in agriculture and household industries. In the state of Andhra Pradesh female workers are preferred as agricultural labourers and in the household industries. This may be because of the lower wage rate for the female workers as compared to the male workers. Similarly, they also attract female migrants from the adja-

cent districts.

Punjab: The migrant workers represent 19.62 per cent of the total migrants in this state. Though the variation between the districts is not that much yet Ludhiana, Kapurthala, Firozpur attract a huge chunk of migrant workers. Ludhiana is famous for its textile mills which are mainly household manufacturing, where mostly migrants workers are employed. The less developed district like Gurdaspur has a low share of migrant workers.

3.9.1 Share of Male and Female Migrant Workers in Orissa and Punjab (1991)

Orissa: The table 3.9 (Male) showed that Sambalpur had the highest (19.25 per cent) proportion of female migrants workers to total workers. This is mainly because of the migration of workers from the adjacent districts of Balangir and Kalahandi. On the other hand Ganjam district shows the lowest proportion of male migrant workers. This district is industrially not much developed.

(Female): The tribal dominated districts like Mayurbhanj, Kendujhar, Phulbani and Koraput have shows a high proportion of female migrant workers. In these districts the females are mostly employed in household industrial activities like mat-making, bidi-making, etc.

Table 3.9: Proportin of Male Migrant and Female Migrant Workers to Total Workers in Orissa and Punjab, 1991

	Male	Female
Sambalpur	19.25	14.82
Sundargarh	7.78	2.84
Kendujhar	13.67	12.40
Mayurbhanj	9.37	17.28
Baleshwar	9.70	4.38
Cuttack	11.33	4.40
Dhenkanal	9.16	7.20
Phulbani	11.27	15.62
Balangir	11.37	10.96
Kalahandi	7.95	10.16
Koraput	12.26	12.27
Ganjam	7.41	11.60
Puri	13.28	4.97
ORISSA	12.05	9.79
Gurdaspur	13.27	2.48
Amritsar	10.99	2.51
Firozpur	15.52	3.54
Ludhiana	27.71	3.43
Jalandhar	18.82	3.31
Kapurthala	22.39	4.27
Hoshiarpur	10.74	2.05
Rupnagar	26.37	4.79
Patiala	19.08	3.15
Sangrur	11.26	2.36
Bathinda	13.42	3.86
Faridkot	14.63	2.26
Punjab	17.21	3.24

Source: Migration Table, 1991, Census of India.

Punjab: Among the districts Ludhiana showed the highest proportion of male migrant workers (27.71 per cent). There is greater demand of migrant workers in the textile industry in this district. Hoshiarpur showed the lowest proportion of migrant workers (10.74 per cent). This is mainly because the district is not so developed industrially and it is one

of the less developed districts of Punjab.

(**Female**): Among the districts, Rupnagar had the largest proportion of female migrant workers (4.79 per cent) followed by Kapurthala (4.27 per cent). In these two districts females are employed in household industry.

3.10 Sectoral Distribution of Migrant Workers in Orissa and Punjab:

Orissa: The table 3.8 reveals that a significant proportion of total migrant workers were engaged in the primary activities (cultivators, agricultural labourers). In Orissa these two activities constituted 56.4 per cent of the total migrant workers. Since the other workers in case of Orissa includes most of the secondary and tertiary activities, therefore, this shows a significant share in the total migrant workers Districts like Puri, Sundargarh and Cuttack showed a significant proportion of their total migrant workers engaged in "other activities". Other activities here include the workers engaged in manufacturing other than household industry, construction, trade and commerce, transport, storage and communication workers, mining and quarrying, livestock, forestry, hunting and plantation, orchards and allied activities. This is mainly because Puri and Cuttack are mostly important for their tertiary activities, whereas Sundargarh is particularly important for its secondary activities. In all other districts the proportion of

87

agricultural labourers and cultivators form a huge chunk of migrant workers.

Punjab: The state exhibits 42.46 per cent of the migrant workers engaged in the tertiary activities, followed by 33.82 per cent in the primary sector and 23.53 per cent in the secondary sector. The primary sector showed a large variation where there are districts like Ludhiana exhibiting the lowest figure (19.86 per cent) and districts like Faridkot exhibiting almost 50 per cent of their migrant workers engaged in primary sector. In the secondary sector industrially developed districts like Kapurthala and Ludhiana have a large share of migrant workers. Coming to the tertiary sector, it is observed that districts like Rupnagar, Jalandhar, Bathinda and Amritsar have significant percentage of migrant workers engaged in tertiary activities.

3.11 Conclusions

Analysing the migration data for Orissa and Punjab at two points of time 1981 and 1991, it was observed that the pattern of internal migration in the 1991 census tally more or less with the census data as recorded during 1981 census. In both the censuses, slightly more than 25 per cent were migrants in Orissa whereas it was around 30 per cent in both the census in Punjab. During 1981-91 decade, therefore, a

substantial majority of the population were not migrants in Orissa and Punjab. Among the migrants, females were much more in number compared to males in the state as well as in the individual districts during both the enumerations. In both the states, especially the females have been attracted towards rural areas whereas for males it is the opposite i.e. most of them have been attracted towards the urban areas.

During 1981 and 1991, the rate of intra-district (short-distance) movers was much higher in comparison with the inter-district and inter-state migrants in both the states. However, in case of Orissa, the highly industrialised district of Sundargarh had presented a unique migratory picture in both the census operations. It showed a preponderance of inter-district and inter-state migration over the intra-district migration. From the individual district figure it was found that both in 1981 and 1991 the share of migrants was the highest in Sundargarh and this was immediately followed by Sambalpur. It may be mentioned here that Sambalpur has followed Sundargarh due to industrialisation while the other districts are less industrialised. In case of Punjab, the district Gurdaspur had shown exceptionally high figures of migrants in 1981.

In the case of Orissa it was found that among male migrants to urban areas (rural to urban and urban to urban) emploment was the most important reason. Roughly half of the rural-urban male (42.05 per cent in 1991) migrants moved for employment purposes. Education accounted for only 8.44 per cent of the rural-urban male migrants in 1981 which increased to 8.69 per cent in 1991. However, among females it was observed that marriage accounted for roughly three-fourths of the migrants. Education accounted for about 2.5 per cent of the female migrants to urban areas.

Punjab also had a similar case where the male migrants mostly to urban areas showed employment as the reason for migration. Whereas among 76 per cent female migrants, marriage was the cause for migration.

Coming to the sectoral distribution of migrant workers in both the states it was found that in Orissa a significant proportion of the total migrant workers came under the primary sector which includes cultivators, agricultural labourers, etc. A huge chunk of migrant workers were also found to have been engaged in other activities. Punjab on the other hand, showed the preponderance of migrant workers in the tertiary sector, followed by primary and secondary sector. The more industrialised district like Ludhiana, of course, showed a preponderance of secondary sector over tertiary sector, followed by primary sector.

Coming to the share of male and female migrant workers in Orissa and Punjab we find that those districts which are industrially development always attracted the male migrant workers. The best example was Sambalpur district in Orissa which had the highest share of 19.25 per cent male migrant workers. Similarly Ludhiana which is also another developed district in Punjab showed 27.71 per cent share of male migrant workers.

The female migrant workers on the other hand were absorbed in the household industrial activities. In Orissa districts like Mayurbhanj, Kendujhar, Phulbani and Koraput have shown a high proportion of female migrants engaged in household industries. In Punjab, Rupnagar and Patiala showed high share of female migrant workers.

The distribution of migrant main workers showed that in both Orissa as well as Punjab females have a large share of employment in household industrial activity, agricultural labourer category and other industrial category. The possible reason for this could be the females have low wage rates compared to male workers and during the agricultural operation female migrant workers are preferred in activities like paddy transplantation.

The patterns of migration particularly in the developing countries are very much tied with industrialization in a region. If a region is developed industrially it attracts the migrants from the adjacent regions which are comparatively less developed. Hence, any discussion on migraton will remain incomplete without a discussion on industrialization. Hence our next chapter focuses on the issues of industrialization.

CHAPTER IV

SECTORAL DISTRIBUTION OF WORKERS AND INDUSTRIAL STRUCTURE IN ORISSA AND PUNJAB, 1981-91

4.1   The dynamics of economic growth affects and is affected by the size and structure of the workforce.   In the process of economic development, certain structural changes in the workforce are witnessed, as the economy makes progress from subsistence agricultural stage towards industrialisation. Based on the statistics on occupational compositions in different countries, Clark and Fisher built the hypothesis that with economic development and increasing income there was a progressive shift of employment from primary sector to secondary sector and subsequently to tertiary sector.   Thus, the sectoral distribution of employment is an important indicator of an economy's level of development at any given point of time.

The intent of the chapter is to analyse the spatial patterns and sectoral distribution of work force in Orissa and Punjab for the period 1981-91.   The chapter has been divided into two sections.   Section-I presents the work-force participation in the districts both for rural and urban areas and for male and female population.   Section II presents the distribution of workforce and the industrial structure of the states.

4.1.1 Conceptual Framework:

Here it is important to cite some of the earlier works in order to get a proper understanding of this (sectoral distribution of workers and industrial structure) concept.

Tewari (1988) discussed the growth rate of sectoral employment pointed out that primary sector is growing faster in industrialised states whereas secondary and tertiary sectors are growing faster in industrialising states.

Kundu (1991) analysed the spatial structure and growth of industries and their rural-urban interdependence, stated that there exists a strong positive correlation of rural and urban growth pattern.

Mohan (1989) discussed at the relevant data pertaining to employment, urbanisation and manufacturing during 1960s and 1970s. His empirical analysis proved that non-household manufacturing and construction records the fastest growth, whereas agriculture related activities have extremely low growth rate.

Chadha (1993) points out that the rural non-farm sector in India has witnessed a steady expansion during the past two decades or so. The rural workforce is gradually, shifting from low productive non-agricultural jobs of diverse

variety, partly in rural areas themselves and partly in urban areas.

Mathur and Pani (1993) made a macro-level analysis of structural variations within the rural industrial sector across different regions of India, focusing on the employment dimension. The authors made the following conclusions. Unless the tempo of rural industrial expansion is maintained continuously, endemic rural unemployment cannot be eliminated. There is greater effectiveness of expansion of the rural non-household segment in solving the rural unemployment problem compared to that of rural household industries.

Bhalla (1994) in her study points out that the workforce diversification within rural areas can generally be associated with a shift out of low productivity activities, into non-farm work in particular, where the incidence of poverty is much lower. Infrastructure investment in urban as well as rural areas is shown to be the key to the reduction of rural poverty.

4.2 **Methodology:**

In Section I of this chapter, the pattern of workforce participation analysing the rural/urban and male/female components are shown by carrying out the following calculations:

(i) Total Work Force Participation rate computed as per cent of total population i.e.

$$TWPR = \frac{\text{Total Main Workers}}{\text{Total Population}} \times 100$$

(ii) Work Force participation in rural areas:

$$RWPR = \frac{\text{Rural Workers}}{\text{Rural Population}} \times 100$$

(iii) Work Force participation in urban areas:

$$UWPR = \frac{\text{Urban Workers}}{\text{Urban Population}} \times 100$$

(iv) Work Force participation among males:

$$MWPR = \frac{\text{Total Male Workers}}{\text{Total Male Population}} \times 100$$

(v) Work Force participation among female:

$$FWPR = \frac{\text{Total Female Workers}}{\text{Total Female Population}} \times 100$$

(vi) Work Force participation among urban males.

$$UMWPR = \frac{\text{Total Urban Male Workers}}{\text{Total Urban Male Population}} \times 100$$

(vii) Work Force participation among urban females:

$$UFWPR = \frac{\text{Total Urban Female Workers}}{\text{Total Urban Female Population}} \times 100$$

In the Section II of the chapter, the proportion of workers in all the 9 industrial categories have been calculated for both Orissa and Punjab for the 1981-91 period.

The proportion of workers have been clubbed into three sectors i.e. Primary, Secondary and Tertiary. In the Primary sector the first 4 categories i.e. I, II, III and IV are included. While the two categories V(a), (b) and VI are included in the Secondary sector. The Tertiary sector comprises of VII, VIII and IX categories. The 9 industrial categories are shown:

   I. Cultivators.

  II. Agricultural labourer.

 III. Livestock, forestry, fishing, hunting and plantations, orchards and allied activites.

  IV. Mining and Quarrying.

  Va. In Household industry, manufacturing, processing, servicing and repairs.

  Vb. Manufacturing, processing, servicing and repairs other than household industry.

  VI. Construction.

 VII. Trade and commerce.

VIII. Transport, storage and communcation.

  IX. Other services.

In order to show the industrial structure of the two states two digit level data (NIC classification, 1981) have been taken. Participation rate (by simple percentage method) has been calculated for both urban male and female

separately from the total urban main workers. Similarly
growth rate (1971-81) has also been calculated for both
urban male and urban female for both Orissa and Punjab.

SECTION-I

4.3 Spatial Distribution of Workforce Participation in Orissa and Punjab 1981-91

4.3.1 Regional Level Analysis:

Orissa: There has been wide inter-district differen-
tials in workforce participation rate as is evident from the
table 4.1. In 1981, among the districts Phulbani had the
highest proportion of workers i.e. 38.88 per cent, while
Baleshwar district showed the lowest work force participa-
tion rate i.e. 27.20 per cent. Table 4.1 showed, out of 13
districts in the state, 7 districts had work participation
rates markedly higher than the State i.e. 32.75 per cent.
These districts include Phulbani 38.88 per cent, Koraput
38.85 per cent, Mayurbhanj 38.25 per cent, Sambalpur 36.39
per cent, Kalahandi 35.95 per cent and Balangir 34.89 per
cent. Most of these districts have inland location and are
mostly tribal dominated. The inter-censal comparison 1981-
91 showed that seven districts in the state experienced low
work participation rate in 1991 compared to the 1981 census.
These districts include (Sundargarh 32.29 per cent, Mayurb-
hanj 37.27 per cent, Baleshwar 27.02 per cent, Cuttack 26.53
per cent, Dhenkanal 31.42 per cent, Phulbani 38.61 per cent,

and Puri 28.98 per cent). The coastal districts have experienced low work participation compared to the inland districts. It is mainly because of higher literacy rate and better economic condition of the people in the coastal districts. The coastal districts of Orissa namely Baleshwar (58.78 per cent), Cuttack (63.28 per cent), Puri (63.82 per cent) and Ganjam (42.26 per cent) have higher literacy rates in 1991 census compared to other districts of the State.

Table 4.1: Work Force Participation in Orissa and Punjab, 1981-91

Districts	Total		Urban		Rural		Total				Urban			
							Male		Female		Male		Female	
	1981	1991	1981	1991	1981	1991	1981	1991	1981	1991	1981	1991	1981	1991
Sambalpur	36.39	36.73	30.94	29.17	37.38	38.30	57.90	56.13	14.27	16.64	50.26	48.25	8.97	7.64
Sundargarh	32.41	32.29	29.83	28.11	33.54	34.38	53.08	51.88	10.22	11.35	48.83	46.78	6.49	5.94
Kendujhar	32.40	32.90	31.31	29.26	32.54	33.42	53.25	51.92	11.20	13.37	49.51	47.85	10.34	7.83
Mayurbhanj	38.25	37.27	30.14	28.70	38.75	37.84	55.51	52.88	20.21	21.33	47.56	46.37	9.66	8.45
Baleshwar	27.20	27.02	27.99	27.14	27.13	27.01	50.10	49.38	3.78	3.90	47.95	46.89	5.4	5.16
Cuttack	27.65	26.53	30.84	29.08	27.28	26.17	50.65	48.43	4.00	3.77	51.02	48.79	5.29	5.01
Dhenkanal	31.53	31.42	32.93	28.92	31.40	31.69	53.98	52.14	8.09	9.56	53.05	48.55	7.00	5.11
Phulbani	38.88	38.61	30.17	28.62	39.36	39.24	59.45	55.95	18.29	21.19	48.51	45.99	9.17	9.24
Balangir	34.89	35.02	29.01	29.09	35.48	35.65	58.87	57.31	10.73	12.27	48.8	47.85	7.74	8.58
Kalahandi	35.94	37.46	29.95	29.81	36.32	37.99	60.29	59.79	11.85	15.15	50.13	49.69	8.41	8.35
Koraput	38.85	39.95	32.02	30.25	39.72	41.18	60.20	58.23	17.35	21.57	52.03	49.38	10.55	9.97
Ganjam	34.75	36.01	27.99	27.41	35.86	37.52	51.88	52.01	18.68	20.16	45.72	45.38	9.41	8.41
Puri	29.14	28.98	29.54	30.07	29.07	28.72	52.74	51.47	4.56	5.03	48.75	48.84	6.09	6.91
ORISSA	32.75	32.77	30.10	28.92	33.09	33.37	54.38	52.85	10.70	12.09	49.38	47.89	7.65	7.03
Gurdaspur	26.56	27.88	26.82	27.27	26.49	28.05	49.09	51.25	1.73	1.98	48.35	48.49	3.00	3.58
Amritsar	29.64	30.66	29.62	30.20	29.65	30.90	53.48	55.03	2.26	2.73	52.36	53.07	3.18	4.09
Firopur	30.49	30.30	28.65	28.64	31.04	30.82	55.27	54.46	2.45	3.29	50.47	50.46	3.82	4.04
Ludhiana	30.38	31.25	31.44	32.26	29.62	30.23	54.34	55.51	2.50	2.52	54.63	55.69	3.57	3.38
Jalandhar	27.98	29.32	28.93	29.51	27.47	29.21	50.73	52.85	2.51	3.16	51.34	51.59	3.20	4.57
Kapurthala	28.56	30.06	30.00	30.74	27.95	29.83	52.07	53.92	2.39	3.45	51.98	52.85	4.13	4.93
Hoshiarpur	26.38	27.84	28.29	28.83	26.06	27.66	48.41	50.79	2.30	2.87	49.47	49.82	3.96	5.60
Rupnagar	28.82	29.40	30.11	30.30	28.46	29.09	51.33	52.15	2.68	3.25	50.78	50.25	5.62	7.39
Patiala	29.90	29.70	29.69	29.22	29.99	29.90	53.60	53.29	2.45	2.89	50.86	50.18	5.11	5.79
Sangrur	31.47	30.90	29.17	29.22	32.15	31.44	56.91	56.12	1.90	1.92	52.04	52.02	3.24	3.34
Bathinda	30.84	31.15	30.32	29.39	30.99	31.66	55.74	56.10	2.03	2.79	52.68	51.46	4.17	4.17
Faridkot	30.20	31.19	28.74	29.42	30.66	31.79	54.95	55.75	2.14	3.35	51.26	51.57	3.57	4.43
PUNJAB	29.35	30.06	29.51	29.96	29.29	30.11	53.14	54.11	2.26	2.79	51.80	52.22	3.71	4.31

	Primary			Secondary			Tertiary		
	1981	1991	Shift	1981	1991	Shift	1981	1991	Shift
Sambalpur	74.76	73.44	-1.32	12.85	11.97	-0.88	12.39	14.54	2.15
Sundargarh	57.26	57.80	0.54	23.29	20.22	-3.07	19.45	21.96	2.51
Kendujhar	75.34	73.81	-1.53	12.82	15.20	2.38	11.84	24.85	13.01
Mayurbhanj	82.55	81.47	-1.08	8.04	7.48	-0.56	9.36	11.04	1.68
Baleshwar	81.58	77.88	-3.7	4.92	5.04	0.12	13.5	17.02	3.52
Cuttack	70.84	65.97	-4.87	9.48	9.19	-0.29	19.68	24.79	5.11
Dhenkanal	76.15	72.98	-3.17	10.80	11.52	0.72	13.05	15.44	2.39
Phulbani	84.88	84.98	0.10	5.52	4.43	-1.09	9.60	10.55	0.95
Balangir	83.69	81.66	-2.03	6.83	6.94	0.11	9.48	11.35	1.87
Kalahandi	87.49	85.55	-1.94	5.01	4.59	-0.42	7.50	9.82	2.32
Koraput	84.33	83.58	-0.75	5.22	4.25	-0.97	10.40	10.86	0.46
Ganjam	77.90	76.94	-0.96	7.25	6.86	-0.39	14.85	16.15	1.30
Puri	71.61	64.61	-7.0	7.66	8.95	1.29	20.73	26.39	5.66
ORISSA	77.10	74.85	-2.25	8.86	8.48	-0.38	14.03	16.67	2.64
Gurdaspur	56.94	56.26	-0.68	14.40	11.49	-2.91	28.52	32.59	4.07
Amritsar	54.51	54.53	0.02	15.65	13.97	-1.68	29.78	31.49	1.71
Firopur	70.14	69.17	-0.97	9.55	8.18	-1.37	20.35	22.64	2.29
Ludhiana	44.98	38.10	-6.88	25.96	28.27	2.31	29.01	32.3	3.29
Jalandhar	47.57	45.41	-2.16	21.35	20.30	-1.05	31.02	34.25	3.23
Kapurthala	54.75	52.83	-1.92	19.93	19.09	-0.84	25.21	28.03	2.82
Hoshiarpur	58.30	55.10	-3.2	13.69	13.55	-0.14	27.96	31.31	3.35
Rupnagar	52.76	45.11	-7.65	17.64	15.21	-2.43	29.54	30.63	10.09
Patiala	58.51	54.31	-4.2	14.4	14.95	0.55	27.25	30.68	3.43
Sangrur	72.03	68.18	-3.85	9.99	10.01	0.02	17.92	21.76	3.79
Bathinda	70.28	70.02	-0.26	9.70	8.26	-1.44	19.96	21.71	1.75
Faridkot	69.85	68.36	-1.49	7.90	9.83	1.93	20.27	23.73	3.46
PUNJAB	59.02	56.05	-2.97	15.22	14.93	-0.29	25.73	29.06	3.33

Punjab: In 1981 Sangrur had the highest workforce participation (31.47 per cent) and Hoshiarpur exhibited the lowest participation of 26.38 per cent. The intercensal comparison of workforce participation showed that except for three districts (Firozpur, Patiala and Sangrur) all other districts have experienced increase in workforce participation rate over 1981 census. In 1981 seven districts of the State exhibited work participation which was more than the State average (29.35 per cent). District like Ludhiana showed high work participation because more workers are engaged in the factories and mills (the district has a

100

number of woollen textile, machine tools and automobile industry). Similarly districts like Sangrur and Bathinda showed high work participation mainly because more workers are engaged in the agricultural activities in these districts.

4.4 Urban Work Force Participation in Orissa and Punjab, 1981-91

Orissa: The urban workforce participation in Orissa was 30.10 per cent and 28.92 per cent for 1981 and 1991, respectively. The intercensal comparison reveals that inall the districts except Balangir, Koraput and Puri, experienced a decline in urban workforce participation. Out of these three districts Balangir and Koraput are inland districts. Recently a new development programme called "KBK Programme" was launched by the State government for the development of three backward districts of Orissa, namely Kalahandi, Balangir and Koraput. It may be possible that because of such development programmes these two districts showed an increase in urban workforce participation rates.

Punjab: The Table 4.1 reveals that urban workforce participation in Punjab was 29.51 per cent and 29.96 per cent respectively for 1981 and 1991 census. In Punjab the employment opportunities have increased in urban areas as a result of which most of the districts experienced an increase in their urban workforce participation rate. The

only exceptions were the districts of Firozpur, Patiala and Bathinda experienced a decline in their urban workforce participation rates during1981-91.

4.4.1 Urban Male and Female Workforce participation in Orissa and Punjab, 1981-91

Urban Male:

Orissa: The State showed 49.38 per cent and 47.89 per cent urban male workforce participation during 1981 and 1991, respectively. Except Puri district all other districts experienced decline in their urban male workforce participation rates. This shows the increasing level of unemployment in the urban areas among males.

Punjab: In case of Punjab all districts, except Firozpur, Rupnagar, Patiala and Sangrur have experienced an increase in their urban male workforce participation rate. This shows that employment opportunity for males have increased in urban areas of the State.

Urban Female:

Orissa: The table 4.1 showed that the female urban work participation rate has declined from 7.65 per cent in 1981 to 7.03 per cent in 1991 in the State. In the districts of Phulbani, Balangir and Puri the female urban work participation rate has increased. Both Phulbani and Balan-

gir are districts having a large chunk of tribal population. Among the tribals the work participation rate is high.

Punjab: The State shows a higher participation of urban female workforce participation in 1991 compared to 1981 census. However, Ludhiana was an exception where the work-force participation rate had come down from 3.57 to 3.38 per cent between 1981-91 decade.

4.5 Rural Workforce Participation: Orissa and Punjab (1981-91)

Orissa: The rural workforce participation in Orissa was 33.09 per cent and 33.37 per cent for 1981-91, respectively. The intercensal comparison reveals that eight districts experienced an increase in rural workforce participation. The districts which experienced decline in their rural workforce participation were Mayurbhanj, Baleshwar, Cuttack, Puri and Phulbani. Out of these districts Baleshwar, Cuttack and Puri districts fall in the coastal areas, where the job opportunities have increased in the urban areas.

Punjab: The rural workforce participation was 29.29 per cent during 1981 and 30.11 per cent during 1991. Except three districts (Firozpur, Sangrur and Patiala) all other districts of the State experienced a decline in the rural workforce participation rate during 1981-91 period.

4.6 Regional Analysis of Occupational Structure in Orissa and Punjab, 1981-91:

Orissa: Table 4.2 shows the percentage distribution of main workers among nine industrial categories of each district of the State. The highest percentge of main workers was recorded as cultivators in state as well as in all districts. The proportion of cultivators to the main workers of the State was 46.94 per cent in 1981, which declined to 44.31 per cent in 1991. Among the districts the maximum percentage of cultivators was recorded in Koraput district (53.99 per cent) followed by Baleshwar (53.50 per cent), Phulbani (52.98 per cent). In the district of Sundargarh (36.65 per cent), the proportion of cultivators was the lowest in comparison to other districts. During 1981-91 decade except two districts (Sundargarh and Mayurbhanj) all other districts showed decline in their share.

The agricultural labourer category accounted for the second largest number of workers in the state in each of the districts. The State average i.e. the percentage of the agricultural labourers to total main workers was 27.76. Kalahandi, Mayurbhanj, Ganjam, Balangir have recorded the highest proportion of agricultural labourers. Sundargarh district stands the lowest among all, having 18.11 per cent of agricultural labourers.

District	I		II		III		IV		V(a)		V(b)		VI	
	1981	1991	1981	1991	1981	1991	1981	1991	1981	1991	1981	1991	1981	1991
Sambalpur	46.62	40.69	30.46	31.35	1.68	1.40	1.21	1.38	5.68	5.82	5.10	4.19	0.86	0.58
Sundargarh	37.65	38.77	18.11	17.92	1.50	1.11	2.98	3.79	2.47	2.27	15.74	12.81	2.10	1.35
Kendujhar	50.48	47.68	22.67	24.67	2.19	1.61	5.97	6.98	2.53	2.32	2.70	2.81	1.62	3.09
Mayurbhanj	46.92	48.49	33.60	31.83	2.03	1.15	0.49	0.22	5.33	5.25	1.59	1.60	0.63	0.41
Baleshwar	53.50	51.97	25.63	23.84	2.45	2.07	0.04	0.42	1.72	1.60	2.50	2.47	0.66	0.55
Cuttack	44.72	41.01	23.71	23.71	2.41	1.79	0.41	0.45	3.13	2.89	5.19	4.82	0.75	1.03
Dhenkanal	46.01	40.51	27.07	30.48	3.07	1.99	1.98	2.15	3.36	3.98	3.09	3.55	2.37	1.84
Phulbani	52.98	49.62	29.58	33.85	2.32	1.51	0.03	0.027	3.32	3.08	1.15	0.95	1.02	0.38
Balangir	51.00	48.81	30.84	31.99	1.85	1.06	0.26	0.25	4.25	4.17	1.96	2.07	0.36	0.45
Kalahandi	50.74	46.47	35.59	37.99	1.16	1.09	0.01	0.06	2.55	2.72	1.36	1.35	1.09	0.46
Koraput	53.99	50.77	28.47	32.81	1.87	1.27	0.03	0.13	1.81	1.42	1.71	1.98	1.67	0.72
Ganjam	42.13	40.84	32.47	33.35	3.30	2.75	0.49	0.54	3.39	2.72	2.61	2.90	0.76	0.70
Puri	44.25	38.24	23.25	22.58	4.11	3.79	0.26	0.33	3.09	2.84	3.03	4.09	1.28	1.69
ORISSA	46.94	44.31	27.76	28.68	2.40	1.86	0.83	0.98	3.30	3.12	3.63	3.51	1.11	0.87

Districts	VII		VIII		IX	
	1981	1991	1981	1991	1981	1991
Sambalpur	3.73	4.58	1.68	1.48	6.98	8.48
Sundargarh	4.97	6.10	3.78	2.40	10.70	12.46
Kendujhar	2.94	11.76	1.51	4.83	7.39	8.26
Mayurbhanj	2.26	3.30	0.74	1.00	6.36	6.74
Baleshwar	3.78	4.84	1.62	1.83	8.10	10.35
Cuttack	5.69	8.26	2.38	2.93	11.61	13.60
Dhenkanal	3.15	4.43	1.00	1.10	8.90	9.91
Phulbani	2.65	2.99	0.57	0.55	6.38	7.01
Balangir	2.64	3.63	0.89	1.16	5.95	6.56
Kalahandi	2.30	3.33	0.61	0.65	4.59	5.84
Koraput	3.27	3.64	0.90	0.88	6.23	6.34
Ganjam	5.72	6.30	1.36	1.45	7.77	8.40
Puri	5.89	8.75	2.35	2.99	12.49	14.65
ORISSA	4.11	5.38	1.57	1.74	8.35	9.55

Source: i) Census of India 1981 Series 16, Orissa, Part III
A&B (1) General Economic Tables.
ii) Census of India 1991 Series 1, Part II-B(i),
Vol.II, India, Primary Census Abstract.

Note: I - Cultivators; II - Agricultural Labourers;
III - Livestock, forestry, fishing hunting and planta-
tions, orchards and allied activities;
IV - Mining and Quarrying;
V(a) - In Household Industry;
V(b) manufacturing, processing, servicing and repairs
other than household industry;
VI - Construction; VII - Trade and Commerce;
VIII - Transport, storage and communication;
IX - Other services.

Table 4.2(b)

District	I 1981	I 1991	II 1981	II 1991	III 1981	III 1991	IV 1981	IV 1991	V(a) 1981	V(a) 1991	V(b) 1981	V(b) 1991	VI 1981	VI 1991
Gurdaspur	32.74	29.68	23.20	25.05	1.00	0.73	0.01	0.03	2.26	0.66	9.82	6.83	2.31	3.97
Amritsar	31.46	29.16	22.23	24.86	0.82	0.51	0.03	0.03	2.45	0.45	11.29	11.62	1.88	1.87
Firozpur	45.02	40.25	24.49	28.09	0.63	0.83	0.09	0.03	1.81	0.99	6.04	5.38	1.61	1.78
Ludhiana	26.26	20.00	17.57	16.66	1.15	1.44	0.02	0.0002	3.71	0.48	20.29	25.29	1.94	2.50
Jalandhar	25.85	22.62	20.84	22.19	0.88	0.60	0.01	0.0003	3.40	3.09	15.49	14.15	2.45	3.06
Kapurthala	35.31	31.24	18.14	20.96	1.30	0.63	0.03	0.001	2.06	1.41	14.84	15.00	3.00	2.68
Hoshiarpur	35.99	30.43	21.38	23.55	0.93	1.12	0.02	0.01	3.69	2.39	7.08	7.92	2.90	3.23
Rupnagar	35.15	28.85	16.37	15.88	1.24	0.38	0.04	0.02	3.36	1.59	11.69	11.13	2.55	2.47
Patiala	35.10	29.78	22.44	23.56	0.97	0.97	0.03	0.02	1.27	1.83	10.92	10.38	1.97	2.72
Sangrur	46.34	41.39	24.63	26.01	1.06	0.78	0.008	0.001	2.73	1.40	5.48	6.86	1.78	1.75
Bathinda	46.27	43.34	22.65	25.79	1.36	0.89	0.03	0.003	2.12	1.33	5.82	4.94	1.73	1.96
Faridkot	41.20	37.73	27.77	30.23	0.88	0.40	0.01	0.0027	2.03	1.17	6.34	5.46	1.45	1.25
PUNJAB	35.86	31.43	22.16	23,02	1.00	0.80	0.023	0.009	2.58	1.34	10.58	10.95	2.04	2.55

Districts	VII 1981	VII 1991	VIII 1981	VIII 1991	IX 1981	IX 1991
Gurdaspur	9.81	10.09	4.36	4.00	14.35	18.50
Amritsar	11.80	12.38	4.75	4.43	13.23	14.68
Firozpur	7.99	8.68	3.07	3.10	9.29	10.86
Ludhiana	11.42	13.63	4.84	5.26	12.75	13.41
Jalandhar	11.12	13.08	4.73	4.69	15.17	16.48
Kapurthala	9.66	10.22	3.17	3.20	12.38	14.61
Hoshiarpur	8.66	8.60	4.78	3.43	15.52	19.28
Rupnagar	6.73	8.41	3.93	4.65	18.88	26.57
Patiala	9.67	11.32	3.60	3.83	13.98	15.53
Sangrur	7.37	9.00	2.09	3.86	8.46	9.90
Bathinda	7.77	8.47	2.62	2.63	9.57	10.61
Faridkot	8.06	8.38	2.56	2.62	9.66	12.73
PUNJAB	9.47	10.54	2.73	3.83	12.53	14.69

Source: As in Table 4.2(a)
Note: As in Table 4.2(a).

The proportion of workers in the livestock, forestry, fishing, hunting and plantation, orchards and allied activities was as low as 2.40 per cent. Puri followed by Ganjam districts showed high proportion of workers in this category

mainly due to Bay of Bengal, Chilka lake and Cashew plantations which provides working opportunity to a large number of fishermen and plantation workers. During 1981-91 all the districts experienced a decline in their share of workers.

Mining and quarrying category contributes a very negligible proportion of the workers. Kendujhar (5.97 per cent) and Sundargarh (2.98 per cent) have the highest proportion of workers in this category. Except Balangir and Mayurbhanj all other districts experienced increase in their share of worker in this category during 1981-91.

The proportion of workers in the household manufacturing in the State was 3.30 per cent. The highest proportion was claimed by Sambalpur (5.68 per cent). This district has a large number of handloom weavers. Mayurbhanj also claimed a significant proportion of its workers engaged in this category (5.33 per cent). In this district a portion of Santhals specialise in weaving ropes from a certain type of grass and that work might have contributed for more workers in this category. During 1981-91 only three districts Sambalpur, Dhenkanal and Kalahandi experienced increase in their share in household manufacturing industrial category.

Manufacturing in other than household industry showed a participation rate of only 3.63 per cent of population in the State. Sundargarh (15.74 per cent) leads all other dis-

tricts in this respect Sambalpur district with 5.10 per cent and Cuttack district with 5.19 per cent are the two other districts where participation rate under this category is fairly high. During 1981-91 Sambalpur, Sundargarh, Baleshwar, Cuttack, Phulbani have shown a decline in their share of participation.

The contribution of construction workers to the total main workers was only 1.11 per cent for Orissa. Dhenkanal district, in which industry like NALCO has been set up, has the highest proportion of workers in this category. In 1981-91 decade Kendujhar, Cuttack, Balangir and Puri experienced an increase in their share. The proportion of workers in trade and commerce was as low as 4.11 per cent in the State. Puri district showed the highest (5.89 per cent) followed by Ganjam (5.72 per cent), Cuttack (5.69 per cent) and Sundargarh (4.97 per cent).

The participation of workers in transport, storage and communication category was 8.35 per cent for the State. Sundargarh with its predominantly industrial background showed the highest proportion 3.78 per cent. During 1981-91 all the districts experienced an increase in the share of workers in this category.

Punjab: In the cultivator category district Sangrur showed the highest percentage (46.34 per cent) followed by

Bathinda 46.27 per cent. During 1981-91 all the districts of the State experienced decline in their share in this category.

District Faridkot exhibited 27.77 per cent of its worker engaged as agricultural labourers followed by Sangrur. The decade 1981-91 showed an increase in the proportion of workers in all the districts except Ludhiana in this category.

The proportion of workers in the livestock, forestry, fishing and hunting category was as low as 1.00 per cent in the State. Bathinda district showed 1.36 per cent of its main workers engaged in this category. Districts like Ludhiana, Hoshiarpur and Firozpur exhibited an increase in the share during 1981-91.

Mining and quarrying activities in Punjab was almost negligible. The proportion of workers in this category was 0.023 per cent in the State.

Manufacturing in the household industry contributed 2.58 per cent of the workers Ludhiana with 3.71 per cent had the largest share of workers in this category followed by Hoshiarpur. During the decade 1981-91 except Rupnagar all other districts experienced decline in the proportion of workers in this category.

Manufacturing in non-household industry had a signifi-
cant contribution of 10.58 per cent of the total workers.
Among the districts Ludhiana had the highest 20.29 per cent
of its workers in this category. During 1981-91 except
Gurdaspur, Firozpur, Jalandhar, Rupnagar, Bathinda and
Faridkot all other districts experienced increase in their
share.

In 1981, 2.04 per cent of Punjab's main workers were
engaged in construction. District Kapurthala had the high-
est proportion of workers (3.0 per cent) engaged in con-
struction activities. During 1981-91 Amritsar, Ludhiana,
Kapurthala, Hoshiarpur and Sangrur experienced increase in
the proportion in this activity.

Trade and commerce is one of the largest sectors in the
State's economy. The proportion of workers in this sector
was 9.47. District Amritsar exhibited the highest propor-
tion (11.80 per cent) in this sector followed by Ludhiana
(11.42 per cent). During 1981-91 a significant feature was
that all the districts experienced increase in the share of
workers in this category.

Ludhaiana district with its predominantly industrial
base had the highest proportion of workers 4.84 per cent
engaged in transport storage and communications. During
1981-91 Gurdaspur, Amritsar, Jalandhar, and Hoshiarpur

experienced a decrease in their proportion of workers in this sector.

District Hoshiarpur had the highest proportion of workers 15.52 per cent engaged in other services. All the districts as well as the State have shown an increase in the proportion of workers in this category.

4.6.1 Urban Male and Female Main Workers Classified by Industrial Categories, Orissa and Punjab, 1981-91

Orissa: The highest share of male urban workers were noticed in "other services in the tertiary sector". They constitute 27.03 per cent in 1981 census. Baleshwar district had the highest share of male cultivators and agricultural labourers (17.21 per cent and 13.23 per cent). This district located in the coastal belt of Orissa is one of the developed agricultural tract of the State. Sundargarh district showed (38.72 per cent) of its urban male workers engaged in manufacturing and processing which is the highest in the State. Kalahandi district had the lowest percentage of urban male workers engaged in manufacturing and processing industries.

(Female): The highest share of female urban workers were noticed in "other services" (4.65 per cent). Balangir district had the lowest share (0.01 per cent) of female urban workers engaged in constructions. The share of female

urban workers engaged in mining was the lowest (0.39 per cent) in the state compared to all the rest activities in the 9 industrial categories.

Punjab: In the state the share of urban male workers were the highest (27.61 per cent) in manufacturing followed by "other activities" 20.16 per cent. Among the districts Ludhiana had the highest share (41.37 per cent) of its urban male workers engaged in manufacturing. The lowest share of urban male workers were engaged in mining which accounted for 0.005 per cent in the state.

(Female): Among the urban female workers it was found that the largest share was in "other activities" (5.33 per cent) in Punjab. In other categories the female workers share were negligible. In the district of Rupnagar the share of urban female workers engaged in manufacturing was 1.08 per cent.

Table 4.3: Urban Male Main Workers by Industrial Categories
in Orissa and Punjab, 1981-91

	I		II		III		IV		V	
	1981	1991	1981	1991	1981	1991	1981	1991	1981	1991
ORISSA	7.19	6.02	6.81	5.91	4.09	3.13	3.17	2.03	18.17	16.11
Sambalpur	6.13	5.54	7.29	6.09	2.21	2.26	4.99	5.67	19.21	17.69
Sundargarh	1.98	1.61	1.73	0.91	1.33	0.77	1.21	1.18	38.22	18.33
Kendujhar	8.17	7.11	6.89	5.94	5.39	2.55	15.21	13.47	19.17	14.83
Mayurbhanj	6.17	6.23	6.08	7.37	5.99	4.34	17.21	0.17	19.11	9.59
Baleshwar	17.21	15.78	13.23	12.86	1.11	2.70	0.03	0.28	13.21	9.07
Cuttack	4.05	3.66	5.33	4.22	3.87	3.05	0.08	0.35	21.29	16.92
Dhenkanal	9.88	7.46	7.21	6.24	6.44	3.34	3.21	8.98	15.12	15.25
Phulbani	9.88	6.75	8.93	6.40	7.65	6.61	0.02	0.13	8.69	8.79
Balangir	8.37	7.55	10.67	9.01	0.54	3.41	0.02	0.25	15.37	12.78
Kalahandi	8.18	7.88	13.18	12.89	5.57	3.45	0.03	0.22	7.77	8.66
Koraput	11.21	8.42	7.33	6.85	5.15	4.57	0.02	0.17	11.37	16.84
Ganjam	8.19	7.81	7.11	6.91	3.99	3.55	0.92	0.28	13.44	11.94
Puri	4.87	3.70	4.89	4.38	3.17	3.64	0.54	0.37	11.21	9.61
PUNJAB	3.67	4.39	7.11	7.48	0.97	1.13	0.005	0.007	27.61	26.94
Gurdaspur	4.12	4.03	6.17	6.02	0.63	0.77	0.08	0.04	25.36	14.58
Amritsar	4.03	3.27	6.98	7.50	0.46	0.68	0.003	0.004	29.77	25.57
Firozpur	6.09	5.45	7.96	7.94	0.97	1.28	0.004	0.004	22.60	15.40
Ludhiana	3.07	2.15	4.89	5.8	1.73	1.66	-	-	41.37	40.16
Jalandhar	2.16	2.32	3.79	5.38	0.44	0.62	0.008	0.007	39.13	26.85
Kapurthala	8.08	3.41	5.17	5.88	1.21	0.73	-	-	3.33	30.26
Hoshiarpur	6.36	4.82	9.18	9.58	0.76	1.93	0.03	0.03	18.99	15.55
Rupnagar	3.32	2.46	3.99	3.82	0.27	0.22	-	-	27.66	23.01
Patiala	3.77	3.19	5.67	5.59	1.07	1.12	0.007	0.007	23.18	20.76
Sangrur	12.19	10.39	11.26	13.20	0.97	1.06	0.006	0.004	20.17	18.03
Bathinda	9.27	7.53	7.11	7.01	1.21	1.48	0.003	0.005	20.13	16.04
Faridkot	11.76	6.97	10.37	9.26	0.23	0.48	0.005	0.005	20.17	15.20

| | VI || VII || VIII || IX ||
	1981	1991	1981	1991	1981	1991	1981	1991
ORISSA	5.11	3.42	18.11	18.97	9.37	8.09	27.03	24.99
Sambalpur	4.07	2.70	17.81	17.47	8.76	7.96	22.09	21.66
Sundargarh	5.98	1.74	14.19	7.86	9.18	4.71	18.97	10.04
Kendujhar	2.46	2.55	12.88	13.16	8.19	6.87	20.09	21.04
Mayurbhanj	3.44	2.40	12.53	23.03	8.87	6.33	21.77	26.76
Baleshwar	2.17	2.51	19.88	17.83	9.11	7.14	21.07	22.77
Cuttack	3.11	2.83	21.77	23.11	10.66	10.71	30.17	27.33
Dhenkanal	18.21	8.55	11.33	15.37	2.21	5.24	23.79	21.53
Phulbani	2.17	2.77	12.57	16.64	5.23	4.78	29.37	31.83
Balangir	2.15	2.39	16.78	18.63	7.76	8.60	25.16	23.26
Kalahandi	3.89	2.93	12.76	17.92	8.78	6.37	21.35	26.15
Koraput	7.29	3.30	12.27	15.30	7.12	6.04	26.12	22.43
Ganjam	3.71	2.36	19.38	22.48	8.21	6.82	21.12	22.94
Puri	5.35	4.87	18.38	20.85	10.11	8.85	37.59	33.40
PUNJAB	5.23	4.42	26.91	27.34	8.33	7.23	20.16	21.02
Gurdaspur	4.89	5.07	26.13	27.70	9.11	8.72	26.19	26.81
Amritsar	3.21	2.97	28.11	28.33	7.19	6.94	24.37	18.37
Firozpur	4.17	4.35	24.22	27.72	10.07	8.84	22.13	22.34
Ludhiana	4.31	5.86	20.33	21.52	7.19	6.28	14.66	11.74
Jalandhar	3.17	3.54	23.77	25.55	7.37	6.66	24.66	21.76
Kapurthala	6.61	3.10	23.81	23.90	6.18	5.02	18.13	20.26
Hoshiarpur	4.78	4.69	24.31	25.86	6.07	5.7	24.11	23.26
Rupnagar	2.39	2.86	17.11	18.40	8.13	5.03	30.76	33.83
Patiala	3.71	4.37	24.13	27.64	6.27	6.20	22.33	21.72
Sangrur	5.19	3.39	20.11	26.73	6.34	6.17	16.66	15.60
Bathinda	4.11	3.59	22.88	28.37	0.36	8.17	20.16	21.13
Faridkot	3.66	2.63	22.03	26.66	5.16	6.83	19.73	24.84

Table 4.3(a): Urban Female Main Workers by Industrial Categories in
Orissa and Punjab, 1981-91

	I		II		III		IV		V	
	1981	1991	1981	1991	1981	1991	1981	1991	1981	1991
ORISSA	0.78	0.41	2.77	2.23	0.39	0.19	0.32	0.24	2.07	1.30
Sambalpur	0.98	0.54	3.05	2.73	0.07	0.11	0.13	0.10	3.77	2.63
Sundargarh	0.25	0.10	0.49	0.28	0.09	0.46	0.67	0.42	1.38	0.75
Kendujhar	0.06	0.42	1.98	1.72	0.77	0.30	2.91	2.24	1.36	1.45
Mayurbhanj	2.66	0.51	4.18	3.61	0.33	0.17	0.37	-	1.24	1.62
Baleshwar	0.11	0.42	1.67	2.68	0.12	0.90	0.17	0.94	1.04	0.92
Cuttack	0.21	0.36	1.37	0.83	0.33	0.16	0.04	0.03	1.16	0.68
Dhenkanal	0.08	0.21	1.76	1.41	0.91	0.14	1.37	0.27	1.77	0.44
Phulbani	0.27	1.75	5.03	4.44	0.11	0.12	0.39	-	0.27	1.25
Balangir	1.96	0.48	3.67	3.70	0.12	0.26	0.01	0.03	2.33	2.15
Kalahandi	1.01	0.37	3.98	4.14	1.29	0.23	0.03	0.01	1.23	0.57
Koraput	1.99	1.0	4.01	4.93	0.39	0.23	0.07	0.52	1.99	1.04
Ganjam	1.77	1.10	5.09	4.44	0.88	0.37	0.07	0.05	2.09	1.94
Puri	0.21	0.80	1.76	0.94	0.13	0.14	0.07	0.02	1.15	0.87
PUNJAB	0.07	0.08	0.39	0.26	0.08	0.08	-	-	0.63	0.71
Gurdaspur	0.31	0.18	0.12	0.09	0.07	0.04	-	-	0.37	0.26
Amritsar	0.03	0.01	0.27	0.28	0.11	0.03	-	-	0.43	0.59
Firozpur	0.04	0.05	0.19	0.17	0.03	0.06	-	-	0.68	0.64
Ludhiana	0.08	0.02	0.05	0.07	0.21	0.17	-	-	0.53	0.69
Jalandhar	0.07	0.09	0.31	0.24	0.06	0.05	-	-	0.73	0.87
Kapurthala	0.17	0.11	0.22	0.26	0.09	0.04	-	-	0.73	0.70
Hoshiarpur	0.12	0.03	0.37	0.32	0.09	0.14	-	-	0.67	0.78
Rupnagar	0.11	0.15	0.17	0.12	0.03	0.02	-	-	1.08	1.04
Patiala	0.07	0.03	0.38	0.24	0.10	0.10	-	-	0.89	0.92
Sangrur	0.12	0.10	0.38	0.44	0.07	0.03	-	-	0.39	0.42
Bathinda	0.19	0.15	0.31	0.34	0.09	0.06	-	-	0.48	0.51
Faridkot	0.19	0.17	0.57	0.58	0.03	0.03	-	-	0.57	0.51

| | VI | | VII | | VIII | | IX | |
	1981	1991	1981	1991	1981	1991	1981	1991
ORISSA	0.39	0.31	1.76	1.01	0.93	0.18	4.65	5.36
Sambalpur	0.59	0.29	1.36	1.15	0.27	0.12	3.98	4.59
Sundargarh	1.13	0.24	0.53	0.31	0.47	0.15	2.39	2.72
Kendujhar	2.78	0.31	0.91	0.64	0.73	0.70	4.03	4.63
Mayurbhanj	0.02	0.12	1.14	0.72	0.06	0.89	6.79	6.85
Baleshwar	0.11	0.12	0.39	0.38	0.23	0.54	4.68	4.16
Cuttack	0.33	0.87	1.25	0.57	0.09	0.18	5.07	5.16
Dhenkanal	0.89	0.61	0.44	0.42	0.73	0.56	4.97	4.38
Phulbani	0.93	0.54	0.07	0.97	0.98	0.81	5.76	6.54
Balangir	0.07	0.11	1.76	1.83	0.38	0.94	5.88	5.39
Kalahandi	0.17	0.28	1.33	1.91	0.08	0.05	5.76	5.87
Koraput	0.27	0.51	1.78	1.99	0.12	0.16	5.97	5.87
Ganjam	0.03	0.09	1.33	1.52	0.98	0.08	5.27	5.30
Puri	0.88	0.56	1.93	1.04	0.36	0.20	6.18	6.39
PUNJAB	0.05	0.09	0.89	0.53	0.17	0.12	5.33	5.26
Gurdaspur	0.02	0.09	0.31	0.36	0.17	0.10	4.66	5.06
Amritsar	0.08	0.06	0.36	0.51	0.19	0.11	3.12	4.69
Firozpur	0.07	0.05	0.53	0.48	0.29	0.21	4.66	4.93
Ludhiana	0.76	0.66	0.31	0.35	0.03	0.07	3.66	3.23
Jalandhar	0.02	0.05	0.69	0.65	0.23	0.19	5.21	5.11
Kapurthala	0.08	0.06	0.61	0.63	0.21	0.15	6.11	5.41
Hoshiarpur	0.09	0.10	0.56	0.61	0.04	0.06	6.77	6.45
Rupnagar	0.25	0.20	0.56	0.54	0.14	0.12	5.66	9.12
Patiala	0.37	0.21	0.68	0.74	0.17	0.11	7.66	6.98
Sangrur	0.08	0.04	0.33	0.47	0.02	0.05	3.66	3.78
Bathinda	0.17	0.11	0.46	0.45	0.10	0.10	3.77	4.87
Faridkot	0.08	0.06	0.37	0.39	0.06	0.03	5.68	5.28

4.7 Sectoral Distribution of Workforce in Orissa and Punjab, 1981-91

It is generally observed that the diversification of employment structure accompanying economic development was reflected in a fall in the share of the primary activities and a rise in that of secondary and tertiary activities. In the above conext, the pattern of sectoral distribution of workforce in Orissa and Punjab have been analysed.

4.7.1 Primary Sector and Total Workers

Orissa: In Orissa, in 1981 Kalahandi (87.49 per cent), Phulbani (84.88 per cent), Koraput (84.33 per cent), Balangir (83.69 per cent), Mayurbhanj (82.55 per cent) and Baleshwar (81.58 per cent) show somewhat more concentration in the primary sector because of their low industrial profile and urbanisation. More industrial and urbanised districts had comparatively low concentration in the primary sector with Sundargarh (57.26 per cent), Cuttack (70.84 per cent), Puri (71.61 per cent). A comparison of 1981 and 1991 census figures revealed that eleven out of thirteen districts have experienced a decline in the share of primary sector. In case of Sundargarh and Phulbani the share of primary sector had increased. While the former is an industrialised district the latter belonged to the backward districts.

Punjab: A wide diversity in the proportion of primary sector is marked in Punjab because some districts are highly industrialised, urbanised and some are less urbanised. In

117

1981, there are districts like Sangrur showing 72.03 per cent employment in the primary sector, at the same time districts like Ludhiana exhibited only 44.98 per cent employment in the primary sector. Except Amritsar, all other districts have shown a decline in the primary sector employment.

4.7.2 Secondary Sector and Total Workers:

Orissa: The districts which lie above the State average (8.86 per cent) are Sundargarh (23.29 per cent), Sambalpur (12.85 per cent), Kendujhar (12.82 per cent), Cuttack (9.48 per cent) and Dhenkanal (10.8 per cent). Most of these districts are important manufacturing and mining centres. Intercensal comparison showed that in 1991, in case of 8 districts the share of the secondary sector decreased, while in five districts it increased. Marked decline was observed in case of Sundargarh, where it had come down to 20.22 per cent from 23.79 per cent in 1981.

Punjab: The intercensal variation in case of Punjab is minimal for the secondary sector. The four districts which had shown an increase in the secondary sector were Ludhiana, Patiala, Sangrur and Faridkot. Other districts have shown a decline in the secondary sector. The reduction of employment in secondary sector may be because of the cultural factor. The dominant upper caste Jats in rural Punjab considered it below dignity to make their womenfolk work for paid jobs (Sethi, 1984). As a result female work force

participation is less.

4.7.3 Tertiary Sector and Total Workers:

Orissa: Districts like Sundargarh (19.45 per cent), Cuttack (19.68 per cent), Ganjam (14.85 per cent) and Puri (20.73 per cent) reflected the share of tertiary sector to be above the state average (14.03 per cent). All were developed districts and more urbanised than the other districts. The most significant feature is that all the districts of the State marked an increase in the share of tertiary sector during 1981-91 period. It showed that after primary sector, only the tertiary sector had the potential to expand further in the State.

Punjab: The State as a whole and all the districts have experienced an increase in the tertiary sector. District Jalandhar witnessed the highest share in the tertiary sector. In 1981, its share was 31.02 per cent which increased to 34.25 per cent. District Sangrur had the lowest share in 1981 i.e. 17.92 per cent.

Table 4.4: Urban Sectoral Distribution of Workers

	Primary		Secondary		Tertiary	
	1981	1991	1981	1991	1981	1991
Sambalpur	23.1	23.69	27.29	23.32	49.61	52.99
Sundargarh	7.85	10.26	46.55	40.34	45.60	49.40
Kendujhar	35.51	33.8	21.93	19.15	42.56	47.05
Mayurbhanj	23.72	22.45	18.06	13.75	58.22	63.80
Baleshwar	34.99	34.93	16.73	12.64	48.28	52.43
Cuttack	12.24	12.39	23.70	20.53	64.06	67.08
Dhenkanal	24.23	28.11	29.46	24.87	46.31	47.02
Phulbani	24.36	26.26	17.43	12.88	58.21	60.86
Balangir	25.74	24.74	20.71	17.44	53.55	57.82
Kalahandi	35.74	29.24	14.34	12.46	49.92	58.30
Koraput	27.13	26.47	19.82	21.71	53.05	51.82
Ganjam	27.56	24.51	19.00	16.33	53.44	59.16
Puri	13.71	13.28	14.66	15.94	71.63	70.76
ORISSA	20.73	20.21	24.14	21.16	55.13	58.63
Gurdaspur	8.68	11.21	28.39	20.02	62.93	68.77
Amritsar	9.01	11.82	31.70	29.20	59.29	58.98
Firozpur	12.4	14.99	27.22	20.46	60.38	64.55
Ludhiana	8.27	9.44	45.84	46.79	45.89	43.22
Jalandhar	7.96	8.74	32.80	31.32	59.24	59.94
Kapurthala	13.90	10.47	38.53	34.13	47.57	55.40
Hoshiarpur	14.66	16.89	22.13	21.14	63.21	61.97
Rupnagar	9.17	46.65	31.67	29.60	59.16	23.75
Patiala	12.15	10.31	27.07	26.26	60.78	63.43
Sangrur	26.72	25.27	24.65	21.90	48.63	52.83
Bathinda	16.51	16.62	22.50	20.27	60.99	63.11
Faridkot	17.59	17.54	23.20	18.41	59.21	64.05
PUNJAB	11.96	12.57	31.55	30.02	56.49	57.41

4.8 Sectoral Shift in Occupation Distribution:

Changes in the sectoral distribution is an important indicator of changes in the activity structure and the level of development of a given area. So here it is important to examine the changes in the sectoral distribution for Orissa and Punjab.

Orissa: It will be observed from the aggregated data presented in the table 4.2 that the proportion of workers have decreased very rapidly in the primary sector in most of the districts. The decrease in workers in this sector is much more rapid in case of Puri, Cuttack, Baleshwar and Dhenkanal. The first three districts belong to the coastal belt of Orissa.

It is also observed that the proportion of workers in the secondary sector decreased rapidly in most of the districts. In Sundargarh and Phulbani there has been rapid decrease, on the other hand, Kendujhar, Puri, Dhenkanal etc. experienced increase in secondary workers. In Sundargarh, the proportion of workers in the secondary sector decreased mainly because of the availability of low employment opportunities in the industries, which reached a stage of saturation non-expansion of the capacity and employment.

TH-6472

In contrast to the primary and secondary sectors in the State, the tertiary sector experienced an increase in all the districts, Kendujhar recorded the highest change i.e. 13.01 per cent. Similarly Puri, Cuttack, Baleshwar also experienced higher changes in the share of tertiary workers.

Punjab: It exhibited a similar case like Orissa. In the State the proportion of workers in the primary sector declined rapidly. In the districts of Rupnagar, Ludhiana, Patiala etc. it had declined rapidly. Only Amritsar recorded a meagre increase of 0.02 per cent.

Coming to the secondary sector it was observed that there has been a sharp decline in case of Gurdaspur and Rupnagar. On the other side Ludhiana and Faridkot showed an increase. It may be mentioned here that Ludhiana has been a major hub of secondary activities and still attracts migrant workers to this sector. According to 1991 census figure the migrant workers constitute 26.36 per cent of the total migrants in Ludhiana, which was the highest figure in Punjab.

The tertiary sector exhibited increase in all the districts. District Rupnagar had the highest increase followed by Gurdaspur, Faridkot. From this we can draw the conclusion that in the State the shift was in favour of the tertiary sector.

4.9 Sectoral Distribution of Urban Main Workers in Orissa and Punjab, 1981-91

4.9.1 Urban Primary Sector - Orissa and Punjab

Orissa: The intercensal figure shows that eight districts have experienced a decline in the proportion of primary urban workers during 1981-91 decade. These districts were Kendujhar, Mayurbhanj, Baleshwar, Balangir, Kalahandi, Koraput, Ganjam and Puri. Except Baleshwar, Puri and Ganjam all other districts were tribal dominated.

Punjab: Except the 4 districts (Kapurthala, Patiala, Sangrur and Faridkot) all other districts have experienced an increase in their proportion of urban primary workers.

4.9.2 Urban Secondary Sector - Orissa and Punjab

Orissa: The table 4.2 revealed that Koraput and Puri districts have shown an increase in the proportion of urban secondary workers. In Koraput a number of industrial establishments in recent years have come up. (Among the large-scale industries were NALCO at Damanjodi). Puri district is an important industrial district having a number of household manufacturing units (examples being coir products, aplique work, etc.).

Punjab: Except Ludhiana, all other districts in the State have shown a decline in the share of urban secondary workers. Ludhiana is an important industrial centre in the

state. It is an important textile manufacturing centre.

4.9.3 Urban Tertiary Sector: Orissa and Punjab (1981-91

Orissa: In contrast to the primary and secondary sector, the urban tertiary sector showed an increase in all the districts except Koraput and Puri (where the proportion of urban secondary workers have improved). The tertiary sector in the state is expanding and absorbing more and more urban population into its fold.

Punjab: The urban tertiary sector have shown an increase in most of the districts except Amritsar, Ludhiana and Rupnagar. Both Amritsar and Ludhiana are important industrial centres where a huge chunk of the urban population are engaged.

4.10 Structure of Manufacturing and Tertiary Workers in Orissa and Punjab, 1981

Orissa: (Males) The Appendix-I shows that the metal based industry among all the industries (textiles, mineral based, metal based, forest based, machine based and other industries) had the highest participation (4.94 per cent). It is district Sundargarh which showed the highest participation in this industry (27.50 per cent) among all the districts. Similarly mineral based industry in this district showed a high participation (7.06 per cent). This may

be because of the location of a number of medium and largescale industry in this district. The availability of minerals like iron ore helped in the establishment of the iron and steel plant at Rourkela. Numerous industries using pig iron and cast iron have also developed in the surrounding of the Rourkela steel plant. of minerals also helped in the establishment of mineral and metal based industry.

Dhenkanal district exhibited the highest participation in construction (17.82 per cent). Sundargarh district showed (9.38 per cent) participation in transport Mayurbhanj had 17.52 per cent participation in trade services.

The financial services showed a high male participation (2.03 per cent) in the State. Among the districts, Puri had 3.54 per cent male work participation in the financial services. Phulbani district showed a high male participation in education (6.26 per cent).

 (Females) - The female participation was highest (2.48 per cent) in mineral based industry, compared to other industries like textiles, machine based, metal based etc. In the mineral based industry the female participation was 9.38 per cent in Sundargarh. Kendujhar had the highest participation of 6.84 per cent. The State's participation in transport was 1.80 per cent.

In education the female participation was more (11.05 per cent) than the male participation in the state. Among the districts, Puri had the highest female participation in education (18.14 per cent).

Punjab: (Males) Among the industries (textiles, mineral based, metal based, forest based, machine based and other industries) textiles showed the highest male participation rate of 11.09 per cent for the State. Ludhiana among the districts had the highest participation in textiles (32.97 per cent). The male participation in forest based and machine based industries were also high (5.81 and 5.79 per cent, respectively).

Transport also exhibited high male participation (10.71 per cent). Ludhiana showed the highest male participation in transport (19.88 per cent) among the districts.

A high male participation has also been observed in trade services (17.66 per cent). The district figure showed that Ludhiana (24.67 per cent) had the highest male participation in trade services.

In Punjab the financial services showed a high male participation (3.99 per cent). Out of 12 districts, Jalandhar had (2.99 per cent) male participation in the financial services.

(Females) - The female participation among all the industries was observed to be highest in textiles (9.69 per cent). Ludhiana district had the highest female participation 15.73 per cent in textiles.

Trade services also showed a high female participation (4.71 per cent). Sangrur district had the highest female participation (7.94 per cent).

In the financial services Rupnagar had the highest female participation (1.08 per cent). The State had shown a female participation of 1.73 per cent in the financial services.

In education services female participation was the highest 15.07 per cent. Firozpur had 21.78 per cent female participation in education.

In medicine and health services the participation of females was 5.28 per cent in the State.

4.10. 1 Growth Rate of Manufacturing and Tertiary Workers in Orissa and Punjab, 1971-81

Orissa: (Males) - In the mineral based industry the high growth rate of 9.35 per cent was observed. Similarly growth rate was high in machine based industry 9.36 per cent and textiles 6.60 per cent.

In the machine based industry Sambalpur (26.49 per cent) showed the highest growth rate and in the mineral based industry, Dhenkanal showed the highest growth rate 23.07 per cent.

In construction the State had a growth rate of 10.90 per cent. Dhenkanal among all the districts had the highest growth rate (34.21 per cent).

Insurance showed a high growth to 10.23 per cent for the State and Kendujhar district showed 23.11 per cent growth rate in insurance.

(Females) - Among the industries the growth rate for females was the highest in mineral based industry (12.93 per cent). Among the districts, Koraput showed the highest growth rate 27.36 per cent.

In case of construction also the growth rate was very high 23.25 per cent in the State with the Koraput district showing 41.62 per cent growth rate.

In storage also the growth rate was high 36.56 per cent for the State.

Banking sector noted 17.80 per cent growth in the State with Cuttack among all the districts showing growth rate of 25.64 per cent in Banking.

In education the female growth rate was the highest 10.90 per cent.

Punjab: (Males) - Forest based industry showed the highest growth among all the industries for the State (7.65 per cent). Textile industry also had a high growth rate of (5.19 per cent).

In construction growth rate was high at 5.59 per cent. Storage showed a high growth for the State (11.53 per cent).

The growth rate for trade services banking, insurance, financial services and legal services were 6.94, 6.03, 5.41, 3.51 and 3.75 per cent, respectively.

Education had shown a high growth rate for the State 5.04 per cent. Similarly, sanitation was high 4.81 per cent.

(Females) - In the metal-based industry a high growth 7.18 per cent was observed. Among the districts Kapurthala showed the highest growth rate of 11.34 per cent.

In construction the female growth rate was high at 9.87 per cent and for storage it was 9.71 per cent.

The growth rate was high at 7.95 per cent for education. it was however negative for (-3.45 per cent) for sanitation.

4.11 Conclusion:

Broadly we can conclude that there is regional varia-
tion in workforce participation in both the States. Overall
workforce participation is markedly high in Orissa than
Punjab. The urban work force participation rates is higher
than that of the rural areas in Puri, Cuttack and Baleshwar
in Orissa and Ludhiana, Jalandhar, Kapurthala, Hoshiarpur
and Rupnagar in Punjab. The tribal districts of Orissa
exhibited exceptionally high female workforce participation
rate. In Punjab the female workforce participation is very
low, only 2.79 per cent.

Coming to the occupational distribution of workers in
both the States (Orissa and Punjab) we find that the highest
percentage of main workers was recorded as cultivators. The
proportion of cultivators to the main workers of Orissa and
Punjab were (46.94 and 35.86 per cent) respectively. Next
to cultivator category the agricultural labour category
offers employment in both Orissa and Punjab.

The urban workforce participation in Orissa was roughly
30 per cent in both the census (1981 and 1991). The initia-
tion of development programme like "KBK Programme" perhaps
have contributed in the growth of urban workforce participa-
tion in the districts like Balangir and Koraput. However,

the share of male urban workers have increased in the construction activities only in Balangir and the share of female workers have increased in Balangir, Koraput during 1981-91. In PUnjab most of the districts except Firozpur, Patiala and Bathinda, showed an increase in urban work force participation rates. Puri district in Orissa has shown an increase in the urban male workforce participation. In Punjab all the districts except Firozpur, Rupnagar, Patiala have shown an increase in the urban male workforce participation rates.

In the urban male and female main workers classified by industrial category it was observed that Baleshwar district had the highest share of male cultivators and agricultural labourers. Sundargarh district showed 38.22 per cent of its urban male workers engaged in manufacturing and processing.

In Punjab the share of urban male workers were the highest (27.61 per cent) in manufacturing followed by other activities (20.16 per cent). Among the districts Ludhiana had the highest share of its urban male workers engaged in manufacturing.

It was observed that the urban female workers had experienced an increase inthe other category (category 9) in case of Orissa (4.65 per cent to 5.36 per cent in 1991). Sundargarh district showed a decline in the urban male

131

workers engaged in manufacturing (category 5). Similarly it also showed decline in case of females. Similarly in case of Punjab, the district Ludhiana showed a decline in case of urban male workers in manufacturing but experienced an increase in case of urban females workers in manufacturing. Punjab had experienced an increase in all the activities in the 9 fold categories among the male workers except in manufacturing, construction and transport, storage and communication. Similarly among the urban females main workers in the 9 fold category we find an increase in cultivator category, manufacturing industry and construction.

Both Koraput and Puri districts have shown an increase in the proportion of urban secondary workers (both the districts have developed as industrial centres). In Punjab only Ludhiana district has shown an increase in the participation of urban secondary workers. In both Orissa and Punjab the tertiary sector has expanded in recent years.

Sundargarh district leads in case of household as well as other than household manufacturing category in Orissa. Similarly Ludhiana in Punjab also leads compared to other districts in manufacturing activities.

Sundargarh again showed the highest proportion of its workers 3.78 per cent in the transport, storage and communi-

cation category. Ludhiana district in Punjab having an industrial background also showed the highest share as compared to other districts in transport, storage and communication.

Coming to the sectoral distribution of main workers, we find that primary sector offered employment to more than 70 per cent of the workers in Orissa and it was 59 per cent in Punjab. The secondary sector provides employment to more than 8 pe cent workers in Orissa and 15 per cent in Punjab. Similarly sector more than 14 per cent workers were engaged in the tertiary in Orissa, whereas for Punjab it was 25 per cent.

The shifts occurred in the sectoral distribution of workforce during the decade 1981-91 as revealed from the table 4.2. The shifts were from primary sector to tertiary sector in both the states.

Finally coming to the participation of the non-primary workers in Orissa and Punjab as shown in the (Appendix-1) we find that males show a high participation in the based and metal based industry in Orissa particularly in the Sundargarh district. Punjab on the other hand showed a high male participation in the textile industry which are mainly located in Ludhiana district.

Dhenkanal district in Orissa showed the highest participation of male workers in construction. Similarly Sundargarh district showed the highest participation in transport and Mayurbhanj in trade services. In case of Punjab, Ludhiana emerged as the centre of transport and trade.

The structure of manufacturing and tertiary workers showed that Puri district had 3.54 per cent male work participation in the financial services. Rourkela in Orissa showed a high male work participation in mineral-based industry. In case of education the female participation was higher in Orissa compared to the males. Puri district had the highest female participation in education.

In Punjab textiles showed a high male participation rate of 11.09 per cent. Ludhiana among all the districts had a high participation of (32.97 per cent) in textiles.

Transport also exhibited high male work participation (10.71 per cent) in Punjab. Ludhiana had the highest male participation in transport (19.88 per cent) trade services (24.67 per cent).

The trade services also had a high female participation. Among the districts, Sangrur had the highest female participation in trade services. Firozpur had the highest share of female workers engaged in education services

(21.78).

From our analysis it is clear that both the manufacturing sector as well as the tertiary sector have contributed a lot in the process of urbanization by encouraging migration. Districts like Ludhiana, Jalandhar, Patiala, etc. in Punjab and Sambalplur, Sundargarh, Puri, etc. in Orissa have emerged as the centres for both manufacturing as well as the tertiary activities. These districts have also shown a relatively high level of urbanization. Migration (both interdistrict and interstate) into these districts have also been found to be high from our previous chapters on migration. So there arises the necessity to link up these three aspects of urbanisation, migration and industrialisation. Hence our next chapter basically deals with these aspects of linkage on the basis of stepwise regression analysis.

CHAPTER V

INTERDEPENDENCE OF URBANIZATION, MIGRATION AND INDUSTRIALISATION IN ORISSA AND PUNJAB, 1981-91

5.1 The present chapter attempts to analyse the interdependence and interrelation of urbanization, migration and industrialisation in the two states of Orissa and Punjab for 1981 and 1991. Primarily urbanization, migration and industrialization are interrelated phenomena. In order to get a holistic view of these three aspects it is essential to examine them with the entire gamut of social and economic development. All these socio-economic variables are being discussed in the methodology part of the chapter.

5.2 Methodology

Here we have sought the help of step-wise regression analysis to understand the broad characteristics of relationship between a set of dependent and independent variables. In a multiple regression we can observe how the parameters get changed when new variables are added, one by one, in the model. This procedure has the following advantages (Mahmood, 1977). Firstly, it tells us the contribution of an added variable in explaining the dependent variable (by seeing the changes in the value of R^2).

Secondly, it helps to see whether the new variable is worth including in the model or not (by seeing the changes in the value of R^2).

Thirdly, it also helps us in keeping a watch over the changes in the value of regreslsion coefficients and their standard errors.

The variables chosen for the above study are discussed below. These independent variables are marked in the brackets.

General Indicators

1. The share of workers to total population shows the level of participation in the workforce, which indicates the capacity of the economy to absorb more worker (Y_1).

2. The share of workers employed in non-agricultural activities exhibits the level of economic development, because it shows that the modern sectors of the economy, for example, manufacturing and mining etc. have absorbed more workers and the pressure on cultivable land is relieved (Y_2).

Indicators of Agricultural Development

3. Net Sown Area per agricultural worker, tries to find out the availability of land to workers, which is the prime

requisite of agriculture (Y_3).

4. The percentage of area sown more than once to net area sown is a composite expression of effort in three directions: area, yield and cropping pattern (Y_4).

Indicators of Industrial Development

5. The share of total workers engaged in manufacturing industries has been taken as an indicator of industrial development (Y_5).

6. The percentage of workers engaged in trade and commerce out of total workers have been calculated (Y_6).

Indicator of Transport Development

7. Roads mileage per 100 square kilometre is an important indicator to measure the relative development of different districts (Y_7).

8. The persons employed in transport is another indicator (Y_8).

9. Hospital beds per lac populatin is chosen as an indicator of health conditions, because it shows the level of medical facilities available (Y_9).

Indicator of Education Development

10. Literacy (percentage of literates to total population) has been taken as an indicator of educational development (Y_{10}).

A set of dependent variables were also taken into account. These were (for 1991 the dependent variables were the following):

X_1 - Percentage of urban population to total population 1991

X_2 - Growth rate of urban population (1981-91)

X_3 - Percentage of migrants to total population 1991

X_4 - Growth rate of migrant population (1981-91)

For 1981 the dependent variables were:

X_1 - Percentage of urban population to total population 1981

X_2 - Percentage of migrants to total population 1981.

5.3 Results of Step-wise Regression Analysis for Orissa and Punjab 1981-91:

5.3.1 Analysis for Orissa 1981 (Table 5.1 and 5.2)

The results (Table 5.1) show that share of total workers in transport (Y_a) explains the maximum variations in the share of urban population in total population (X_1), followed by share of workers in total population (Y_1), literacy (Y_8), and share of workers in non-agricultural activity (Y_5). As it is clear from the table 5.1 that the contribution of literacy, surface road length and share of workers in non-

agricultural activity was very low in increasing the value of R^2. A study of R^{-2}, however, shows that though the contribution of literacy is very poor in R^2, but it can be retained in the analysis, as it has ensued a marginal increase in R^{-2}.

Table 5.1: X_1 Regression Analysis, Orissa 1981

Variables	Regression coefficient	S.E.	t	R^2	Increase in R^2	R^{-2}	F
Step 1							
Y_9	6.38	1.07	5.93	.76	–	.74	35.20
Step 2							
Y_a	8.84	.98	9.02	.90	0.14	.88	45.50
Y_1	.48	.129	3.74				
Step 3							
Y_a	9.09	.964	9.42	.91	0.01	.88	33.17
Y_1	.29	.189	1.56				
Y_8	-.18	.138	-1.32				
Step 4							
Y_a	9.11	.88	10.30	.93	0.02	.90	30.27
Y_1	.23	.17	1.32				
Y_8	-.32	.15	-2.10				
Y_{10}	.02	.02	1.64				
Step 5							
Y_a	5.41	2.36	2.28	.95	0.02	.92	30.06
Y_1	.06	.19	.31				
Y_8	-.45	.16	-2.84				
Y_{10}	.04	.01	2.26				
Y_2	.41	.25	1.65				
Step 6							
Y_a	5.65	2.38	2.37	.96	0.01	.92	25.10
Y_1	.048	.19	.25				
Y_8	-.443	.16	-2.75				
Y_{10}	.051	.02	2.46				
Y_2	.369	.25	1.43				
Y_4	-.034	.03	-.98				

Table 5.1: X_2 Regression Analysis, Orissa 1981

Variables	Regression coefficient	S.E.	t	R^2	Increase in R^2	R^{-2}	F
Step 1							
Y_7	.130	.023	5.45	.73	–	.70	29.77
Step 2							
Y_7	.133	.016	8.03	.88	0.15	0.85	37.26
Y_4	-.06	.019	-3.57				
Step 3							
Y_7	.132	.016	7.95	.89	0.01	0.85	25.32
Y_4	-.084	.024	-3.49				
Y_{10}	.012	.012	1.02				
Step 4							
Y_7	.154	.016	9.14	.93	0.04	0.90	29.19
Y_4	-.052	.024	-2.19				
Y_{10}	.027	.011	2.30				
Y_6	-1.09	.479	-2.28				
Step 5							
Y_7	.144	.017	8.22	.95	0.02	.91	26.75
Y_4	-.025	.029	-.85				
Y_{10}	.028	.011	2.51				
Y_6	-1.85	.70	-2.65				
Y_9	1.09	.76	1.42				

From the above analysis we find that in Orissa urbanization as a dependent variable is linked with the total workers engaged in transport. This shows that an increase in the share of workers in transport sector leads to an increase in urbanization. Since the transport is part of the tertiary sector so we can establish here that both urbanization and the tertiary activity in the state were very much related and tertiary activity like transport largely contributed in urbanization of the state. At the same time development of towns have emerged around transportation corridors. Thus, provision of infrastructure pro-

vides opportunities for towns to develop in Orissa.

Similarly coming to the table 5.2 we observed that the hospital beds per lac population (Y_7) explained maximum variation to the percentage of migrants (X_2), followed by area sown more than once (Y_4), surface road length, percentage of total workers in trade and commerce (Y_6) and percentage of total workers in transport (Y_9).

The hospital beds per lac population (Y_7) is highly significant at 1% level. Similarly the area sown more than once shows a significant relationship with the share of migrants to total population. Here we can find that due to an improvement in the health infrastructure of the urban areas in Orissa attracted larger volume of migrants from the nearby regions. Similarly, we also observed that some districts which are agriculturally developed, attracted population from the other regions.

5.3.2 Results of Stepwise Regression Analysis
Orissa 1991

Share of workers in non-agricultural activities (Y_2) explained the maximum variation in the percentage of urban population (X_1), followed by share of workers in total population (Y_1), hospital beds per lac population (Y_7), literacy (Y_8), share of workers in trade and commerce (Y_6).

Table 5.3: Regression Analysis, Orissa 1991
Dependent Variable = X_1

Variables	Regression coefficient	S.E.	t	R^2	Increase in R^2	$\bar{R}^2$	F
Step 1							
Y_2	.719	.141	5.089	.70	–	.67	25.89
Step 2							
Y_2	·.989	.133	7.38	.85	.15	.82	28.95
Y_1	.516	.161	3.20				
Step 3							
Y_2	.772	.274	2.81	.865	.015	.82	19.24
Y_1	.305	.238	1.07				
Y_7	.085	.093	.91				
Step 4							
Y_2	.825	.274	3.00	.88	0.02	.82	15.13
Y_1	-.081	.445	-.18				
Y_7	.116	.096	1.20				
Y_8	-.261	.234	-1.11				
Step 5							
Y_2	.888	.292	3.03	.89	0.01	.81	11.65
Y_1	-.204	.482	-.424				
Y_7	.122	.099	1.241				
Y_8	-.319	.251	-1.27				
Y_6	-.374	.477	0.78				
Step 6							
Y_2	.881	.305	2.88	.89	0.00	.79	
Y_1	-.315	.532	-.59				
Y_7	.132	.104	1.26				
Y_8	-.40	.240	-1.37				
Y_6	-.38	.498	-.76				
Y_{10}	.011	.01	.64				

*Significance at 1% level of significance

**Significance at 5% level of significance.

143

Table 5.4: X_2 Regression Analysis, Orissa 1991

Variables	Regression coefficient	S.E.	t	R^2	Increase in R^2	R^{-2}	F
Step 1							
Y_8	.742	.199	3.71	.557	-	.517	13.83
Step 2							
Y_8	.897	.205	4.35	.655	0.098	.587	9.530
Y_5	-1.37	.813	-1.69				
Step 3							
Y_8	1.14	.247	4.62	.732	0.075	.641	8.146
Y_5	-2.113	.889	-2.37				
Y_3	12.59	7.95	1.58				
Step 4							
Y_8	.911	.324	2.81	.765	0.035	.648	6.543
Y_5	-3.44	1.50	-2.29				
Y_3	15.37	8.26	1.86				
Y_2	.76	.70	1.09				
Step 5							
Y_8	.703	.298	2.36	0.849	0.084	.741	7.87
Y_5	-5.052	1.527	-3.30				
Y_3	16.585	7.12	2.32				
Y_2	2.00	.87	2.30				
Y_9	-4.88	2.48	-1.96				

Table 5.5: X_3 Regression Analysis, Orissa 1991

Variables	Regression coefficient	S.E.	t	R^2	Increase in R^2	R^{-2}	F
Step 1							
Y_4	-.095	.046	-2.07	.280	-	.215	4.29
Step 2							
Y_4	-.097	.043	-2.24	.419	0.319	.313	3.61
Y_7	.064	.041	1.54				
Step 3							
Y_4	-.115	.049	-2.34	.459	0.,04	.279	7.55
Y_7	.058	.043	1.34				
Y_6	.301	.1366	.82				
Step 4							
Y_4	-.124	.052	-2.40	.496	0.037	.245	1.97
Y_7	.080	.053	1.51				
Y_6	.540	.488	1.10				
Y_2	-.120	.157	0.76				

Table 5.6: X_4 Regression Analysis, Orissa 1991

Variables	Regression coefficient	S.E.	t	R^2	Increase in R^2	R^{-2}	F
Step 1							
Y_7	-.279	.137	-2.14	.294	-	.229	4.58
Step 2							
Y_7	-.327	.136	-2.401	.370	0.076	.245	2.94
Y_9	2.356	2.133	1.10				
Step 3							
Y_7	-.331	.131	-2.527	.476	0.106	.301	2.72
Y_9	2.798	2.07	1.347				
Y_4	-.177	.131	-1.346				
Step 4							
Y_7	-.253	.136	-1.85	.580	0.104	.371	2.77
Y_9	1.715	2.11	.811				
Y_4	-.279	.144	-1.93				
Y_3	-12.23	8.65	-1.41				
Step 5							
Y_7	-.157	.157	-.997	.646	0.066	.394	2.56
Y_9	3.61	2.65	1.36				
Y_4	-.30	.14	-2.10				
Y_3	-15.01	8.83	-1.70				
Y_2	-.52	.45	-1.14				

The share of workers in non-agricultural activity is highly significant at 1% level and F value is also highly significant. The percentage of workers in the total population (Y_1) was also significant at 1% level. We cannot go after Step 2 because the F value had decreased suddenly. Similarly the level of significance of the t value had also decreased.

Here we can establish that a rise in the level of urbanization leads to an increase in the non-agricultural activity. Similarly a rise in the share of non-agricultural activity leads to an increase in the level of urbanisation.

Structural shift will take place from the primary to the secondary and tertiary sector of the economy. Other variables like hospital beds per lac population. Literacy etc. also do have some contribution to make in the level of urbanization. But this contribution is not much significant in the case of Orissa, as shown by the figures in table 5.3.

In case of the growth of urban population in Orissa during 1981-91, literacy ratge (Y_8) explained the maximum variations, followed by share of workers in manufacturing sector (Y_5), net sown area per agricultural worker (Y_3), share of workers in non-agricultural activity.

Literacy rate (Y_8) showed significant relation at 1% level of significance. The share of manufacturing workers (Y_5) showed a significant relationship at 5% level of significance only. Since the value was decreasing, we can say that the growth of urban population in Orissa during 1981-91 largely depended upon the share of literate population. Here we can say that the literate people would mostly like to join the secondary and tertiary sectors of the economy. Thereby it may lead to urban growth as the secondary and tertiary activities are mostly confined to the urban areas.

Area sown more than once as percentage to NSA explains the maximum variations in the share of migrants to total population, followed by hospital beds per lac population

(Y_7), share of workers in trade and commerce (Y_6) and share of workers in non-agricultural activities (Y_2).

In table 5.5 only area sown more than once as percentage to NSA showed significant relationship at 5% level of significance. Other variables do not show any significant relationship with the share of migrants to total population.

As in 1981, too 1991, migrant population in Orissa migrate mostly to the agriculturally developed districts.

The hospital beds per lac population (Y_7) explained maximum variations in the growth of migrant population in Orissa 1981-91. The other variables in order of importance were share of workers in transport (Y_9), area sown more than once (Y_4), and net sown area per agricultural worker (Y_3).

Only the hospital beds per lac population showed significant relationship at 5% level. In Orissa health facility in a district attracted migrant population from the surrounding regions which do not have adequate health facilities.

5.3.3 Analysis of Step-wise Regression in Punjab 1981

The share of workers in manufacturing (Y_5) explained the maximum variations in the share of urban population in Punjab. The share of manufacturing workers was significant at 1% level. Though literacy showed a negative value con-

stantly, it was significant at 1% level. Here we can establish the relationship between the share of manufacturing workers and the share of urbanization in Punjab. The expansion and growth of manufacturing activities results in an increase in urban population of Punjab.

Table 5.7: Regression Analysis, Punjab 1981

Variables	Regression coefficient	S.E.	t	R^2	Increase in R^2	R^{-2}	F
Step 1							
Y_5	1.17	.29	4.03	.61	–	.58	16.23
Step 2							
Y_5	2.13	.30	6.97	.86	0.25	.82	27.71
Y_8	-.73	.18	-3.94				
Step 3							
Y_5	1.75	.21	8.06	.94	0.08	.93	50.26
Y_8	-.65	.12	-5.42				
Y_7	.08	.02	3.76				
Step 4							
Y_5	1.63	.19	8.58	.96	0.02	.95	56.16
Y_8	-.66	.09	-6.67				
Y_7	.05	.02	2.20				
Y_6	1.10	.51	2.16				
Step 5							
Y_5	1.54	.210	7.31	.97	0.01	.95	45.24
Y_8	-.63	.106	-5.95				
Y_7	.06	.028	2.48				
Y_6	1.25	.533	2.35				
Y_{10}	-.01	.012	-1.00				

Table 5.8: X_2 Regression Analysis of Punjab, 1981

Variables	Regression coefficient	S.E.	t	R^2	Increase in R^2	$\bar{R}^2$	F
Step 1							
Y_1	-2.79	1.52	-1.83	.25	–	.17	3.35
Step 2							
Y_1	-3.13	1.34	-2.32	.48	0.23	.36	4.21
Y_7	-.21	.10	-2.01				
Step 3							
Y_1	-3.67	1.36	-2.69	.57	0.09	.41	3.58
Y_7	-.29	.11	-2.45				
Y_4	.41	.32	1.29				
Step 4							
Y_1	-2.12	2.38	-.88	.68	0.03	.38	2.72
Y_7	-.37	.15	-2.34				
Y_4	.36	.33	1.08				
Y_9	5.88	7.33	.80				
Step 5							
Y_1	-3.55	2.55	-1.39	.69	0.09	.43	2.68
Y_7	-.35	.15	-2.32				
Y_4	.15	.35	.43				
Y_9	11.08	8.15	1.36				
Y_8	-1.10	.87	-1.26				

Share of worker in total population (Y_1) explained maximum variation in the share of migrants. Punjab, followed by hospital beds per lac population (Y_7), area sown more than once to NSA (Y_4), share of workers in transport (Y_9). Both the share of workers, in total population (Y_1) and hospital beds per lac populatin (Y_7) were significant at 5% level.

Therefore an increase in the share of workers lead to an increase in the share of migrants in Punjab. In other words, increase in job opportunities in the urban areas to general prosperity in Punjab attracted migrants from other

regions. Similarly availability of health facilities in the developed districts also attracted migrants in Punjab.

5.3.4 Analysis of Stepwise Regression Analysis in Punjab, 1991

The proportion of workers in trade and commerce (Y_6) explained the maximum variations in the level of urbanisation (X_1), followed by the share of workers to total population (Y_1), share of workers in transport (Y_9), share of workers in manufacturing (Y_5).

The share of workers in trade and commerce showed very significant relationship with the level of urbanisatioin (X_1) in Punjab. It was significant at 1% level. Thus we can say that trade and commerce activities in Punjab led to the increase in urbanisation. Similarly the share of workers in Punjab and the share of workers engaged in transport have established significant relationship with levels of urbanisation.

Table 5.9: Regression Analysis, Punjab 1991

Variables	Regression coefficient	S.E.	t	R^2	Increase in R^2	R^{-2}	F
Step 1							
Y_6	3.932	.695	5.65	.761	–	.737	31.98
Step 2							
Y_6	4.176	.582	7.166	.854	0.093	.821	26.32
Y_1	1.642	.688	2.38				
Step 3							
Y_6	2.460	.588	4.183	.947	0.093	.927	47.96
Y_1	· 2.682	.518	5.173				
Y_9	5.456	1.44	3.764				
Step 4							
Y_6	2.00	.583	3.437	.963	0.016	.942	46.20
Y_1	2.53	.468	5.409				
Y_9	4.35	1.43	3.038				
Y_5	.34	.197	1.76				
Step 5							
Y_6	1.43	.543	2.64	.979	0.016	.962	57.012
Y_1	2.16	.417	5.19				
Y_9	7.82	1.98	3.93				
Y_5	1.07	.37	2.87				
Y_2	-.58	.27	-2.15				

Table 5.10: X_2 Regression Analysis, Punjab 1991

Variables	Regression coefficient	S.E.	t	R^2	Increase in R^2	R^{-2}	F
Step 1							
Y_6	2.94	.734	5.36	.742	–	.716	28.79
Step 2							
Y_6	4.20	.60	6.92	.846	0.104	.812	24.81
Y_1	1.77	.71	2.47				
Step 3							
Y_6	2.44	.62	3.89	.941	0.095	.920	43.28
Y_1	2.84	.55	5.14				
Y_9	5.60	1.54	3.62				
Step 4							
Y_6	1.911	.59	3.21	.963	0.022	.942	45.92
Y_1	2.67	.47	5.59				
Y_9	4.32	1.45	2.96				
Y_5	.40	.20	2.01				
Step 5							
Y_6	1.310	.53	2.43	.980	0.017	.963	59.79
Y_1	2.28	.41	5.51				
Y_9	7.96	1.97	4.03				
Y_5	1.17	.37	3.15				
Y_2	-.61	.26	-2.27				
Step 6							
Y_6	2.015	.61	3.28	.987	0.007	.973	67.60
Y_1	2.067	.37	5.47				
Y_9	7.038	1.78	3.95				
Y_5	1.204	.32	.374				
Y_2	-.878	.27	-3.17				
Y_{10}	.078	.04	1.75				

Table 5.11: X_3 Regression Analysis, Punjab 1991

Variables	Regression coefficient	S.E.	t	R^2	Increase in R^2	R^{-2}	F
Step 1							
Y_{10}	0.91	.028	3.25	.514	-	0.46	10.59
Step 2							
Y_{10}	.195	.027	7.04	0.855	0.341	0.82	26.66
Y_9	-4.77	1.036	-4.61				
Step 3							
Y_{10}	.191	.027	6.87	0.874	0.019	8.27	18.55
Y_9	-5.09	1.06	-4.78				
Y_3	-2.59	2.37	-1.09				
Step 4							
Y_{10}	.178	.032	5.53	.885	0.011	.820	13.58
Y_9	-5.66	1.280	-4.42				
Y_3	-3.79	2.80	-1.35				
Y_5	.15	.179	.84				
Step 5							
Y_{10}	.146	.046	3.17	.901	0.016	.819	10.98
Y_9	-3.90	2.21	-1.76				
Y_3	-2.38	3.16	-.75				
Y_5	.31	.24	1.27				
Y_6	-.81	.83	-.97				

Table 5.12: X_4 Regression Analysis, Punjab 1991

Variables	Regression coefficient	S.E.	t	R^2	Increase in R^2	R^{-2}	F
Step 1							
Y_5	1.79	1.26	1.42	.16	-	.08	2.02
Step 2							
Y_5	2.16	1.18	1.83	.36	0.2	.22	2.59
Y_1	6.91	4.13	1.67				
Step 3							
Y_5	3.69	1.87	1.97	.44	0.08	.23	2.11
Y_1	6.71	4.11	1.63				
Y_6	-5.80	5.52	-1.05				
Step 4							
Y_5	4.86	1.77	2.74	.619	0.179	.402	2.85
Y_1	4.84	3.77	1.28				
Y_6	-14.90	7.00	-2.12				
Y_7	.66	.36	1.80				
Step 5							
Y_5	5.32	1.78	2.97	.685	0.066	.424	2.62
Y_1	3.07	4.02	.76				
Y_6	-16.06	6.95	-2.31				
Y_7	.68	.36	1.89				
Y_3	26.54	23.59	1.12				

The share of workers in trade and commerce (Y_6) explained the maximum variation in the urban growth in Punjab during 1981-91. This relationship was highly significant at 1% level. Similarly, the share of workers in transport (Y_9) showed significant relationship with the growth of urban population in Punjab during 1981-91. Growth in transport and communication infrastructure and increased activity of trade and commerce induced migrants to the developed regions of Punjab.

The surface road length in kilometre per 100 square kilometre (Y_{10}) explained the maximum variation in the share of migrants to total population (X_3). This relationship was significant at 1% level. Similarly the share of workers in transport (Y_9) also showed a significant relationship.

The share of workers engaged in manufacturing (Y_5) explained the maximum variation in the growth of migrant population (1981-91) in Punjab, followed by the share of total workers in the population (Y_1), share of workers in trade and commerce (Y_6), hospital beds per lac population (Y_7).

Though workers engaged in manufacturing explained maximum variations in the growth of migrant population the relationship was not very strong and significant.

5.4 Conclusions

Coming to the conclusion we observed that in Oissa during 1981 level of urbanization was explained by the share of workers in transportation sector. As we know that transport activities form an integral part of the tertiary sector. Such a tertiarization of the economy lead to the urban growth. Hence, we find that transportation played a vital role in the urbanization of Orissa during 1981.

In contrast to this Punjab's urbanization was largely explained by the share of workers engaged in manufacturing. Here we find that in 1981 proliferation of manufacturing activities led to urbanization in Punjab. The expansion or spread of manufacturing activities or dispersal of industries in backward regions also results in the spread of urbanization over the region.

Coming to the share of migrants to the total population in Orissa in 1981 we find that it was the facilities like health, transport and communication, trade and commerce available in the cities which attracted these migrants to the urban areas. Similarly opportunities in the agricultural sector attracted the migrants.

In contrast to this the share of total workers in total population attracted the migrants in Punjab. The availabil-

ity of jobs in the region always attracted migrants from other backward regions of the country.

Coming to the 1991 census we observe that the share of workers in non-agricultural activity was highly significant and explained the maximum variation in the level of urbanisation in Orissa.

In case of Punjab it was the share of workers engaged in trade and commerce which explained the maximum variation in level of urbanisation.

The growth of urban population in Orissa was explained by the share of literacy. This showed that the literate population preferred to join manufacturing and service sector. Therefore urban growth was explained by the percentage of literacy.

In case of Punjab it was the share of workers engaged in trade and commerce which explained urban growth during 1981-91.

In case of Orissa area sown more than once to NSA explained the maximum variation in the share of migrants to the total population. Thus, agricultural development also attracted migrant population.

In Punjab, however, the surface road length explained the maximum variation in the share of migrant population.

In other words, transport facility in a region attracted the migrants to come to the urban centres.

The growth of migrant population during 1981-91 in Orissa was explained by the hospital beds per lac population. The urban health facility attracted migrants to the urban centres in Orissa.

However, in Punjab it was the manufacturing activities which attracted migrants to the urban centres. The expansion of industries created more job opportunities, whereby migrants were absorbed in gainful activities.

CHAPTER VI

SUMMARY AND CONCLUSION

The urbanization, migration and industrialisation are a global processes reflecting change and modernity. It is also closely interrelated to each other. The migration of population is a means and a result of urbanization and a form of their manifestation. Similarly industrialization leads to urbanization and migration. The present chapter brings out the summary of the study on the aspects of urbanization, migration and industrialisation of two states of Orissa and Punjab.

Both Orissa and Punjab fall wide apart from each other in several aspects. While the former represented a semi-feudal institution, the latter was the representative of a more organised institutional setup. The reasons behind such a pattern are many: historical, geographical and political. Before attempting to summarise the research, a list of the main characteristics of the two states are provided below.

(i) Orissa depends on low productive agriculture and the institutional setup for agriculture can be called semi-feudal with no land reform and very little modernisation in terms of input use. Punjab on the other hand witnessed a major breakthrough in the agriculture technology package

during the late 1960s and was known as the "wheat basket" of the country. The success of this state lies in the process of land reforms and the development of agricultural infrastructure.

(ii) The industrial scenario in Orissa is characterised by age-old industries, mainly based on extraction of primary products and agro-processing. It had a flourishing handloom and handicrafts sector. At present, these are languishing, either due to negligence or waning demand or non-availability of specific raw materials. Punjab on the other hand because of its advantageous location in the northern plains and its proximity with the national capital, had the privilege of developing a massive industrial base.

(iii) The state of Orissa was in a fragmented state before the emergence of the it in 1936. It was a part of the Bengal Presidency and remained neglected during theBritish period because it was being viewed as a "tribal heartland". Punjab on the other hand was a vast strategic province having a large chunk of the entire population of British India.

In spite of these differences there are other peculiarities which reveals a some sort of similarity between the two states. All these will appear in the course of our discussion in this chapter.

Coming to urbanization we find that the level of urban-
ization in Orissa has remained continuously low (2.47 per
cent in 1901 to 13.43 per cent in 1991). The decade of
1951-61 appeared to represent a watershed decade in this
state. The rate of urbanization showed an increasing trend
upto this decade when it reached its peak (86.78 per cent)
and appeared to show a declining trend thereafter. This was
mostly because of the initiation of the industrial develop-
ment in the state. During 1921-61 Orissa witnessed high
urban-rural growth differences because of a high urban
growth during that period. However the town density for the
state was low.

The index of primacy for Orissa showed that the posi-
tion of Cuttack as a primate city increased in the first
half of the century. However, the emergence of new towns
during the post-Independence period reduced the importance
of Cuttack city. The proportion of population in cities had
increased by more than two and half times, whereas the
medium and small towns have experienced a marked decline in
the share of the population. The regional analysis of the
state showed that 4 out of 13 districts (Sundargarh, Puri,
Sambalpur and Ganjam) stand out prominently as highly urban-
ized when compared with the average of the state for the
period 1991. The urban growth rates of Puri, Cuttack and
Baleshwar districts during 1981-91 were higher.

Punjab on the other hand, appeared to display a different growth patterns. No marked watershed appears in its growth process. The rate of urbanization showed an increase till the thirties. The urban growth fell in the following decade and again started rising till the 1970s. The next decade marked further decline. The degree of urbanization marked a clear two and a half times increase between 1901 to 1991 (12.4 per cent in 1901 to 29.72 per cent in 1991). The rural-urban growth differences were high but they did not show extremities in the state. The town index in Punjab declined in recent years because of the declassification of 21 towns in 1991 census. The city of Amritsar was a primate city till 1971. After that Ludhiana surpassed Amritsar and became a metropolitan city in 1991. The regional analysis showed that Ludhiana, Amritsar, Jalandhar and Patiala were highly urbanized, because they comprise the industrial belt of the state.

Comparing the urbanization trends and patterns of Orissa with that of Punjab we find that there is sharp contrast between two states, so far as the level of urbanization and growth of urbanization were concerned. Orissa showed a low level of urbanization compared to Punjab. Similarly the growth rate of urbanization in Orissa was higher than Punjab in the post-Independence period

(Table 2.1). However, the index of primacy for both the states showed the dominance of a single city (Cuttack in Orissa and Amritsar in Punjab till 1971 and later Ludhiana). More recently, the policy of the respective state governments was to minimise the regional disparity and dispersal of industries in backward areas. Kundu and Sharma (1983) discussed about the dispersal and concentration of industries in the metropolitan cities of the country. They found that the process of industrial dispersal although weak and spatially fragmented, was in operation during the 1960s. It led to the industrial growth in the metropolitan hinterland. But they observed that the urban growth in these regions has been modest in the past 2 decades although the rate of industrialisation was reasonably high. Panda and Meher (1992) also confirmed the same idea in case of Orissa. Our study also proved that the backward regions of Orissa as well as Punjab have remained at a low level of urbanization in recent years.

Analysing the migration data for Orissa and Punjab at two points of time 1981 and 1991, it was observed that the pattern of internal migration in the 1991 census tally more or less with the census data as recorded during 1981 census. In both the censuses, slightly more than 25 per cent were migrants in Orissa whereas it was 30 per cent in both the census in Punjab. Among the migrants the females were more

in number compared to males in the state as well as in the individual districts during both the enumerations.

During 1981 and 1991, the rate of intra-dsitrict (short-distance) movers was much higher in comparison with the interdistrict and inter-state migrants in both the states. In case of Sundargarh, a highly industrialised district in Orissa, presented a unique migratory picture inboth the census operations. It showed a preponderance of interdistrict and inter-state migration over the intradistrict migration. From the individual district figure it was found that both in 1981 and 1991 the share of migrants was the highest in Sundargarh and this was immediately followed by Sambalpur. However, in case of Punjab, the district Gurdaspur (one of the less developed districts) had shown exceptionally high figures of migrants in 1981. This was mainly due to the initiation of several development programmes undertaken during the 1980s in that district.

In the case of Orissa it was found that among male migrants to urban areas (rural to urban and urban to urban) employment was the most important reason. Roughly half of the rural-urban male (42.05 per cent in 1991) migrants moved for employment purposes. However among females it was observed that marriage acounted for roughly three-fourths of the migrtants.

Punjab also had a similar case where the male migrants mostly to urban areas showed employment as the reason for migration. Whereas among 76 per cent female migrants, marriage was the cause for migration.

Coming to the sectoral distribution of migrant workers in both the states it was observed that in Orissa a significant proportion of the total migrant workers came under the primary sector. A huge chunk of migrant workers were also found to have been engaged in other activities. Punjab on the other hand, showed the preponderance of migrant workers in the tertiary sector, followed by primary and secondary sector. The more industrialised district like Ludhiana, of course, showed a preponderance of secondary sector over tertiary sector, followed by primary sector.

Those districts which were industrially developed always attracted the male migrant workers. The best example was Sambalpur district in Orissa which had the highest share of 19.25 per cent male migrant workers. Similarly Ludhiana which is also another developed district in Punjab showed 27.71 per cent share of male migrant workers.

The female migrant workers on the other hand were absorbed in the household industrial activities. The districts like Mayurbhanj, Kendujhar, Phulbani and Koraput of Orissa have shown a high proportion of female migrants

engaged in household industries. Similarly in Punjab, Rupnagar and Patiala showed high share of female migrant workers.

A comparison of migration in Orissa and Punjab showed that in both the states, it were the females which dominated the short distance migration and it was primarily explained by the "marriage" as a reason for migration among females from rural-urban and urban to rural areas. However, the medium and long distance migration streams in both the states were dominated by male migrants as "employment" was the most important reason for their case.

Coming to the aspects of industrialisation in the two states (Orissa and Puri) we find that in the districts of Puri, Cuttack and Baleshwar in Orissa. The urban workforce participation rate was higher. Similarly the districts of Ludhiana, Jalandhar, Kapurthala, Hoshiarpur and Rupnagar in Punjab the urban workforce participation rate was higher.

The occupational distribution of workers in both the states revealed that the largest share of main workers was recorded as cultivators which were 46.94 and 35.86 per cent respectively for Orissa and Punjab.

Sundargarh district in Orissa was in the lead in case of household as well as other than household manufacturing activity. Similarly Ludhiana, in Punjab also showed the

largest share in the manufacturing activity.

Both Sundargarh and Ludhiana showed the highest proportion of workers in transport, storage and communication category.

The sectoral distribution of main workers showed that primary sector offered employment to more than 70 per cent of the workers in Orissa and it was 59 per cent in Punjab. The secondary sector offered employment to more than 8 per cent workers in Orissa and 15 per cent in Punjab. Similarly, in the tertiary sector more than 14 per cent workers were engaged in Orissa and it is 25 per cent or more in Punjab.

Finally analysing the aspects of manufacturing and tertiary workers we find that males showed a high participation in the mineral based and metal based industry in Orissa particularly in the Sundargarh district. Punjab on the other hand showed a high male participation in the textile industry which are mainly located in Ludhiana district.

Dhenkanal district in Orissa showed the highest participation of male workers in construction. Similarly Sundargarh district showed the highest participation in transport and Mayurhbanj in trade services. In Punjab, Ludhiana district emerged as the centre of transport and trade.

It was found that in both the states the females showed a higher participation in education service compared to males.

Here we observed that the developed regions in both the states like Sambalpur, Sundargarh and the coastal districts of Orissa and Ludhiana, Jalandhar, Patiala districts of Punjab witnessed the more participation of males particularly in manufacturing activities (mineral based and metal based industries in Orissa and textile industry in Punjab). Similarly in the tertiary sector the male participation was more in these districts. In other words, we can say that the more urbanised regions offered employment opportunities mainly in the secondary and tertiary sectors of the economy. Hence, the secondary and tertiary sector played an important role in urbanization process.

The study on the interdependence of urbanization, migration and industrialisation revealed that the level of urbanization in Orissa in 1981 was explained largely by the share of total workers in transport. This may be because of the development in transport and communication infrastructure and the location of the towns on the major transportation corridors led to the increase in urbanization in the state.

In Punjab, the share of manufacturing workers explained the level of urbanization. Here the share of manufacturing workers contributed to the level of urbanization. The availability of health facility explained the share of migrnts in Orissa in 1981 on the other hand, in Punjab the proportion of workers in the state or in other words the availability of jobs induced the migrants to come to the urban centres.

In 1991 the non-agricultural activities explained the level of urbanization in Orissa. Here we can say that a rise in non-agricultural workers is accompanied with a rise in the level of urbanization.

In contrast to it the share of trade and commerce workers explained the level of urbanization in Punjab. In case of Punjab it was established that both manufacturing activities and the level of urbanization are very much related.

The area sown more than once explained the share of migrants. That means in Orissa the agriculturally developed districts of the state attracted huge chunk of migrants in 1991.

In contrast to it the transport and communication infrastructure in the state explained the share of migrants

in Punjab. The better the development of transport and communication infrasltructure the more will be the share of migrants in Punjab.

From these we came to the conclusion that the level of urbanization and share of migrants in both Orissa and Punjab explained differently. While in Orissa the transport and communication was explaining the level of urbanization, it was the manufacturing workers which explained the level of urbanization in Punjab in 1981.

In 1991 census while the proportion of workers in non-agricultural activities explained the level of urbanization inOrissa, in Punjab it was explained by trade and commerce.

For the share of migrants also it was found that the agricultural development particularly attracted migrants in Orissa while in Punjab it was the transport and communication facilities which resulted in migration.

According to Lewis (1954) the expansion of the employment sector and the existence of higher wages in the modern sector result in the transfer of labour from the rural sector to the urban sector. The growth of urban employment and the rate of labour transfer are conditioned by investment or capital accumulation in the modern sector. This seems to be true in case of our study in Orissa and Punjab.

The transformation of rural service centres in both time and space, due to concentration of commercial, transportation and professional services, has given rise to the development of urban centres. The growth of urban centres also leads to changes in infrastructure, which in turn further affect regional development, industrialisation, and the entire rural-urban migration. At the same time the dynamics of regional economics, population growth, increasing employment in the tertiary sector, and the continuation of these processes for larger periods of time and over-increasing dimensions of space, are signs of regional development. The urbanization is a polarization, technique which has been adopted for regional development.

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APPENDIX

APPENDIX

NATIONAL INDUSTRIAL CLASSIFICATION (NIC) - 1970

MAJOR GROUPS
(Two digit level of classification

Major Group

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
23	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, Plastics, 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 5: Construction

50	Construction
51	Activities

Division 6: Wholesale and Retail Trade and Restaurants and Hotels

60	Wholesale Trade in Food, Textiles, Live Animals, Beverages and Intoxicants
61	Whole Trade and Fuel, Light, Chemicals, Perfumery, Ceramics and Glass
62	Wholesale Trade in Wood, Papers, other Fabrics, Hide and Skin and in edible oils
63	Wholesale Trade in all types of Machinery, Equipment, including Transport and Electrical Equipment
64	Wholesale Trade in Miscellaneous Manufacturing
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 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 Service

91   Sanitary Services

92   Education, Scientific and Research Services

93   Medical and Health Services

94   Community Services

95   Recreational and Cultural Service

96   Personal Services

98   Personal Services

98   International and Other Extra Territorial Bodies Services

99   Services not elsewhere classified.

APPENDIX

	Textiles				Mineral Based				Metal Based			
	Participation Rate 1981		Growth Rate 1971-81		Participation Rate 1981		Growth Rate 1971-81		Participation Rate 1981		Growth Rate 1971-81	
	M	F	M	F	M	F	M	F	M	F	M	F
ORISSA	3.53	2.41	6.60	5.84	1.91	2.48	9.35	12.97	4.94	1.38	6.29	9.03
Sambalpur	4.45	3.70	8.29	-5.98	1.20	1.60	9.30	11.47	1.83	0.32	6.20	3.21
Sundargarh	1.87	1.18	10.94	30.29	7.06	9.38	8.51	12.67	27.50	7.49	6.51	13.18
Kendujhar	1.72	1.28	9.55	22.80	0.59	0.16	12.62	-8.76	9.67	6.85	5.02	6.68
Mayurbhanj	2.72	0.62	10.92	17.46	1.21	1.87	10.92	23.62	0.70	0.07	8.82	0.00
Baleshwar	3.32	2.65	6.39	19.53	0.49	1.06	6.29	25.89	0.72	0.11	11.42	0.00
Cuttack	6.86	3.56	4.91	5.47	1.08	0.87	6.57	-2.11	1.54	0.23	3.63	-4.59
Dhenkanal	2.08	0.84	12.13	20.40	4.21	0.42	23.07	-5.10	0.42	0.00	-3.85	0.00
Phulbani	3.56	0.31	-0.64	-32.18	0.16	0.00	-6.09	0.00	0.00	0.00	0.00	0.00
Balangir	5.68	4.29	9.02	2.52	1.51	5.92	8.53	25.23	1.22	1.23	7.60	19.82
Kalahandi	1.18	0.27	0.46	6.05	0.29	0.27	4.31	-12.45	0.71	0.61	9.71	6.16
Koraput	3.14	2.64	9.84	11.79	0.96	3.06	11.09	27.36	0.27	0.06	0.15	6.05
Ganjam	3.99	2.77	5.19	2.26	1.30	1.91	13.23	18.73	0.85	0.09	3.53	-10.77
Puri	1.90	1.83	8.42	10.36	0.60	0.38	5.73	2.54	0.80	0.14	13.54	0.00
PUNJAB	11.07	9.69	5.19	2.62	2.76	2.14	3.38	4.76	5.55	2.96	2.32	7.18
Gurdaspur	21.97	11.77	4.82	2.62	1.59	0.12	2.89	3.13	4.94	3.76	5.35	9.03
Amritsar	20.89	13.98	9.15	6.22	3.02	1.45	2.97	2.15	2.13	0.79	6.32	7.18
Firozpur	22.91	11.74	10.36	8.24	1.06	1.29	4.73	5.10	1.54	1.23	1.67	2.66
Ludhiana	32.97	15.73	3.49	4.58	1.71	1.57	6.29	2.54	2.19	1.55	6.15	3.21
Jalandhar	17.25	10.33	-1.76	3.75	0.98	0.77	8.30	7.73	8.97	1.13	9.17	6.05
Kapurthala	25.18	14.76	2.97	7.07	1.01	0.59	8.18	3.47	4.61	3.34	5.33	11.34
Hoshiarpur	9.79	11.34	3.90	2.66	1.51	3.06	4.55	3.45	2.91	1.32	3.35	7.89
Rupnagar	12.33	9.99	3.76	4.05	1.47	3.74	1.18	1.34	1.22	1.02	6.25	7.18
Patiala	12.25	14.84	4.29	7.68	1.49	1.02	4.88	2.76	0.93	1.07	-3.23	-2.12
Sangrur	13.33	8.72	5.88	5.52	1.23	0.60	3.38	7.56	1.83	1.46	4.18	2.73
Bathinda	7.03	9.12	4.55	5.37	1.43	1.91	2.98	-3.81	1.75	0.93	3.95	6.68
Faridkot	11.76	9.37	3.08	8.39	2.76	1.05	5.73	2.15	4.35	1.63	2.21	4.65

	Forest Based				Machine Based				Other Industries			
	Participation Rate 1981		Growth Rate 1971-81		Participation Rate 1981		Growth Rate 1971-81		Participation Rate 1981		Growth Rate 1971-81	
	M	F	M	F	M	F	M	F	M	F	M	F
ORISSA	3.65	2.47	3.87	5.06	0.42	0.08	9.36	11.22	0.95	0.22	2.60	1.15
Sambalpur	6.81	3.12	0.21	3.74	0.89	0.00	26.49	0.00	0.45	0.30	0.60	15.97
Sundargarh	1.62	0.68	8.52	6.05	1.01	0.14	53.86	0.00	0.43	0.13	15.61	12.33
Kendujhar	1.98	1.14	4.76	-1.09	0.27	0.00	24.57	0.00	0.25	0.00	-0.80	0.00
Mayurbhanj	3.22	5.27	9.89	15.31	0.22	0.00	26.39	0.00	0.00	0.00	0.00	0.00
Baleshwar	2.15	0.83	6.05	14.58	0.11	0.00	7.18	0.00	0.96	0.00	6.67	0.00
Cuttack	5.15	2.31	1.79	15.42	0.47	0.00	15.20	0.00	1.32	0.34	0.72	-0.76
Dhenkanal	2.22	2.22	8.97	32.75	0.22	0.10	0.00	0.00	1.39	0.10	4.63	-2.21
Phulbani	5.36	5.15	15.41	3.13	0.37	1.18	0.00	0.00	0.56	0.31	-3.80	-1.81
Balangir	2.33	1.69	2.05	3.42	0.06	0.00	6.63	0.00	1.26	0.00	-1.02	0.00
Kalahandi	2.39	0.43	4.10	3.42	0.20	0.49	5.07	0.00	0.57	0.15	0.35	0.00
Koraput	5.31	1.66	15.22	11.61	0.40	0.05	-17.37	-13.25	0.69	0.41	-0.72	-0.17
Ganjam	2.97	4.47	2.50	0.55	0.13	0.00	18.80	0.00	1.80	0.31	1.02	-2.56
Puri	2.56	2.64	7.89	10.44	0.09	0.19	12.79	0.00	0.92	0.14	9.15	4.81
PUNJAB	5.81	2.87	7.65	5.37	5.79	1.56	2.07	5.03	1.47	0.99	3.47	1.38
Gurdaspur	7.63	5.98	4.97	2.55	3.77	1.23	2.91	1.68	2.04	0.75	5.46	5.42
Amritsar	4.63	2.24	3.93	2.73	4.19	1.78	4.61	2.88	1.20	1.32	8.17	6.63
Firozpur	3.48	3.71	1.94	4.67	5.02	1.69	-0.99	1.77	0.98	1.01	6.11	7.56
Ludhiana	2.56	1.09	2.05	1.79	7.17	2.08	3.17	1.99	1.93	2.76	-4.72	6.61
Jalandhar	11.61	7.31	2.50	2.03	6.06	3.03	4.73	1.93	1.67	0.79	7.51	5.76
Kapurthala	8.76	5.66	1.89	1.21	5.67	1.39	7.22	5.91	1.21	0.27	3.91	2.18
Hoshiarpur	2.29	1.69	3.87	4.08	4.89	1.45	3.77	4.81	1.17	0.76	4.36	2.22
Rupnagar	1.27	1.44	3.92	3.76	5.15	2.06	8.18	5.63	1.14	0.70	-7.88	4.09
Patiala	2.14	1.48	5.11	3.76	6.71	1.31	7.67	8.38	0.95	0.29	-3.01	4.14
Sangrur	2.28	1.74	4.33	6.88	4.34	0.98	5.54	1.03	1.14	0.68	1.78	3.67
Bathinda	6.34	4.76	1.78	2.99	3.16	1.66	6.67	5.44	1.00	0.57	3.93	4.14
Faridkot	4.11	2.66	3.11	4.23	2.97	0.93	7.76	-4.93	1.25	1.08	4.24	5.79

| | Construction | | | | Transport | | | | Storage | | | |
| | Participation Rate 1981 | | Growth Rate 1971-81 | | Participation Rate 1981 | | Growth Rate 1971-81 | | Participation Rate 1981 | | Growth Rate 1971-81 | |
	M	F	M	F	M	F	M	F	M	F	M	F
ORISSA	4.59	2.73	10.90	23.25	8.01	1.80	1.46	-6.73	0.09	0.21	-0.18	36.59
Sambalpur	3.54	2.06	7.45	16.06	8.94	2.17	1.89	-2.77	0.16	0.03	-0.58	0.00
Sundargarh	4.98	6.78	17.29	41.03	9.83	4.24	3.44	3.26	0.03	0.00	1.50	0.00
Kendujhar	3.83	4.37	12.28	28.26	8.46	6.84	1.73	-7.84	0.03	0.00	7.18	0.00
Mayurbhanj	3.49	1.72	12.87	0.00	4.78	0.15	5.96	11.61	0.10	0.00	16.49	0.00
Baleshwar	2.72	1.55	8.46	13.27	8.42	1.00	3.96	-8.87	0.00	0.00	0.00	0.00
Cuttack	2.64	1.62	5.02	23.97	9.00	1.26	3.38	-7.09	0.08	0.05	-10.86	1.84
Dhenkanal	17.82	3.87	34.21	35.68	3.10	0.42	2.05	-10.40	0.15	0.00	13.67	0.00
Phulbani	4.69	0.93	6.65	22.32	5.65	0.00	9.36	0.00	0.00	0.00	0.00	0.00
Balangir	2.63	0.10	3.31	-10.40	6.47	0.62	-0.60	-10.78	0.04	0.00	-2.84	0.00
Kalahandi	5.68	3.33	6.95	8.10	6.98	0.98	2.39	-11.53	0.11	0.00	0.00	0.00
Koraput	6.02	4.99	13.44	41.62	6.33	1.03	0.08	-17.24	0.19	0.09	25.29	0.00
Ganjam	3.21	0.38	4.68	2.77	6.07	1.05	2.54	-6.65	0.18	1.16	4.81	0.00
Puri	4.88	2.04	8.89	13.87	9.71	1.17	5.99	-4.99	0.03	0.00	-2.21	0.00
PUNJAB	2.85	1.63	5.59	9.87	10.71	1.89	3.77	1.82	0.28	0.09	11.53	9.71
Gurdaspur	2.59	1.31	4.57	7.33	9.63	1.21	4.76	3.48	0.11	0.01	9.84	17.63
Amritsar	3.54	0.79	4.34	11.05	6.77	1.56	3.30	2.77	0.23	0.03	14.05	15.18
Firozpur	4.69	3.78	3.18	4.85	11.55	1.72	9.67	5.43	0.25	0.13	7.99	10.74
Ludhiana	7.63	2.56	6.76	-2.87	19.88	1.26	3.67	-3.21	0.36	0.07	3.21	9.37
Jalandhar	4.53	1.99	4.23	7.18	7.54	1.17	1.89	3.26	0.18	0.05	5.57	7.98
Kapurthala	4.72	1.50	5.97	5.45	9.61	1.12	2.52	5.68	0.12	0.00	6.99	0.00
Hoshiarpur	3.50	1.86	3.70	2.66	5.76	2.32	3.77	-2.71	0.13	0.01	8.51	11.93
Rupnagar	3.47	0.92	2.53	4.84	6.63	1.86	4.36	3.58	0.27	0.04	13.66	20.09
Patiala	2.72	1.62	6.66	7.18	10.80	1.07	4.42	1.04	0.31	0.10	9.87	12.57
Sangrur	3.33	0.74	3.79	3.51	4.67	0.99	6.04	0.46	0.16	0.09	5.65	9.88
Bathinda	4.37	1.26	4.53	5.53	11.98	0.85	2.98	-0.49	0.19	0.11	9.14	10.34
Faridkot	3.06	1.73	2.04	9.97	9.22	0.77	2.72	-2.57	0.21	0.03	7.52	5.94

	Trade Services				Banking				Insurance			
	Participation Rate 1981		Growth Rate 1971-81		Participation Rate 1981		Growth Rate 1971-81		Participation Rate 1981		Growth Rate 1971-81	
	M	F	M	F	M	F	M	F	M	F	M	F
ORISSA	13.09	7.98	5.80	5.13	1.39	0.26	8.35	17.80	0.20	0.07	10.23	7.90
Sambalpur	12.61	8.21	4.92	7.98	1.25	0.17	7.74	9.60	0.16	0.07	14.28	0.00
Sundargarh	10.33	4.41	6.26	7.72	0.52	0.28	5.26	0.00	0.12	0.00	14.02	0.00
Kendujhar	10.14	3.61	8.34	7.84	0.69	0.00	6.33	0.00	0.12	0.18	23.11	0.00
Mayurbhanj	17.52	2.81	11.44	15.83	1.70	0.12	9.46	0.00	0.12	0.00	6.44	0.00
Baleshwar	15.52	1.97	6.56	0.55	1.01	0.21	9.93	0.00	0.10	0.00	-3.61	0.00
Cuttack	15.61	3.18	5.49	2.06	1.36	0.44	8.51	25.64	0.53	0.29	9.84	20.40
Dhenkanal	8.16	1.02	7.42	-2.45	1.13	0.42	12.42	0.00	0.07	0.21	18.37	0.00
Phulbani	9.19	7.94	6.28	6.07	1.68	0.31	4.56	0.00	0.00	0.00	0.00	0.00
Balangir	11.88	10.29	3.95	0.26	2.12	0.40	9.07	0.00	0.09	0.00	-0.34	0.00
Kalahandi	11.71	12.55	3.02	4.89	1.11	0.00	0.31	0.00	0.05	0.00	0.00	0.00
Koraput	11.16	15.61	5.97	11.03	0.90	0.06	2.78	0.00	0.08	0.00	11.80	0.00
Ganjam	17.29	11.66	4.49	1.94	1.83	0.13	6.04	1.41	0.13	0.00	7.56	0.00
Puri	12.66	7.35	7.67	2.64	2.52	0.75	13.89	16.10	0.28	0.13	14.46	11.61
PUNJAB	17.66	4.71	6.94	1.33	1.67	0.91	6.03	4.29	0.34	0.27	5.41	7.96
Gurdaspur	21.93	1.86	4.07	7.72	1.39	0.36	13.67	7.21	0.12	0.81	4.91	6.13
Amritsar	17.77	4.29	2.73	2.06	0.93	0.21	4.65	9.11	0.27	0.18	3.61	0.96
Firozpur	15.93	6.17	3.95	4.98	1.11	0.81	7.88	12.12	0.11	0.22	5.71	0.93
Ludhiana	24.67	6.91	3.65	3.47	1.40	0.23	8.70	15.24	0.29	0.11	5.93	3.21
Jalandhar	17.30	7.35	3.89	7.89	1.46	0.06	9.11	13.68	0.21	0.17	1.17	4.81
Kapurthala	21.25	5.81	2.88	0.75	1.03	0.92	9.64	11.61	0.23	0.16	9.71	3.19
Hoshiarpur	9.89	1.99	4.12	5.94	1.13	0.17	8.77	10.84	0.29	0.55	7.65	4.48
Rupnagar	20.88	3.57	4.71	6.88	1.25	0.66	7.64	9.76	0.28	0.25	5.75	6.38
Patiala	22.72	3.99	5.79	8.91	1.75	1.51	8.50	9.86	0.10	0.07	5.14	1.83
Sangrur	8.16	7.94	2.37	3.99	1.14	0.46	12.42	17.46	0.14	0.13	-1.47	0.93
Bathinda	13.39	6.93	6.49	5.15	0.92	0.13	5.59	8.77	0.15	0.11	6.44	4.91
Faridkot	17.91	6.98	7.67	3.07	1.17	0.53	11.06	3.36	0.09	6.06	3.64	5.12

| | Financial Services | | | | Legal Services | | | | Education | | | |
| | Participation Rate 1981 | | Growth Rate 1971-81 | | Participation Rate 1981 | | Growth Rate 1971-81 | | Participation Rate 1981 | | Growth Rate 1971-81 | |
	M	F	M	F	M	F	M	F	M	F	M	F
ORISSA	2.03	0.72	-0.07	6.96	0.58	0.05	2.48	7.38	4.12	11.05	5.04	10.90
Sambalpur	1.59	0.27	-2.65	-3.13	0.51	0.00	2.36	0.00	4.25	7.44	6.20	9.33
Sundargarh	0.95	0.28	-7.92	-14.92	0.23	0.05	8.47	0.00	2.82	10.93	2.74	9.41
Kendujhar	2.48	6.49	4.89	19.03	0.24	0.00	-0.60	0.00	3.95	6.85	7.61	10.31
Mayurbhanj	2.41	0.12	7.57	-8.38	1.10	0.00	2.55	0.00	4.85	14.06	7.43	12.43
Baleshwar	1.53	0.21	4.90	7.18	0.58	0.11	-0.43	0.00	3.11	11.97	2.86	11.26
Cuttack	2.55	0.83	-0.83	10.15	1.14	0.20	3.21	15.97	3.73	19.50	4.87	10.51
Dhenkanal	1.29	0.63	6.08	0.00	0.42	0.00	3.10	0.00	3.01	8.11	4.10	6.97
Phulbani	1.94	0.31	3.10	0.00	1.12	0.00	8.20	0.00	6.26	13.89	11.89	15.08
Balangir	2.38	0.40	2.86	0.00	1.15	0.20	4.52	0.00	5.09	10.85	4.52	11.84
Kalahandi	1.44	0.18	-1.24	0.00	0.57	0.00	3.42	0.00	3.85	7.48	0.82	6.54
Koraput	1.15	0.06	-2.95	6.05	0.33	0.00	-0.58	0.00	3.34	5.61	5.74	13.12
Ganjam	2.21	0.13	0.88	-2.62	0.48	0.06	2.08	7.18	4.72	7.81	3.53	8.91
Puri	3.54	1.12	3.94	9.23	0.39	0.00	-0.50	0.00	6.05	18.14	6.79	13.26
PUNJAB	3.99	1.73	3.51	7.93	0.94	0.17	3.75	9.11	3.69	15.07	5.04	7.95
Gurdaspur	1.33	0.43	1.37	6.69	0.71	0.07	0.93	3.39	3.35	19.45	3.01	6.25
Amritsar	1.25	0.47	3.18	9.23	0.48	0.27	5.35	8.17	1.76	15.98	1.87	4.28
Firozpur	1.66	0.69	2.73	5.65	0.23	0.11	9.17	7.83	2.93	21.78	2.75	4.24
Ludhiana	1.15	0.25	2.02	8.91	0.60	0.17	6.55	9.39	4.13	16.95	3.16	4.96
Jalandhar	2.19	0.79	5.24	6.96	0.26	0.07	8.20	7.77	2.25	13.06	2.20	4.55
Kapurthala	1.01	0.63	1.02	3.16	1.11	0.15	8.93	11.21	1.85	12.57	4.81	9.61
Hoshiarpur	1.52	0.09	3.22	7.18	0.77	0.09	4.76	6.81	2.43	12.93	3.10	11.72
Rupnagar	1.11	1.08	3.24	2.19	1.15	0.21	2.22	8.27	2.18	16.28	5.33	6.74
Patiala	1.05	0.89	4.09	5.83	0.85	0.11	3.99	5.37	3.89	19.27	3.07	7.81
Sangrur	0.97	0.03	1.34	11.21	0.55	0.09	8.19	2.11	2.96	15.03	5.08	8.29
Bathinda	1.80	0.69	6.24	4.27	0.69	0.29	5.14	3.21	4.72	9.18	7.61	9.42
Faridkot	1.13	0.12	5.66	6.96	0.34	0.03	6.66	7.27	3.32	17.36	4.23	7.91

| | Sanitation | | | | Hotel & Restaurat | | | | Medice & Health | | | |
| | Participation Rate 1981 | | Growth Rate 1971-81 | | Participation Rate 1981 | | Growth Rate 1971-81 | | Participation Rate 1981 | | Growth Rate 1971-81 | |
	M	F	M	F	M	F	M	F	M	F	M	F
ORISSA	0.31	0.50	-3.99	-9.30	2.54	1.06	4.03	7.22	1.76	3.66	4.72	3.42
Sambalpur	0.19	0.19	-10.12	9.79	2.43	0.87	5.32	2.28	1.33	2.56	2.14	3.99
Sundargarh	0.26	0.23	-0.44	-6.87	2.56	0.89	3.18	4.85	1.16	3.71	3.72	-0.27
Kendujhar	0.15	0.35	-3.97	-3.50	2.08	0.53	3.89	4.81	1.50	2.78	4.25	2.20
Mayurbhanj	0.12	0.00	-11.95	0.00	2.22	0.87	3.69	0.00	2.04	4.35	5.43	4.75
Baleshwar	0.15	0.00	-5.25	0.00	1.84	1.87	-0.55	15.41	1.30	5.03	5.52	9.01
Cuttack	0.66	0.10	1.60	-30.08	2.38	1.33	1.67	6.61	2.20	6.83	4.42	1.20
Dhenkanal	0.44	0.00	5.42	0.00	2.10	0.63	6.76	0.00	1.61	8.00	7.64	16.06
Phulbani	0.10	1.24	-13.96	14.87	3.39	1.55	10.80	17.46	2.70	1.80	4.20	1.50
Balangir	0.71	0.28	2.59	-19.66	1.58	1.67	2.04	18.66	1.84	3.18	5.02	7.74
Kalahandi	0.49	0.00	-3.78	0.00	2.18	0.27	6.83	-4.98	2.55	1.71	5.05	-5.15
Koraput	0.07	0.52	-18.10	-1.26	2.32	1.39	5.82	7.12	1.52	1.75	5.26	3.69
Ganjam	0.45	2.05	5.77	33.44	2.92	0.36	3.74	-2.95	2.49	2.37	5.66	0.20
Puri	0.07	0.00	-20.85	0.00	3.58	1.86	6.28	12.18	1.73	5.54	5.33	7.98
PUNJAB	0.89	2.63	4.81	-3.45	2.76	0.39	5.12	2.63	1.98	5.28	2.62	4.93
Gurdaspur	0.62	3.02	-0.44	-3.06	1.46	0.37	3.94	11.05	1.17	6.41	-0.05	-0.27
Amritsar	0.96	2.99	4.81	-3.76	1.25	0.22	2.52	4.24	1.63	3.24	4.37	6.34
Firozpur	0.26	8.98	9.48	-0.40	2.01	0.39	5.69	6.16	2.19	7.13	5.34	1.23
Ludhiana	0.85	3.50	7.25	9.82	2.92	0.83	8.74	7.27	1.02	3.29	4.02	4.65
Jalandhar	0.42	2.27	6.69	2.47	1.68	0.84	5.97	7.18	1.45	6.25	0.45	3.76
Kapurthala	0.64	1.01	5.72	2.96	2.77	0.49	6.46	4.55	1.43	6.08	0.91	5.45
Hoshiarpur	0.07	0.31	-1.05	-6.87	2.47	0.33	3.58	7.18	1.32	3.18	2.63	4.80
Rupnagar	0.31	0.59	4.39	2.21	2.86	1.11	4.73	6.63	2.70	6.38	2.72	3.26
Patiala	0.66	2.05	7.81	-6.70	1.89	0.26	5.15	7.81	2.04	3.71	-1.49	3.75
Sangrur	1.05	3.20	-2.82	5.21	1.29	0.57	-1.29	0.56	1.28	7.63	3.60	7.98
Bathinda	0.39	1.01	1.03	5.61	1.97	0.83	1.77	6.78	1.57	3.66	4.20	3.99
Faridkot	1.00	6.23	5.93	7.37	1.48	0.17	3.60	4.14	1.86	9.22	3.74	6.56

	Forest Based			
	Participation Rate 1981		Growth Rate 1971-81	
	M	F	M	F
ORISSA	4.12	11.05	5.04	10.90
Sambalpur	4.25	7.44	6.20	9.33
Sundargarh	2.82	10.93	2.74	9.41
Kendujhar	3.95	6.85	7.61	10.31
Mayurbhanj	4.85	14.06	7.43	12.43
Baleshwar	3.11	11.97	2.86	11.26
Cuttack	3.73	19.50	4.87	10.51
Dhenkanal	3.01	8.11	4.10	6.97
Phulbani	6.26	13.89	11.89	15.08
Balangir	5.09	10.85	4.52	11.84
Kalahandi	3.85	7.48	0.82	6.54
Koraput	3.34	5.61	5.74	13.12
Ganjam	4.72	7.81	3.53	8.91
Puri	6.05	18.14	6.79	13.26
PUNJAB	3.69	15.07	5.04	7.95
Gurdaspur	3.35	19.45	3.01	6.25
Amritsar	1.76	15.98	1.87	4.28
Firozpur	2.93	21.78	2.75	4.24
Ludhiana	4.13	16.95	3.16	4.96
Jalandhar	2.25	13.06	2.20	4.55
Kapurthala	1.85	12.57	4.81	9.61
Hoshiarpur	2.43	12.93	3.10	11.72
Rupnagar	2.18	16.28	5.33	6.74
Patiala	3.89	19.27	3.07	7.81
Sangrur	2.96	15.03	5.08	8.29
Bathinda	4.72	9.18	7.61	9.42
Faridkot	3.32	17.36	4.23	7.91