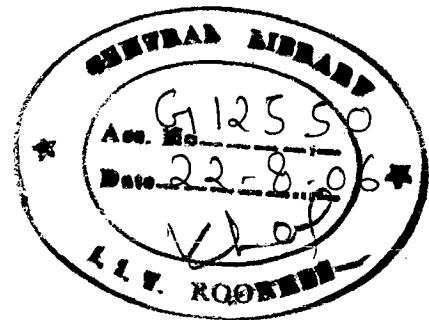# PLANNING FOR UTTAR PRADESH STATE CAPITAL REGIONAL DEVELOPMENT

## A DISSERTATION

*Submitted in partial fulfillment of the*
*requirements for the award of the degree*
*of*

**MASTER OF URBAN AND RURAL PLANNING**

*By*

## RICHA SINGH

**DEPARTMENT OF ARCHITECTURE AND PLANNING**
**INDIAN INSTITUTE OF TECHNOLOGY ROORKEE**
**ROORKEE - 247 667 (INDIA)**

JUNE, 2006

I hereby certify that the work, which is being presented in the dissertation entitled **'PLANNING FOR UTTAR PRADESH STATE CAPITAL REGIONAL DEVELOPMENT'** in partial fulfillment of the requirement for the award of the Postgraduate Degree of **MASTER OF URBAN AND RURAL PLANNING** submitted in the Department of Architecture and Planning, Indian Institute of Technology-Roorkee, Roorkee, is an authentic record of my own work carried out during the period from August 2005 to June 2006 under the supervision of Dr. V. Devadas.

The matter embodied in this dissertation has not been submitted by me for the award of any other degree elsewhere.
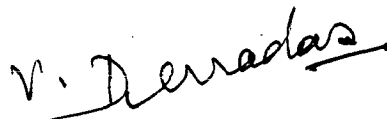
Place: Roorkee

Date:  June 22 ,2006

(RICHA SINGH)

This is to certify that the above statement made by the candidate **RICHA SINGH** is correct to the best of my knowledge.

**Dr. V. Devadas**

Associate Professor

Deptt. Of Architecture& Planning
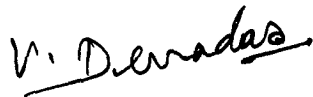
Roorkee-247667

Place: Roorkee

Date:  June 22 ,2006

# CERTIFICATE

Certified that this dissertation entitled 'PLANNING FOR UTTAR PRADESH STATE CAPITAL REGIONAL DEVELOPMENT', which has been submitted by Ms. Richa Singh, in partial fulfillment of the requirements for the award of the Postgraduate Degree of MASTER OF URBAN AND RURAL PLANNING submitted in the Department of Architecture and Planning, Indian Institute of Technology-Roorkee, Roorkee, is the student's own work carried out by her under my supervision and guidance. The matter embodied in this dissertation has not been submitted for the award of any other degree elsewhere.

Place: Roorkee

Date: June 22, 2006

**Dr. V. Devadas**

Associate Professor

Department of Architecture & Planning

Indian Institute of Technology

Roorkee – 247667

# ACKNOWLEDGEMENT

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# ABSTRACT

As the world entered into a new century, the developing countries are no more content with what the advanced countries would dole out as development assistance; these are one and all claiming their rightful place under the sun. No country, even a low development country, is prepared to accept poverty and anti-growth as facts life or situations preordained, and are in haste to bridge the growth arrear and attain a reasonable level of economic development. The entire third world including many of the low developed and developing countries, is in fact clamouring for economic growth and to narrow down the arrears in such growth in relatively much shorter time. Many of these countries had many years of poor growth or economic stagnation and now want to bridge the age-old gap in economic growth by energizing a period of accelerated development.

In India, as in other developing countries, urbanization is most evident in the country's metropolitan areas. Interestingly, as per Census 2001, the aggregate population of the 35 metro cities accounts for more than one third (37.81%) of the country's total urban population, which is spread over more than 5,000 towns. It, therefore, becomes apparent that these 35 metropolitan cities should be the focus of a sustained, countrywide effort to regulate and contain rapid urban growth by channelising the flow and direction of economic growth along more balanced and spatially oriented paths.

Evidence from many developing countries, suggests that sound public policies are lacking to guide urban economic growth. As a result, the transformation that is taking place there is invariably haphazard, often inconsistent, competitive, and self-defeating. There is a need of building up planning from the grassroots level, for intimately associating the people with the plans and for integrating state, regional, sectoral, district, area, and even local schemes of development into a Central National Plan.

*This chapter deals with the factors enhancing urbanization and migration, which in absence of planned development, leads to haphazard development, further stressing basic infrastructural facilities. Chapter also illustrates need of the regional development plan and identifies the problem in the study area. The chapter concludes with aim, objectives, scope, methodology, and research technique of the dissertation.*

## 1.1 Introduction

Urbanization is a natural consequence of economic change that takes place as the country develops. Certain activities are better performed in, indeed require, agglomerations of people while others do not. The location of activities has therefore to be seen in the total context of activities existing in a country and their development in the future. Agglomerations economies are very important for the development of new ones as they enter in the industrialized or manufacturing world. There are so many economies of scale in the provision of urban infrastructure. Services activities such as banking and insurance also exhibit economies of scale. The economic activities thrive in the presence of many other economic activities.

Hence agglomeration of economic activities and people, that is urbanization should be seen as positive for over all development. Hence, it should be supported by policy actions. The puzzle of India is that, when industry and overall gross national product grew at unprecedented rates, the rate of growth of urbanization slowed down.

Urbanization in India has been a catalyst for economic growth. Urban India contributed to 60% of India's GDP, which will be about 73% by 2021. Rapid growth of urban population has been instrumental in continuous increase in the number and size of urban centers, both demographically and spatially. The urban population has increased from 62.4 million in 1951 to 285.3 million in 2001 (Fig. 1.1).
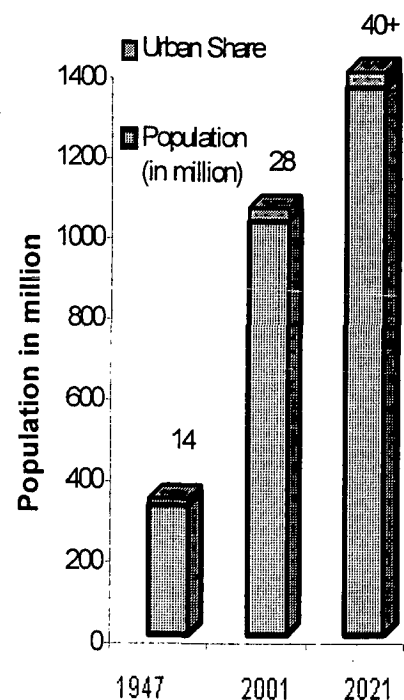
*Fig. 1.1 Massive Urbanisation*
*Source: Indian Building Congress*

The result of this phenomenal growth is creating problems on the availability and delivery of infrastructure services. The demand and supply gap of urban services is a matter of great concern (Fig. 1.2). The resultant effect is pollution, environmental degradation, unemployment, urban poverty, inadequate finance and poor governance. It is a scenario where escalating decadal population growth rates continues to outstrip the urban managerial capacities to service a growing disparate urban income range - all competing for land and built space that is getting increasingly scarce.
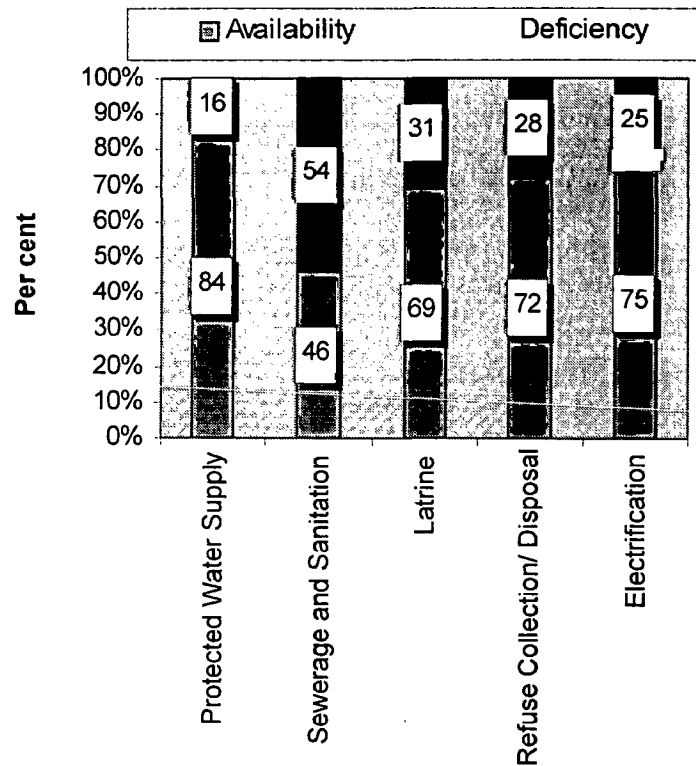


Fig. 1.2 Urban Population Coverage of Services
Source: Indian Building Congress

In India, as in other developing countries, urbanization is most evident in the country's metropolitan areas. Interestingly, as per Census 2001, the aggregate population of the 35 metro cities accounts for more than one third (37.81%) of the country's total urban population, which is spread over more than 5,000 towns. It, therefore, becomes apparent that these 35 metropolitan cities should be the focus of a sustained, countrywide effort to regulate and contain rapid urban growth by channelising the flow and direction of economic growth along more balanced and spatially oriented paths. Figure 1.3 shows the level of urbanization in India.

The viability of our cities, their efficiencies and sustainability are prerequisites for the country's future growth and sound development. Our ability to deal with the complexities of urbanization in a satisfactory manner will to a large extent determine the future status of India as a nation.

Sundaram K.V., Economic growth of urban areas, "Urban and Regional Planning in India"

Since Independence India's population has trebled. The rate of growth of urban population has increased more than 2.6 times during the last three decades from 108 million in 1971 to 285 million in 2001, as shown in figure 1.4. India's decadal growth rate of the urban population has always outpaced by the rise in the total population despite the fact that decadal growth rate of population (1991-2001) was substantially lower than that of the previous decades due to reduction in growth rate of total population. Moreover, increasing investment in big cities since the Independence



Fig. 1.3 Level
of Urbanization
in India

Source: Prepared by the author based on
details given by http://www.indiastat.com/

led to the generation of more and better income and huge employment opportunities. This has further enhanced the trend of migration of people rural to urban in all categories of labour. The migrated population got another powerful stimulus in the form of skill improvement leading to better economic opportunities and higher income.
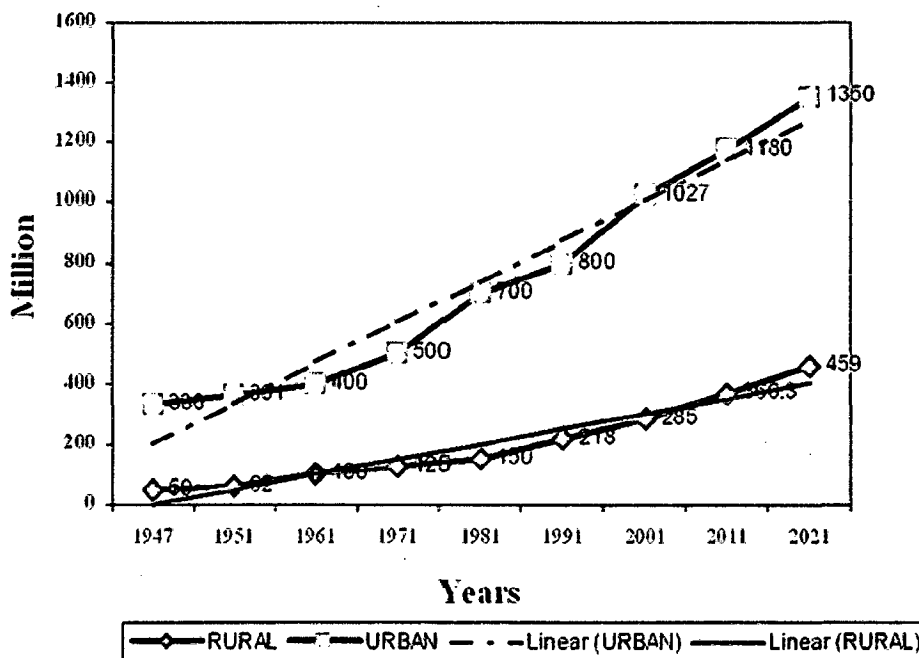


Fig. 1.4 Urbanization scenario in India
Decadal growth rate of Population (1941-2021)
Source: Prepared by the author based on details given by http://www.indiastat.com/

Urbanization is a twentieth century phenomenon in India and so are urban laws, as we know them today. At present in India, three -tier urban & regional planning processes have been established. At the apex of macro planning is the Regional Plan, which looks holistically at a city or a group of closely-knit cities along with the hinterland, aiming at balanced regional growth. The Regional Plan is followed at the second level by the Development Plan treating an entire city as a unit and looking at it comprehensively. At the bottom is the Town Planning Scheme, which takes up part of a city for the purposes of micro-planning, and providing an implementation tool.

Large migration from rural to urban lead to wide gap in people's economies. This flux of migrating workforce from the rural to urban areas also put immense pressure on the already existing limited availability of infrastructural facilities such as electricity, housing, health, drinking water, sanitation, etc. This ultimately results in the negative development of the city, in a haphazard manner.

Infrastructural facilities usually fail to grow at the same pace with the growing population. Urbanization is usually associated with the rapid growth of industrialization in urban areas and better economic opportunities, which encourage rural to urban migration to a large extent. The increase in urban population attracts entrepreneurs both national as well as multinational to invest in urban areas.

Evidence from many developing countries, suggests that sound public policies are lacking to guide urban economic growth. As a result, the transformation that is taking place there is invariably haphazard, often inconsistent, competitive, and self-defeating.[1] There is a need of building up planning from the grassroots level, for intimately associating the people with the plans and for integrating state, regional, sectoral, district, area, and even local schemes of development into a Central National Plan.[2]

After food and cloth, shelter is very important for mankind. Generally people prefer areas, which are closer to their workplace and the required basic infrastructural facilities. A human settlement is regarded as a living organism with origin, growth and decay. It is subject to various types of forces such as physical, social, economic and administrative, which influences its form and structure. It is necessary to

[1] Sundaram K.V., Economic growth of urban areas, *"Urban and Regional Planning in India"*, p. 198.
[2] Sundaram K.V., Urban and Regional Planning in India, *"Urban and Regional Planning in India"*, p. 43.

channelise these forces in a planned manner to create the total environment, which is healthy, efficient and satisfying for working, living, recreation and other activities of the man.

Very few towns in a region can be said to have no problems of inadequate schools or playgrounds, traffic congestion or shortage of parking space, efficient shopping facilities and diversified industry; and the average towns have at least some or all of these problems in varying degrees. Regional Planning can provide an orderly way to solve these and many other problems. Over a period of time, with a well-conceived and well-executed planning programme, it is possible to prevent, minimize alleviate or solve many of the problems that plague our towns.

## 1.2 Need for a Regional Development Plan and its relevance in Present Day Context

> **It is essential for a Region to systematically think of the future, and determine how it wishes to shape that future.**

Cities and towns have a vital role in India's socio-economic transformation and change. Host to about 30 per cent of the country's population, they contribute 50-55 per cent of the gross domestic product (GDP). At the same time, most cities and towns are severely stressed in terms of infrastructure and service availability, and their growth and development. In 2001, 50.3 per cent of urban households had no piped water within premises, and 44 per cent of them were devoid of sanitation facilities. Even with a relatively high economic growth registered during the 1990s, 23.6 per cent of the country's urban population continued to be below the poverty line. According to the Census of India 2001, 14.12 per cent of urban population lives in slums, with a significant proportion of it without access to even the most basic services. The inner areas of cities face widespread dereliction, decadence, and neglect, with significant negative economic consequences.

An unchecked and uncontrolled process of growth leading to regional disparities, results in numerous economic, social and cultural problems. These problems take a serious shape, and subsequently become hard to eliminate. Regional imbalances

lead to under-utilization or even non-utilization of economic resource both natural and human and in that process individuals are discriminated.[3]

The continued persistence of regional imbalances (Inter State and Intra State) throughout Indian planning history has been one of the intriguing problems to our planners and administrators. Our successive Five Year Plans appear to have recognized the complexity of this problem as revealed in various pronouncements made in the plan documents. However, judging from the measures adopted and the results achieved, there appears to have been only some vague quest for "balance" or "equity" and until the commencement of the Fourth Five Year Plan to concretize this notion of 'balanced regional development'. The Fourth Plan laid emphasis on the need to prevent the unrestricted growth of metropolitan cities and recommended a regional approach to the problem of urban development.[4]

The rising urban population has also given rise to increase in the number of urban poor. As per 2001 estimates, the slum population is estimated to be 61.8 million. The ever-increasing number of slum dwellers causes tremendous pressure on urban basic services and infrastructure. In order to cope with massive problems that have emerged as a result of rapid urban growth, it has become imperative to draw up a coherent urbanization policy/strategy to implement projects in selected cities for regional development in order to achieve balanced-synchronized development.

Regional development is not same as development of all regions. It is particularly significant in view of the following:

i. It is expected to ensure a better and more efficient system of planning for the nation as a whole;

ii. It is considered as a powerful instrument which enables the realisation of regional development objectives;

iii. It ensures effective local participation; and

iv. It is an important instrument for mobilisation of local resources.

---

[3] Rao Dr. (Mrs.) Hemlata, Regional Disparities and Regional Planning, "*Regional Disparities and Development in India*", p. 20.

[4] Rao P. Prabakar and Sundaram K. V., Regional imbalances in India-Some Policy Issues and Problems, "*Indian Journal of Regional Scinces*", 1973, Vol. V, No. 1, p. 61
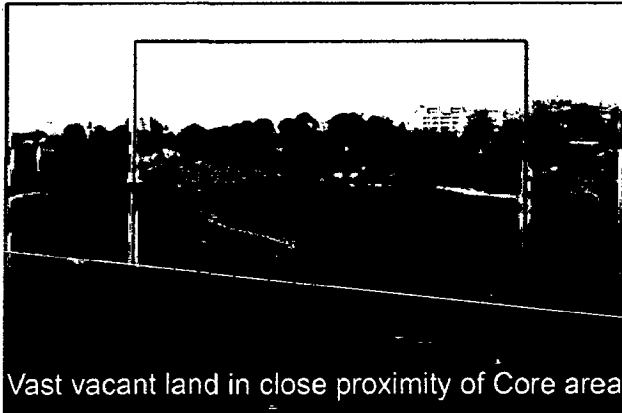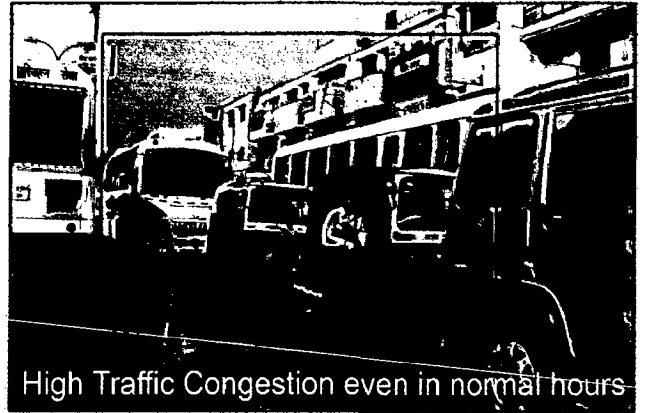
Fig. 1.5, Fig. 1.6 Two images of a city: Land for People and People for Land

A lot of our urban ills at present are due to confusing and conflicting planning processes. (Fig. 1.5, Fig. 1.6). Lack of planning and monitoring has also deteriorated rich historical architecture. (Fig. 1.7, Fig. 1.8).
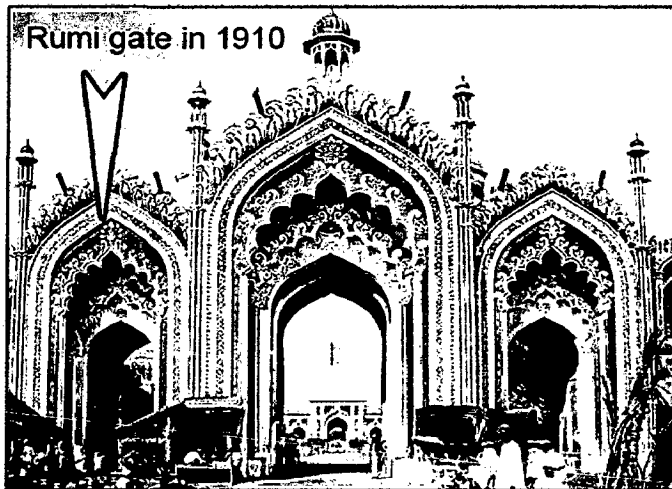


Fig. 1.7, Fig. 1.8 Poor maintenance of Archeological sites

All around the globe, physical approach to planning has broadened to include social, economic, and political theory issues as well. The modern urban planning thus requires a more multi-disciplinary approach for equitable share of resources to all citizens and makes cities sustainable. At policy level, decentralization has been adopted by Governments throughout the world. In India, the passing of 73rd & 74th Constitutional Amendment act in 1992 sought to transfer many of the administrative and financial powers to the Local bodies. In essence, regional planning is a land use

planning approach evolved though the early Health Acts with the aim of improving living conditions and creating a better environment.[5]

## 1.3 Problem Identification

The five fold explosive growth in Urban India has resulted in serious infrastructure constraints. Water, transport, housing, electricity, health & sanitation and education are some of the areas of concern.

In sheer magnitude Uttar Pradesh is half the size of France, thrice that of Portugal, and four times of Ireland. Seven Switzerland and ten Belgium's could easily fit in this mammoth state. A little bigger than England, Uttar Pradesh has **one out of every 36 persons in the World** living here.[6] It is the most populous State in India with about 139 million inhabitants.

Uttar Pradesh is the most populous State in India with about 139 million inhabitants. With the rapidly changing socio-economic environment in the State, the demand for mobility has been increasing very fast. Consequently, the limited transport system is under stress and is not able to meet the demand at an acceptable level of service. Although both the Union as well as the State Governments, have made some efforts to improve and augment the road and rail systems, but these have proved inadequate. This is hampering the process of economic development in the State.

Lucknow, the capital city of the State of Uttar Pradesh, attained metropolitan status in the year 1981 when a population of about 1 million was recorded. According to the latest census (2001), the city population has grown to 22.07 lacs with an alarming growth rate of 33.25 per annum in the last decade. Figure 1.9 shows the encroachment on pavement by daily sellers. Being the administrative



Fig. 1.9 Street scenario in State capital Lucknow

centre of the State, the city has undergone considerable growth in various activities and functions. Though the city has remained as an important cultural and trading

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[5] John Glasson, The context of regional planning, *"An Introduction to Regional Planning"*, p. 24
[6] www.up.nic.in

centre for centuries, in the last ten years there has been a phenomenal increase in number of industries located in and around the city. This has led to considerable increase in transport demand. With little augmentation in the transport infrastructure, the city is experiencing heavy congestion, delay and vehicular pollution, as shown in figure 1.10. The low share of modal split in favour of public transport emphasises the



Fig. 1.10 Traffic congestion due to unplanned traffic management

urgent need for reviewing the existing public transport system and plan for a suitable system to meet the future demand.

With the rapidly changing socio-economic environment in the State Capital-Lucknow, the demand for mobility has been increasing very fast. Consequently, the limited transport system is under stress and is not able to meet the demand at an acceptable level of service, as shown in figure 1.10. Although both the Union as well as the State Governments, have made some efforts to improve and augment the road and rail systems, but these have proved inadequate. This is hampering the process of overall economic development of the State.

The present pattern of economic development in Uttar Pradesh State clearly indicates a lop-sided and imbalanced regional development with an extremely high concentration of economic activity and urban population in Lucknow and its environs and virtual stagnation in most of the rest of the State. The easy availability of facilities such as the elaborate industrial and financial infrastructure, face to face contact with the Government apparatus and business, the developed labour market, attractive social and cultural life has enormously increased the attraction of the capital city so that private investors try to flock the place regardless of adverse repercussions, both on Lucknow as well as on rest of the State and the country.

The process of rapid urbanization has led to improper distribution of developmental growth of few cities as compare to the others. As census 2001 clearly indicates that the decadal growth pattern (1991-2001) of few cities in Uttar Pradesh such as

Lucknow, Kanpur, Sitapur, Allahabad, Barabanki, Varanasi, Raebareli, Hardoi, Gorakhpur and Unnao are quite high and are presented in figure 1.11.



Fig 1..11 Decadal Population Growth (%)

Source: Prepared by the author based on details given by http://www.upgov.nic.in/
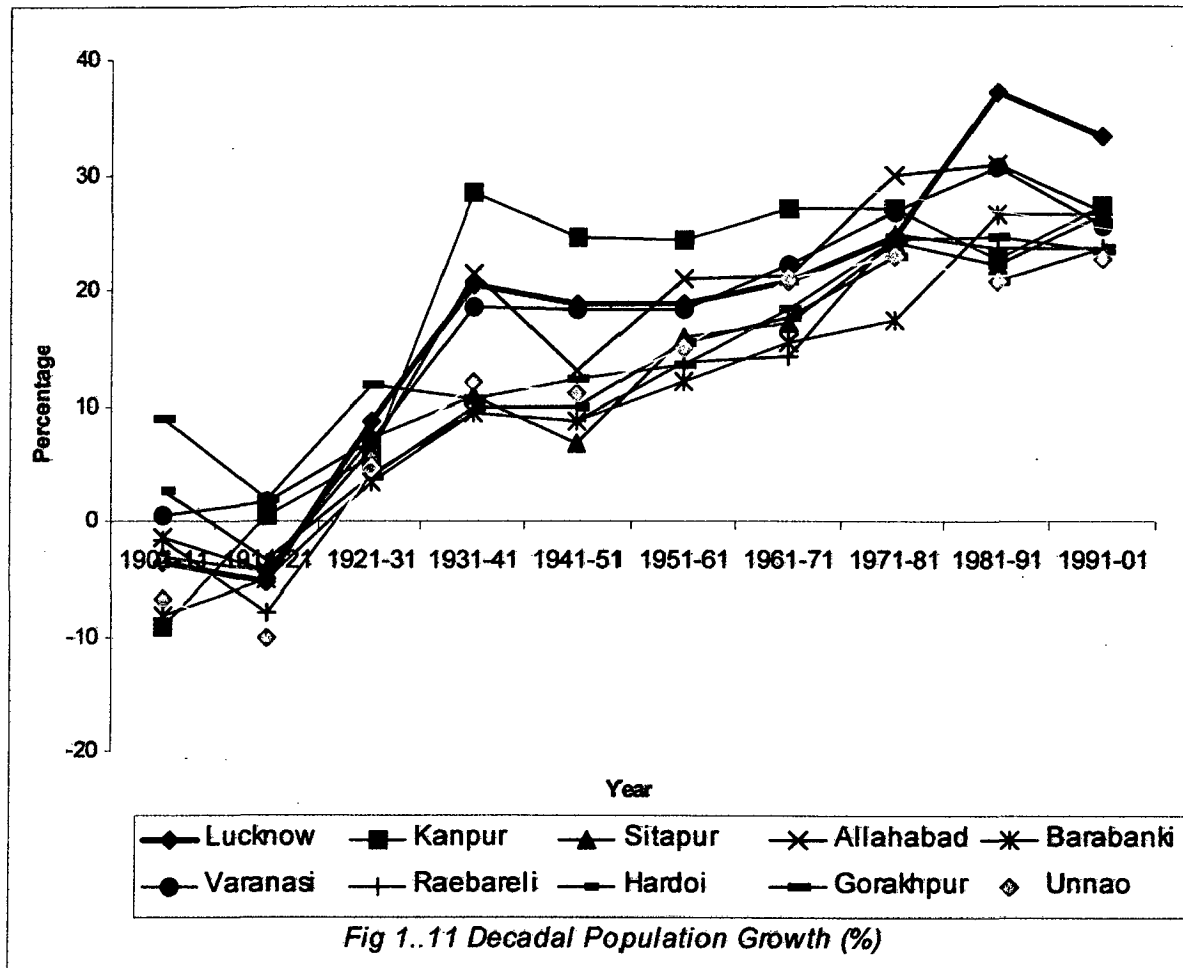
Figure 1.11 illustrates that the Lucknow city has more growth rate of population between the period 1901-11 and 1991-2001 among the major cities in Uttar Pradesh. Kanpur, the biggest industrial city in Uttar Pradesh maintains almost the same trend between the year 1931-41 and 1981-91. However, all the major cities population has come down between the period 1981-91 and 1991-2001.

It is evident from the above data that the magnetism of Lucknow city is much more as compare to surrounding cities and the population growth is presented in figure 1.12. If the process of uneven development continues to happen, it will turn out to a big disaster, as the gap between the demand & supply of civic infrastructure & amenities will continue to increase and lead to final collapse.
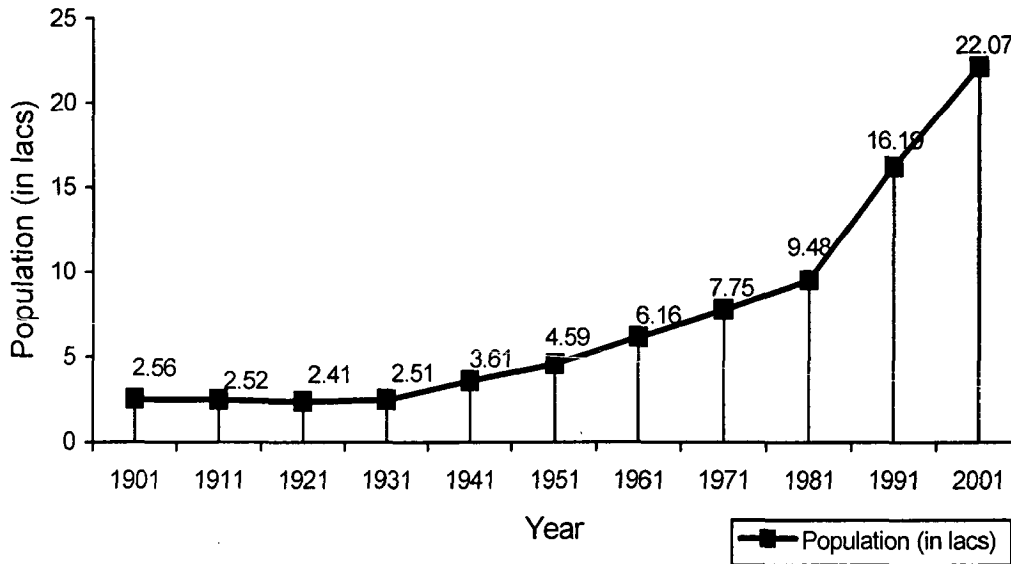
*Fig 1.12: Population in Lucknow City*

*Source: Prepared by the author based on details given by http://www.lucknow.nic.in/*

The process of rapid urbanization in the State of Uttar Pradesh is leading to imbalanced pattern of development especially in and around the State Capital, Lucknow. During the decade 1991-2001, an additional population of about 6 lac has been added to Lucknow metropolis alone. The polarization of economic activities and population is resulting in an inequitable urban growth in the central region of the state because of magnetism of Lucknow. The spurt in population is mainly due to the migration from the adjacent cities/ towns. Therefore, Government is contemplating to plan and develop the State Capital Region on the lines of National Capital Region to address the problems associated with imbalanced urban growth.

## 1.4 Aim and Objectives of the Study

### 1.4.1 Aim

The aim of this thesis is to study the existing condition (physical, social, economic, & environment) of the study area, and evolve a set of policy guidelines for integrated development of the State Capital Region.

### 1.4.2 Objectives

To conduct the investigation, following objectives have been framed and are presented as follows:

1. To access the existing condition (physical, social, economic, & environment) of the present State capital area.
2. To access the infrastructure facilities in the system.
3. To demarcate the State Capital Region.
4. To identify the control parameters which decide the functions of the system.
5. To forecast the demand and supply of infrastructure for the year 2021 A.D.
6. To evolve a set of policy guidelines for integrated development of the State Capital Region.

## 1.5 Scope

The investigator intends to prepare a plausible integrated development plan for the development of the State Capital Region. The investigator hopes that if the proposed plan is implemented meticulously; integrated development is anticipated in the system.

## 1.6 Methodology

### 1.6.1 The survey research methodology

Survey Research Methodology has been employed to carry out the present investigation and is presented in figure no. 1.9.
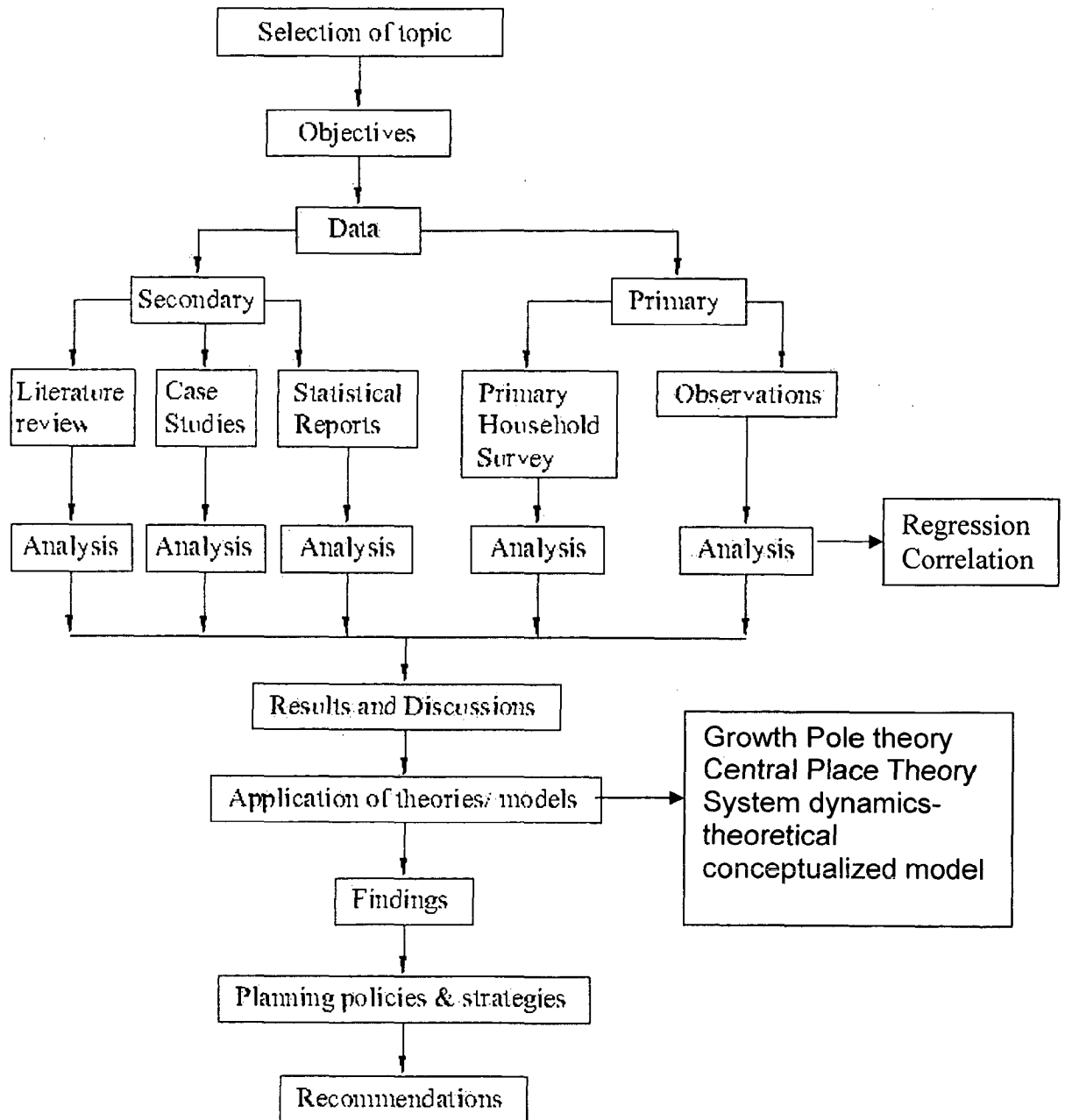


*Fig. 1.13 METHODOLOGY*

## 1.6.2 Research Techniques

**Survey Tools:**

Suitable survey tools, such as, schedules, questionnaire are employed to collect the data from people in the study area.

**Survey Techniques:**

Random Sampling technique has been employed to identify the households to conduct the survey at grass root level. The study area consists of six towns. These towns are further classified into different zones. The investigator covered all the zones for conducting the survey. 20 households are randomly selected from the six towns and cities in the study area. These 20 households are selected such that whole area is covered. A total of 120 households were identified and conducted the survey for this present investigation.

**Analytical Tools:**

Relevant analytical tools, such as code sheets, computer hardware, software (Excel, Mat lab, GIS) shall be used for data processing & analysis.

Relevant Analytical techniques, such as, tabulation, correlation, regression, etc., has been attempted based on the requirements of the study.

## 1.6.3 Data:

All the necessary data pertain to this investigation will be collected from both secondary and primary sources.

a) Secondary Sources: Literature pertaining to this investigation may be collected from published literature and unpublished literature, documents, data from different organizations such as Lucknow Development Authority, Town and Country Planning Organization, Municipal Corporation, reports, official websites, and Census data.

b) Primary Sources: Field survey, household survey, etc., shall be conducted at the grass root level for the present investigation.

## 1.6.4 Analysis

Detailed analysis will be done with the help of various tools and techniques to identify the existing scenario, forecasting, problems and inadequacies, the requirements for further development, etc., in accordance with the requirement.

### a) Results & Discussions

Results of all types of analysis, such as, literature review, household survey, regression, forecasting etc., will be discussed in detail to draw inferences.

### b) Application of theories/ models

For the sustainable, balanced development of the region, Statistical techniques like regression, standard deviation, models/ theories like Gravity/Lowry Model , Central place theory, Corridor development and System Dynamics theory- theoretical conceptualized model will be employed to understand the dynamic functions of the system in accordance with the requirement.

In the present investigation, the Investigator intends to employ Growth Pole theory to mark the primary, secondary, and tertiary growth poles in the study area. In the present investigation, the Investigator also intends to employ theoretical conceptualization of System Dynamics theory to establish the functions of the urban system.

### c) Findings

Plausible findings will be drawn from the investigation for evolving a set of policy guidelines for sustainable, balanced development of the region

### d) Recommendations & Conclusions

Plausible recommendations will be made to achieve a balanced development in the study area. The study will conclude with plausible recommendations.

*This chapter deals with evolution of planning, and history of planning in India. Chapter further deals with different definitions of Regional Planning and need of regional Development Plan in India. The chapter further deals with related models and theories, which can be used in regional development planning. The chapter discusses Systems dynamics model, Growth Pole theory, Central Place theory, Regression model, and Gravity/ Lowry model.*

Dawn of Industrial Revolution came in the nineteenth century, which can be called Machine Age. Modern planning started in this phase with the garden city concept of Ebenezer Howard in 1898, which was distinguished by its social purpose. Here planning movement was an outgrowth of housing reform. This movement extended into regional planning followed by city beautiful movement. Two great projects on Satellite Garden town concept were undertaken between the end of World War-I and 1939.[1] In 1948, great post war rebuild was followed by emphasis on comprehensive schemes of urban renewal and construction of new communities.[2]

## 2.1 Planning Across the Globe

There is never a single statutory administrative body covering the metropolitan area or region, and possessing a full range of executive powers. Strategic planning therefore involves negotiation and co-operation between existing institutions, but also a need to be open and responsive to community inputs. Planning needs to be about integration not about separation i.e. integration between different scales of government, between public and private investment in an area, between different regions, and between different agencies.[3]

In the USA multiple tiers of government affect almost any planning question. The array of interested parties could include governmental agencies from federal, state, county, and municipal bodies, and tribal authorities in areas of native peoples. Sometimes metropolitan level governance is present and has an interest, but rarely

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[1] Gallion. Arthur.B., Eisner Simon, *"The Urban Pattern"*, p.63, 73, 94, 101.
[2] Robert Freestone, 2000, *"Urban Planning In A Changing World. Taylor & Francis Group"*
[3] Poptani Kavita, 2005, Unpublished thesis on People's Participation in Urban Development

do they have enough formal authority to mandate anything. Additionally, in many parts of the country authority over land management, land use, and urban management and service delivery has been parceled out into 'issue specific' governmental agencies, many of which are not exactly analogous to the 'tiers of government' listed above. Thus the need for negotiation between plethoras of agencies is imprinted into planning practices. Charettes are widely used in the North America.[4]

It has been observed by Papaioannou John. G. that "Cities all over the world are undergoing a period of increasing crises. However, they cannot be changed overnight and their existing structures are likely to remain in their broad configuration for periods of 50, 100, or more years, predetermining future environment to an unacceptable degree."[5]

## 2.2 History of Planning in India

Cities have existed for centuries, laws governing town planning found their genesis in the problems created by the era of colonial capitalism. The Industrial Revolution provided momentum to industrialization, which in turn fueled migration, which became easier and faster in the age of the railway and automobile. Large numbers thereby congregated at select industrial locations to participate in the generation of goods and services and in earning wages. Such congested settlements now needed to have stricter controls to survive in an orderly fashion, and thus began the enactment of town planning laws.

The evolution of the current Town planning practice could be traced back from the year 1898, when the Bombay Improvement Trust was created under the City of Bombay Improvement Act of the same year. The concept of planning in those days was mainly understood in terms of ensuring a certain minimum width of roads, satisfaction of certain subdivision regulations. A drastic change in the planning

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[4] 'A charette or "inquiry by design" workshop is an intensive workshop where stakeholders are brought together to suggest solutions for complex planning issues. Such solutions include trying to balance planning, economic and social factors as well as urban design and sustainability considerations.

[5] Dahl. Dr. Norman C., 1971, Problems of metropolitan planning and development, *"Indian journal of Regional Science"*, p. 84.

practice in India came when Patrick Geddes was invited in 1915 to India to advice on planning schemes in different states. His concept of "Diagnosis before treatment" introduced the element of comprehensive surveys, which included socio-economic survey to understand the culture, financial capacity etc of the people.

The first comprehensive act requiring the preparation of master plans was the Bombay town-planning act-1954, which actually came in to force in 1957. The process of preparation of master plans included public objections & suggestions against draft development proposals. During 1980s the government especially at national level and in some states was more open to the dialogue with the NGOs. The Urban Basic Services Programme (U.B.S.P) launched by Government with Support of UNISEF was a joint venture programme between Government and NGOs.

After master plans, there were attempts at the government level to prepare regional plans to lessen the disparity between different regions. 2$^{nd}$ Five-year plan emphasized the need for regional plans. But there were no attempt at the government level to modify the planning process till 1992, when 73rd and 74th Amendments to the constitution were passed. Here central planning gave way to decentralized planning, empowering the local bodies to take all the decisions regarding the urban development in its jurisdiction.

## 2.2.1 Decentralized Planning in India

Decentralized planning is advocated for several reasons, mobilizing local resources, incorporating field level experience, ensuring local participation, facilitating integrated physical planning to establish close linkages between resource endowments and potentialities.

First step towards decentralization was taken by the planning commission in 1969 while issuing guidelines for formulation of district plans. Given the widely varying physical, geographic and economic characteristics among the states, district was considered ideal for area level planning. This called for strengthening of Panchayat Raj System and defining its role in development process.

The Ashok Mehta Committee report (1978) emphasized the need for reforms in the existing legislation on local self-government, making the local bodies a part of the Constitution and ensuring periodic election. The attempts of central government to link itself directly to the local bodies by the 64th and 65th amendment in 1990 drew severe opposition from various quarters. After a long drawn out compromise process, finally in 1992 the 73rd and 74th Amendments to the constitution were passed, empowering the local bodies to take all the decisions regarding the urban development in its jurisdiction.

## 2.2.2 History of Regional Planning

Many persons, like Lewis Mamford, have contributed to the understanding of the complexities of the planning process. He had well understood the essential relationships between local and regional planning and the dependence on national policies in the development of civilized communities.

Like many other important programs for public improvement, regional planning efforts started with a group of concerned private citizens. Observing the many areas where public functions overlapped and wastefully duplicated activities, this group of persons, including Charles H. Whitaker, Benton MacKaye, Clarence Stein, Henry Wright, and Lewis Mamford, formed the influential Regional Planning Association of America in 1923, an informal group dedicated to social betterment through planning.[6]

## 2.2.2.1 Regional Planning trends in India

It was the urban development problems, which provided the greatest impetus for regional planning in India. Following the partition of India in 1947, the urban problems of Delhi headed towards a crisis and the Government of India set up the Deli Development Authority[7] in November, 1955 to prepare a Master Plan for indicating optimum directions of growth and expansion of the city. The Master Plan for Delhi viewed the city's problems in their regional setting and thus sought to go to

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[6] Gallion. Arthur.B., Eisner Simon, Regional Concepts, *"The Urban Pattern"*, p.542, 545.
[7] Delhi Development Authority, *Delhi Master Plan*, Vols I & II, New Delhi, 1961.

the roots of the problems of urban development, population growth and migration.

In 1965, the high power board set up a "Committee for the Planning and Implementation for the Development of the National Capital Region" to coordinate and scrutinize the development activities undertaken by the different implementing agencies undertaken by the different implementing agencies in the region and to draw up a regional plan.

For Kolkata, the Calcutta Metropolitan Planning Organisation[8] was set up in 1961, which prepared a plan for developing Kolkata. This plan represented an approach in metropolitan planning, which is different from the conventional "master plan" approach.[9] For Mumbai, the Government of Maharashtra set up a Committee in 1965 to formulate broad principles of regional planning for the Bombay-Panvel and Puna regions.[10]

Successive Five Year plans have stressed the importance of decentralizing the planning process, so that National and State plans may reflect local potentials and priorities. The First (1951-56) and Second (1956-61) Five Year Plans, by and large, tended to emphasize housing and relegated urban and regional planning to a secondary position. The Third Plan (1961-66) specifically provided for the preparation of comprehensive development plans for major metropolitan centers, state capitals, port towns, rapidly growing industrial towns, and pilgrim/ tourist centers. The Fourth Plan (1966-71) laid emphasis on the need to prevent the unrestricted growth of metropolitan cities and recommended a regional approach to the problem of urban development with the restructuring of local areas.

## 2.3 Theoretical Framework of Regional Planning

According to Jan Drewnowski, "Development is a process of qualitative change and quantitative growth of the social and economic reality which we can call either

[8] Calcutta Metropolitan Planning Organisation, *Basic Development Plan for Calcutta Metropolitan District*, Calcutta, 1966.
[9] Sundaram K.V., Urban and Regional Planning in India, *"Urban and Regional Planning in India"*, p. 8.
[10] Government of Maharashtra, *Report of the Committee appointed for regional plans for Bombay-Panvel and Puna Regions*, Bombay, 1967.

society or economy. No 'purely' social or 'purely' economic development is possible because of the close inter-relation of economic and social elements. Consequently it is better not to speak of social development separately. It is a single process, which is best, called simply development.[11]

According to K. V. Sundaram, Regional planning is an approach, a planning philosophy and a strategy, and provides a frame of reference for integrated or complementary development between different sectors of economy, area and area levels.[12]

In all developing countries wherein planning and direction of economic growth is characteristic of the government administration, a regional approach to planning is becoming increasingly important, particularly in relation to the development of metropolitan areas, underdeveloped areas, rural and community development and certain sectoral activities like location of industries or distribution of social services to the community.[13]

According to Dutta Chaudhuri and Lefeber, Regional and Local planning involve "vertical" as well as "horizontal" integration of plans prepared at different territorial levels.[14]

An unchecked and uncontrolled process of growth leading to regional disparities, results in numerous economic, social and cultural problems. These problems take a serious shape, and subsequently become hard to eliminate. Regional imbalances lead to under-utilization or even non-utilization of economic resource both natural and human and in that process individuals are discriminated.[15]

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[11] Rao Dr. (Mrs.) Hemlata, Measure and Indicators of Development, "*Regional Disparities and Development in India*", p. 1.

[12] Sundaram K.V., Urban and Regional Planning in India, "*Urban and Regional Planning in India*", p. 1.

[13] Sundaram K.V., Urban and Regional Planning in India, "*Urban and Regional Planning in India*", p. 1.

[14] Mishra R. P., Regional Planning in a Federal System of Government, "*Regional Planning and National Development*", p. 65.

[15] Rao Dr. (Mrs.) Hemlata, Regional Disparities and Regional Planning, "*Regional Disparities and Development in India*", p. 20.

The continued persistence of regional imbalances (Inter State and Intra State) throughout Indian planning history has been one of the intriguing problems to our planners and administrators. Our successive Five Year Plans appear to have recognized the complexity of this problem as revealed in various pronouncements made in the plan documents. However, judging from the measures adopted and the results achieved, there appears to have been only some vague quest for "balance" or "equity" and until the commencement of the Fourth Five Year Plan to concretize this notion of 'balanced regional development'. The Fourth Plan laid emphasis on the need to prevent the unrestricted growth of metropolitan cities and recommended a regional approach to the problem of urban development.[16]

The success of the whole programme of area development would depend upon the content and quality of the area-plans, the nature of the tools and techniques used in plan formation and the way integration is achieved with plans at higher levels.[17]

The need for regional planning is stressed by the developed as well as the developing countries of the world. In metropolitan planning, it is necessary to consider the hinterland, seek out the growth nodes that can receive some of the industry and still depend for the business and other facilities on the metropolitan city, delineate the areas which constitute the supporting system of the metropolis with food and daily supplies and ensure that growth in the hinterland is linked efficiently with the growth in the metropolis planning are influenced by such an approach.

For a very long time in many countries, regional planning was similar to an old fashioned medicine doctor who is trying to cure different illness, applying different sets of medicaments, having no time and capacity for a proper diagnosis and naturally, for any preventive action. This planning was basically an emergency planning, trying to deal with the consequences and with the causes. Recently in many countries the idea of long-term socio-economic planning was developed or, at least, adopted. This idea created new possibilities for long term regional planning. Following factors must be considered while planning for a region:

- Regional planning should be diversified.

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[16] Rao P. Prabakar and Sundaram K. V., Regional imbalances in India-Some Policy Issues and Problems, "*Indian Journal of Regional Scinces*", *1973*, Vol. V, No. 1, p. 61

[17] Sundaram K.V., Regional Development Planning in India, "*Regional Planning and National Development*", p. 77.

- Regional development should improve and not destroy the quality of the human environment.

- In each region a permanent capacity should be created to generate, or at least to absorb innovation and change.

Contrary to popular concepts of a predominantly rural India, an increasingly larger percentage of Indian population lives in the Urban areas. Today, India's urban population is second largest in the world after China, and is higher than the total urban population of all countries put together barring China, USA and Russia. Over the last fifty years, while the country's population has grown by 2.5 times, in the urban areas it has grown by five times. It is estimated that by the turn of the millennium 305 million Indians shall be living in nearly 3,700 towns and cities spread across the length and breadth of the country. This would be nearly 30 per cent of country's total population.

## 2.4 Need for a Regional Development Plan

Development plan is needed for the Region, with reference to the regional settlement system where Lucknow would be allowed to grow within its sustainable limits. There should be focus on small and medium towns in the Region because such centers can play a role in supporting social and economic development in the rural areas by providing the rural population with access to education and health facilities, agricultural extension services, service industries and agro-industries linked to local products. Development of small and medium towns will also lead to urban expansion within the Region. In this case, the developmental roles of small and medium towns cannot be considered in isolation from those of the large urban centers or those of the rural economy.

An integrated regional development plan should be prepared, with reference to all activities including agriculture, industrial development, development of tourism etc. Economic development requires industrialisation, which in turn requires the movement of large number of, people into the Region. They will need training facilities to form a skilled labour force, and they will also need to be appropriately

housed and provided with social services. The location of development involves careful consideration of economic, infrastructural and environmental factors, while due regard to be paid to the importance of agriculture and tourism and the contribution which they can make to the regional and State economy.

A strategy for development can be formulated only by adopting a holistic approach. It can be based on three important aspects: economic, social and spatial, all interconnected and interwoven to form the general pattern of development.

Economic development through the development of primary, secondary and tertiary sector activities will not only generate demand for more goods and services but will also increase the demand for labour resulting immigration.

Therefore, social development through the provision of socio-economic infrastructure and services should also be provided high priority. Hierarchy and location choice in relation to the human settlement pattern are crucial while formulating the socio-economic infrastructure development strategy.

This calls for a well conceived spatial development strategy to serve the largest segment of population with the required social and economic infrastructure and facilities. The spatial development strategy will evolve in consonance with the economic strategy as well as socio-economic infrastructure development strategy for the Region.

Proper study and analysis of a region as a whole is essential to identify the outstanding regional problems, such as:

- ❑ the control of the growth of the metropolitan areas
- ❑ the creation of a settlement system capable of sustaining the transition to "green revolution" and industrialization
- ❑ the coordination of resource development and physical planning, and
- ❑ the development of backward areas.

If we could first know where we are, and wither we are tending, we could better judge what to do, and how to do it.

Abraham Lincoln

## 2.5 Lucknow: The State Capital

Lucknow, the capital city of the State of Uttar Pradesh, attained metropolitan status in the year 1981 when a population of 1 million was recorded. According to the latest census (2001), the city population has grown to 2.65 million from 1.69 million (1991 census) with a growth rate of 34.53 per annum in the last decade. Being the administrative centre of the State, the city has undergone considerable growth in various activities and functions. Though the city has remained as an important cultural and trading centre for centuries, in the decade 1981-91 there has been a phenomenal increase in number of industries located in and around the city. This has led to considerable increase in transport demand. With little augmentation in the transport infrastructure, the city is experiencing heavy congestion, delay and vehicular pollution. The low share of modal split in favour of public transport emphasises the urgent need for reviewing the existing public transport system and plan for a suitable system to meet the future demand. It is one of the important cities in India with large employment potential and hence attracts immigrants in large scale from all over the State.

The rapid growth in the population of Lucknow during the last few decads has been causing great concern to the State administration. It has been observed that the State Capital is facing several kinds of problem pertaining to socio-economic, physical, infrastructure and so on. Some of the major problem being faced in this city are discussed below:

### 2.5.1. Area

There has been an increase in the boundaries of the Lucknow city due to the increase in population in past decades. Immigrants coming in search of employment settled in the fringe areas, thereby, increasing the boundary limits.

### 2.5.2. Population Growth

In 1901, Lucknow had a population of only 2.56 lakhs which grew to 4.59 lakhs in 1951, 9.48 lakhs in 1981 and 22.07 lakhs in 2001. If this trend of population growth continues, Lucknow's population is likely to reach 45 lakhs by the year 2021.

## 2.5.3. Immigration

Immigration has been a major factor in Lucknow city's rapid population growth. The large scale of the migration is observed in search of employment oppurtunities and better infrastructure facilities available in the city. The employment and the consequent family movement account for more than 70 per cent of the immigration.

## 2.5.4. Squatters and Slums

The poor migrants generally take shelter in slums. The number of slum population has increased from 2,80,000 (16.64%) in 1991 to 3,70,000 in 2001(16.6%). Although there is a drop in percentage but yet actual figures have been increased. [18]

## 2.5.5. Environmental Pollution

In last few decades, it has been observed that there is noticible increase in environmental pollution of the Lucknow city due to increase in vehicles, industries and allied activities. Levels of air pollution are shown in Table 2.1.

Table 2.1: Levels of Air Pollution

| | Levels of Air Pollution | | |
|---|---|---|---|
| | $SO_2$ | $NO_2$ | SPM |
| NAAQ/Standards | 15.0-80.0 | 15.0-80.0 | 70.0-360.0 |
| Lucknow | 23.2-37.4 | 23.0-34.4 | 382.6-672.7 |
| Note: NAAQ- National Ambient Air Quality Standards | | | |
| $NO_2$ – Nitrogen Oxides | | | |
| Source: Indian Economic Survey, 1998-99 | | | |

## 2.5.6. Deficiencies in Services

This unprecedented growth of the State Capital has put all the basic services under considerable pressure giving rise to mounting problems and fast leading to an unmanageable situation. The following infrastructure services are having more stress in the system since they are not growing commensurated with actual demand:

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[18] Central Statistical Organisation, Compendium of Environmental Statistics, 1997, M/o Planning and Programme Implementation, GOI, New Delhi

- Water supply
- Sewage

- Power
- Transportation

## 2.5.7. Employment Generation in Lucknow and Kanpur

In the last few decades, Lucknow-Kanpur has experienced a significant functional shifts in its economic structure in favour of industry, manufacturing and processing activities. As a consequence, large scale of employment oppurtunities are created, which lead to high rate of population growth, migration, etc.

## 2.5.8. Industrial Growth

Industrial growth in Kanpur (neighbouring city) in last few decades has been phenomenol. This has resulted in to sharp increase in commercial activities too. Due to upcoming industries in Kanpur, fringe area development is highly observed. This has also resultd into the formation of encroachment.

## 2.5.9. Wholesale Trade and Commerce

Trade in Lucknow-Kanpur has a distributive character. Most of the incoming commodities are retransported to outside the area. This activity has given lot of employment oppurtunities to the people.

## 2.5.10. Increasing Congestion

Mixed landuses, commercial activities have got concentrated in an unplanned manner resulting in the congestion, enchroachment of public land, traffic bottlenecks and parking problems. It is causing serious congestion in the central core area as well as in the traffic corridors.

> Efforts must be taken for a balanced and harmoniously developed region, leading to dispersal of economic activities and immigrants to Lucknow, thereby leading to a manageable one. This can be achieved by the progressive deconcentration of population and economic activities in the Region and their judicial dispersal to various priority towns that will be selected based on factors discussed later in this report.

## 2.6. Related Theories/ models

## 2.6.1. Systems Concept

Region is considered as a system and it has different subsystems, such as physical, social, economic, ecology, environment, infrastructure and institutions. All these subsystems of the system are inter connected and inter dependent to each other. Systems approach, (Forrester, J.W., 1961, 1969; Chadwick, G., 1971; Batty, M., 1974; Mohapatra, 1994; Ogata Katsuhiko, 2004) establishes the strong relationship between different subsystems in a given system, and all the subsystems function as an integral whole in a system. If one of the subsystems of this system is defunct or partly function or make advanced functions, its effects can be seen in the entire system. For e.g. If the social subsystem takes lead role (population growth occurs exorbitantly) its effect can be seen in the entire system. There will be stress in infrastructure, economy, ecology, environment, physical, etc. Similarly if something happens to other subsystem, its effects can also be seen in the entire subsystem.

In an urban system, the following sub-systems are linked together and form an urban system. They are:

1. Physical
2. Social
3. Economic
4. Ecology
5. Environment
6. Infrastructure, and
7. Institutions
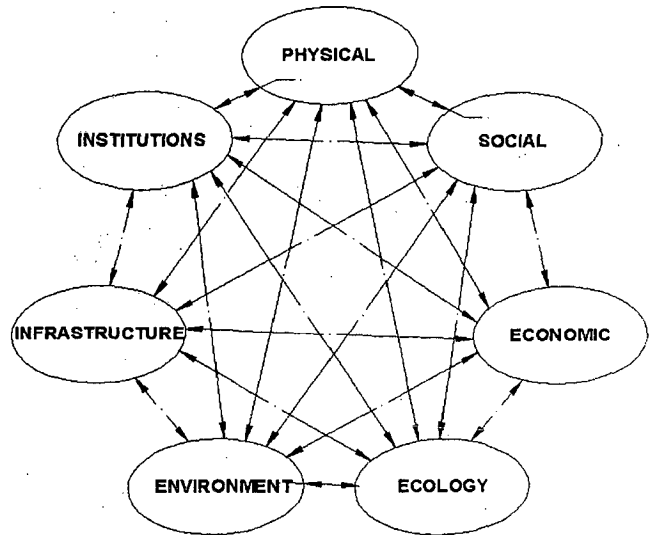


Fig. 2.1 System Dynamics Model

The functions of the urban system along with its various sub systems and are present in fig 2.1. These all the sub-systems are interlinked and interdependent to each other, forming a system and function as a whole.

## 2.6.2. Growth Pole Theory

Francois Perroux introduced the concept of economic *Growth Poles* in 1949. The core idea of the growth poles theory is that economic development, or growth, is not uniform over an entire region, but instead takes place around a specific pole. This pole is often characterized by a key industry (Fig 2.2) around which linked industries develop, mainly through direct and indirect effects. Regional development is unbalanced due to scale and agglomeration economies near the growth pole. Transportation, especially transport terminals, can play a significant role in such a process. The more dependent or related an activity is to transportation, the more likely and strong this relationship. (Fig 2.3)
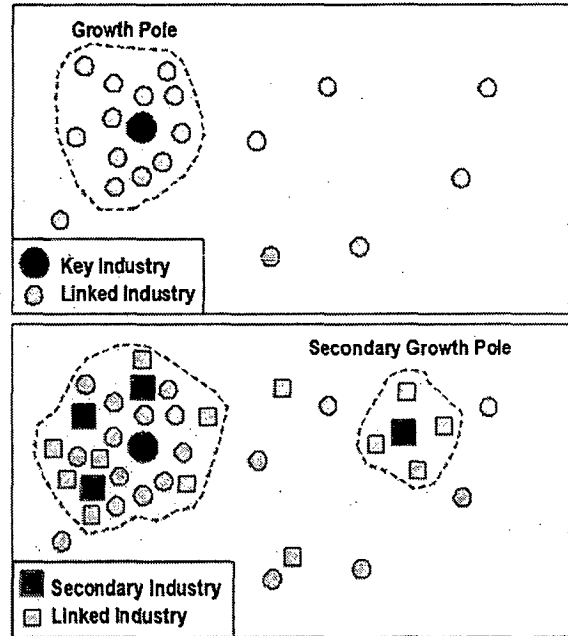


Fig.2.2: Primary-Secondary Growth Pole

In many regions the regular central place spatial structure tends to be rather distorted by agglomerations. Growth pole theory has been adapted not only to explain such distortions but also as a policy tool in regional planning.

According to Perroux "growth does not appear everywhere and all at once; it appear in points or development poles, with variable intensities; it spreads along diverse channels and with varying terminal effects to the whole of the economy."
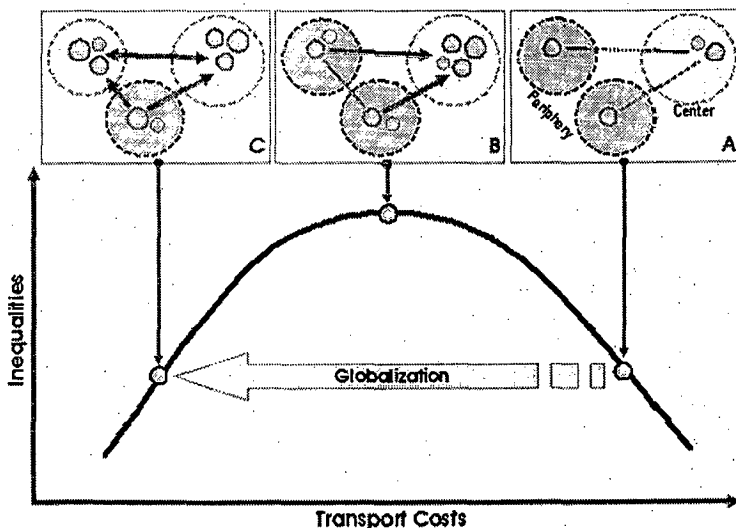


Fig.2.3 Growth Pole and Transportation costs

## Growth Pole Theory and Regional Planning

Policies related to growth pole used in developing and developed countries-

i. Owing to agglomeration economies it is an efficient way to generate development.

ii. Due to investment in growth points, it costs less in terms of public expenditure rather wholesale grants to larger areas.

iii. It's an efficient way of generating development in backward areas.

Fig. 2.4 illustrates the planning network in regional planning.
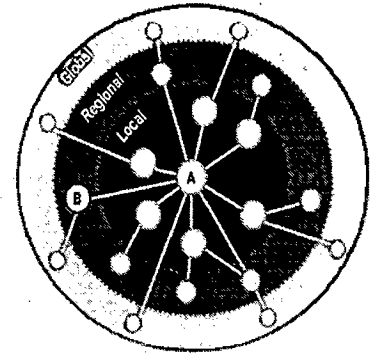


Fig.2.4: Growth Pole and Regional Planning

The concept of leading industries and propulsive firms states that at the center of growth poles are large propulsive firms belonging to leading industries, which dominate other economic units. In reality the growth points are often grafted on the existing framework of central places.

The concept of Polarization states that rapid growth of leading industries induces other economic units into the pole of growth. The process is encouraged by the economics of scale. The economic polarization will inevitably lead to geographical polarization with the flow of resources to and the concentration of economic activity at a limited number of centers within a region.
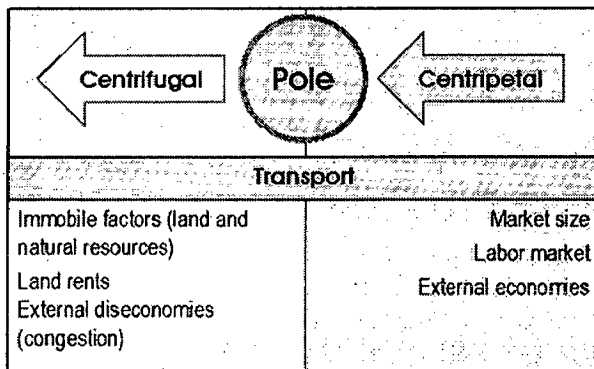


| Centrifugal | Pole | Centripetal |
| --- | --- | --- |
| Transport | | |
| Immobile factors (land and natural resources) Land rents External diseconomies (congestion) | | Market size Labor market External economies |

Fig.2.5: Centripetal and Centrifugal forces

The concept of spread effect states that in time the dynamic propulsive quality of growth pole radiates outwards into the surrounding space. This is called tickle down or spread effect and has attracted many regional planners and contributed to the popularity of the theory among policy makers.

Fig.2.5 illustrates the centripetal and centrifugal forces generated due to growth pole

These can be used to develop underdeveloped areas or development of counter magnet areas.

## 2.6.3. Central Place Theory

Approximately 80 years ago, Walter Christaller, a German geographer, established the Theory of Central Places. This theory was initiated as an explanation for the pattern in which urban settlements were established in relation to one another.

Central Place Theory defines a central place as having a number of smaller towns at an equal distance away from it. These smaller towns use the central places' shops and services often. (Fig. 3.6) The central place offers many more goods and

Central Place Theory

Key:
- Village
- City
- Conurbation
- Town
- Boundary

Fig.2.6: Central Place Theory

services than a smaller town can. There are differences in services between a village, town and city. These differences produce two distinct rules:

1. The bigger the settlement, the less there are of them.
2. The less there are of a settlement, the larger the 'hinterland' or 'sphere of influence' of its services.

Walter Christaller's Central Place Theory was evolved from the concept of centralization as on ordering principle. Christaller proposed that the distribution of urban settlements was based on the centralization of mass around a nucleus, as defined by physics. If this centralization is an elementary form of order, then the same centralistic principals can be applied to the spatial developments of urban settlements.

Walter Christaller discusses **four main concepts of the Theory of Central Places: centrality, threshold, range, and spatial competition**. He defines centrality as the draw to a particular area or place. The threshold he defined as the minimum market necessary to bring a new good or service into an area. The range he defined as the average minimum distance that people would travel to buy a particular good or service.
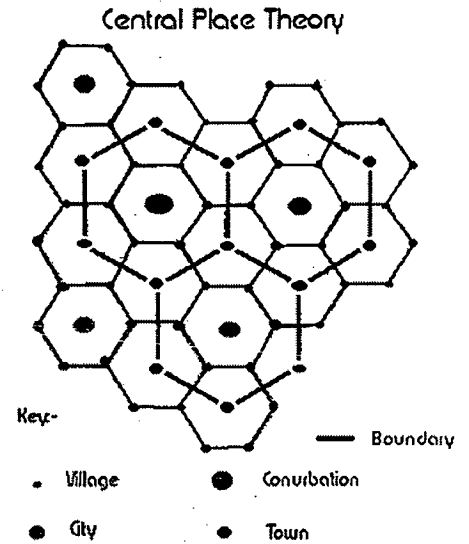
1. Central place/ centrality

   An urban center that performs a series of functions for the rural population. It originates in response to rural demands.

2. Range

   The maximum distance that people are willing to travel for a good or service. Range is limited by transportation costs.

3. Threshold

   The minimum level of population and income required to support the existence of a particular good or service.

4. Spatial competition

   Central places complete with each other for customers.

## 2.6.4. Regression Model

In a typical regression analysis the given data relates to the present day values of dependent variable and independent variables $(x_1, x_2, x_3, ......, x_n)$ for all the households of the study area. The regression coefficients are estimated using least square technique. Variables are selected as indicators of urbanization level. For all these variables a correlation matrix is made with the Pearson's formula: - PEARSON (F1:F743, R1:R743)

From this matrix, the values that are above 0.85 are selected. Some variables are directly related and some are indirectly related to each other. From the two variables, which are directly related to each other, we take only one variable from those two as indicator. From the raw data chart, maximum and minimum values are calculated. Now, for these selected variables, index number is calculated.

Index number = (F1-Min)/(Max. -Min.)

## 2.6.5. Gravity/ Lowry Model

Issac Newton introduced the theory of gravity in 1686. Newton postulated that the gravitational force, which acts between two bodies in space, was in direct proportion to the mass of the two bodies and in inverse proportion to the square of the distance between the bodies.

It was not until the first half of the 19th Century that the theory of gravity was applied to human interaction. At that time, H. C. Carey[19] theorized "Gravitation is here, as everywhere, in the direct ratio of the mass and the inverse of distance." Work by E. G. Ravenstein[20] in 1885 and later by E. C. Young[21] confirmed the belief that gravitational function does apply to the migration of people from one area to another.

According to W. J. Reilly, "Under normal conditions two cities draw retail trade from a smaller intermediate city or town in direct proportion to some power of the population of these two large cities and in an inverse proportion to some power of the distance of each of the cities from the smaller intermediate city."[22]

Gravity models are used in various social sciences to predict and described certain behaviors that mimic gravational interaction as described in Isaac Newton's law of gravity. Generally, the social science models contain some elements of mass and distance, which lends them to the metaphor of physical gravity.

The gravity model, as social scientists refer to the modified law of gravitation, takes into account the population size of two places and their distance. Since larger places attract people, ideas, and commodities more than smaller places and places closer together have a greater attraction, the gravity model incorporates these two features.

The relative strength of a bond between two places is determined by multiplying the population of city A by the population of city B and then dividing the product by the distance between the two cities squared.

$$\frac{\text{population}_1 \times \text{population}_2}{\text{distance}^2}$$

In essence, the gravity model says that trip interchange between zones is directly proportional to the relative attraction of each of the zones and inversely proportional

[19] H. C. Carey, J. B. Lippincott and Co, 1858-59, Principles of Social Science,., Philadelphia, Pennsylvania.

[20] E. G. Ravenstein, The Laws of Migration, Journal of the Royal Statistical Society, No. 48, 1885, PP- 167-235, and No. 52, 1889, pp. 241-305.

[21] E. C. Young, 1924, The Movement of Farm Population, Cornell Agricultural Experimental Station Bulletin 4269 Ithaca, New York.

[22] Reilly W. J., 1953, The Law of Retail Gravitation, Fillsburg Publishers, New York.

to some function of the spatial separation between zones. This function of spatial separation adjusts the relative attraction of each zone for the ability, desire, or necessity of the trip maker to overcome the spatial separation involved. Mathematically, the gravity model is stated as follows:

$$T\Box ij = P\Box i \; \cfrac{\cfrac{A\Box j}{d\Box ij^{\,b}}}{\cfrac{A\Box 1}{d\Box i1^{\,b}} + \cfrac{A\Box 2}{d\Box i2^{\,b}} + \ldots \ldots \cfrac{A\Box n}{d\Box in^{\,b}}}$$

Where: T☐ij  = trips produced in zone i and attracted to zone j

P☐i  = trips produced by zone i

A☐j  = trips attracted by zone j

d☐ij  = spatial separation between zones i and j. This is generally expressed as total traveltime (t☐ij) between zones i and j.

b  = an empirically determined exponent which expresses the average areawide effect of spatial separation between zones on trip interchange.

To date, the most widely used trip distribution model has been the so-called "gravity model." As the name implies, this model adapts the gravitational concept, as advanced by Newton in 1686, to the problem of distributing traffic throughout an urban area.[23] The gravity model has been the most widely used formula mainly because it is simple in concept and because it has been well documented.

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[23] Voorhees A. M., A General Theory of Traffic Movement, The 1955 Past President's Award Paper, Institute of Traffic Engineers, Special Report.

*This chapter discusses the Regional plan of National Capital Region, and Cuttak-Bhubneshwar-Puri. The chapter finally concludes with the inferences taken out by the deep study of regional plan these two regions.*

## 3.1 Case Study I: National Capital Region

### 3.1.1 Background

The urban agglomeration of Delhi, which had recorded an extraordinary growth in 1941-51 decade practically doubling its population with lakhs of immigrants thronging to Delhi to take refuge in the aftermath of the Partition, continues to experience average decadal growth rate of about 50% since 1951. This is higher than that experienced by any of the 4 largest mega cities in India. The continuance of this trend has made Delhi reach a population level of 13.7 million in 2001.

A major reason for the phenomenal growth of population is the availability of jobs in Delhi. A recent survey of the 4-mega cities (i.e. Mumbai, Kolkata, Chennai & Delhi) and 4 other metropolitan cities i.e. Pune, Bangalore, Hyderabad and Ahmedabad has revealed that Delhi tops the chart in job generation. Of the total jobs created in these 8 largest cities of India, Delhi is the home to one fourth thereof. This has led to rapid in-migration, shortage of housing and basic infrastructure, accompanied by a rapidly deteriorating physical environment, which is believed to have reached catastrophic proportions, causing serious concern to the Government. As a result of this concern, a compulsive need for planned development of Delhi was felt.[1]

Delhi, the National Capital has been facing unprecedented growth, which has been a cause of serious concern to the Central Government. It has been recognized that the planned growth of Delhi is possible only in regional context. In fact, the need for regional approach was felt as early as 1959 when the draft Master Plan for Delhi was prepared. Thereafter, the Master Plan of 1962 recommended that a statutory National Capital Region Planning Board should be set up for ensuring balanced and harmonized development of the Region.

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[1] Regional Plan, NCRPB, New Delhi

Probably the first exercise in such planned development was done through the Town Planning Organization (TPO), which prepared an Interim General Plan (IGP) in 1956 for Greater Delhi. The Plan stressed the necessity of planning Delhi in a regional context. The Plan suggested that 'serious consideration should be given for a planned decentralization to outer areas and even outside the Delhi region'.

The prime objective of the Region plan was to contain Delhi's population size within manageable limits. As a strategy, after evaluating various alternative scenarios for development, it was realized and recognized that, in order to save Delhi from population explosion, it is necessary to moderate the growth in the areas around it. At the same time, it is also recognized that any additional population in the DMA towns, excluding Delhi, will not be moderate or reduce the problems of Delhi as their inter-dependence is intensive and necessarily mutual. The preliminary study done by TCPO clearly concluded that economic activities with potential for large scale employment should necessarily be located outside the DMA, preferably at a distance which discourages daily interaction with Delhi. Thus, on the basis of these criteria, the zones which came out distinctly are Delhi UT, the DMA excluding Delhi UT and, the area beyond DMA within NCR, for effective application of the policies and implementation of the proposals with a view to achieve a manageable Delhi and an harmoniously developed Region.

❏ There are six metropolitan area towns in the whole region. (Refer fig. 3.1)

❏ These DMA towns are located on the periphery of the National capital, Delhi. These towns cater to the surrounding areas so as to reduce load of infrastructure, congestion on the national capital.

❏ Priority towns are set depending upon the economic condition of the town and whether it can sustain the needs/ demands of the depending towns.

Some of the priority towns are Rohtak, Meerut, Bhiwadi, Palwal etc. (Refer fig. 3.2)

**6 DELHI METROPOLITAN AREA ( DMA) TOWNS**

■ DMA TOWN
● PRIORITY TOWNS

| HARYANA | U.P. |
|---------|------|
| KUNDLI | GHAZIABAD |
| BAHADURGARH | NOIDA |
| GURGAON | |
| FARIDABAD | |
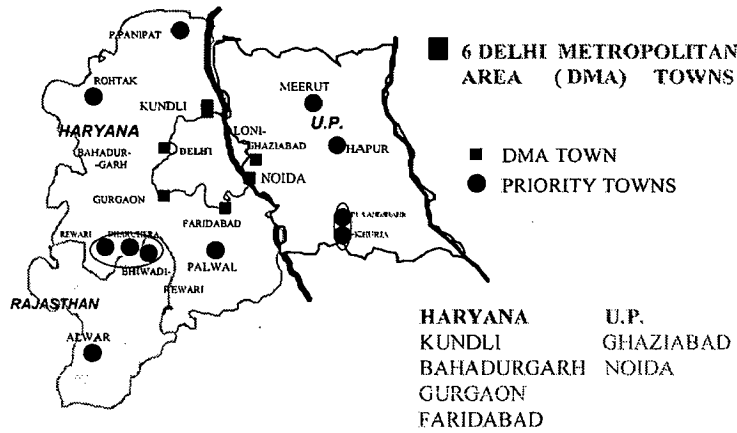
*Fig. 3.1: Map showing DMA towns and Priority towns*



| HARYANA | U.P. |
|---------|------|
| Panipat | Bhagpat |
| Sonepat | Meerut |
| Rohtak | Ghaziabad |
| Jhajjar | Bulandshahr |
| Gurgaon | Gautam Budha Nagar |
| Faridabad | |
| Rewari | |

RAJASTHAN
Alwar - 7 Tehsils
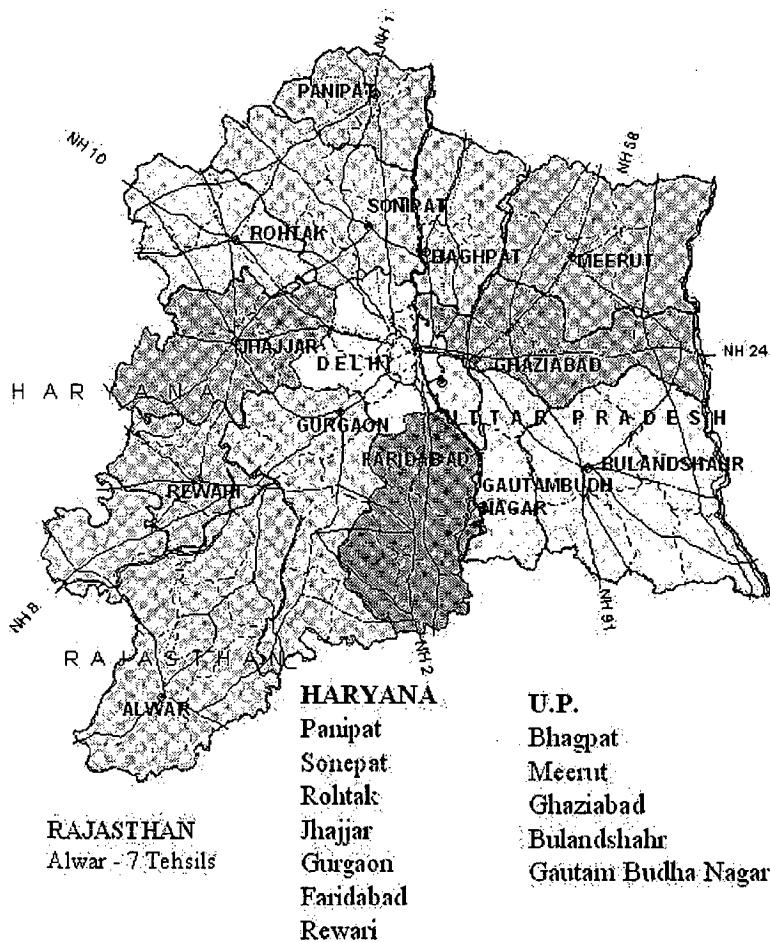
*Fig. 3.2: Towns in National Capital Region*

## 3.1.2 National Capital Region: its effect on Indian economy

The national capital region includes the National Capital Territory of Delhi (earlier Union Territory of Delhi) and parts of the States of Haryana, Rajasthan and Uttar Pradesh. The National Capital Region lies between 27 03' and 29 29' North latitude and, 76 07' and 78 29' east longitude.

## 3.1.3 NCR – An Overview
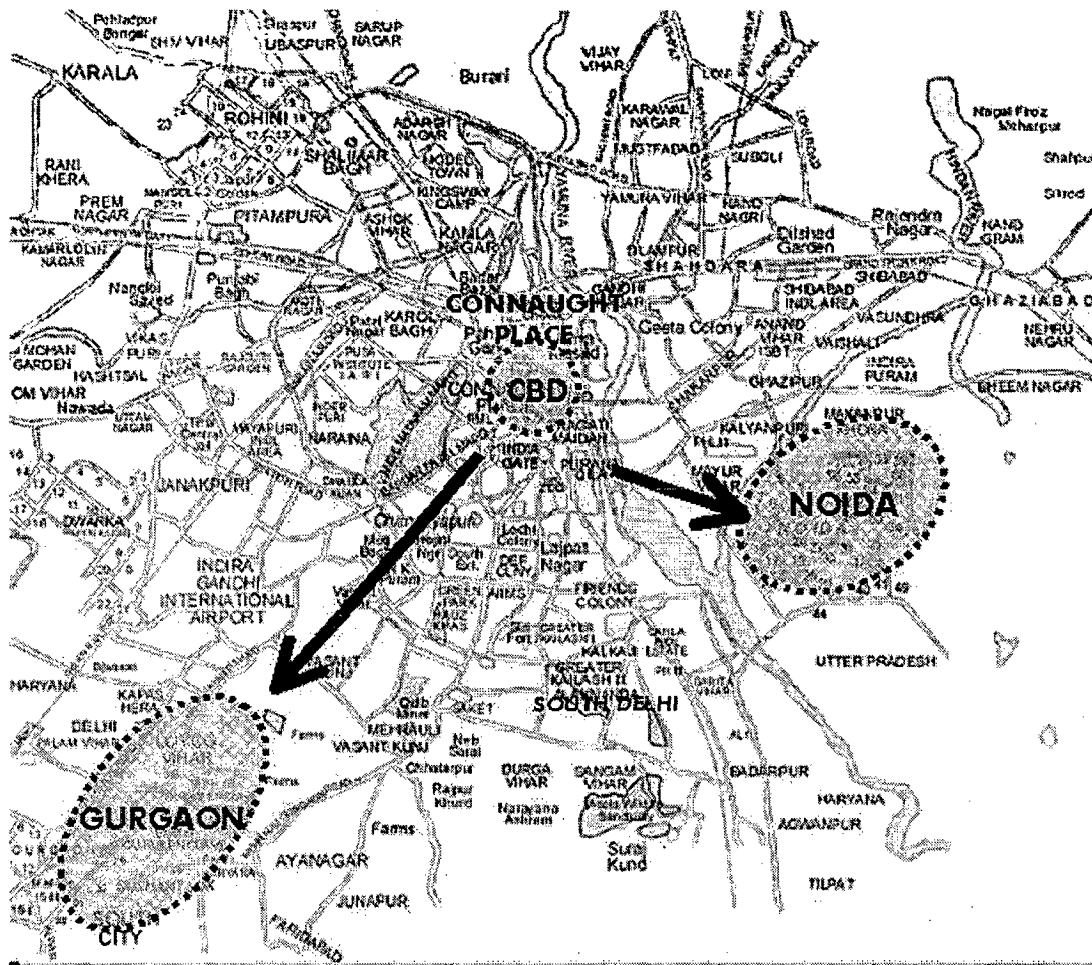


*Fig. 3.3: Development of Gurgaon, Noida*

- Before the formation of national capital region, mainly development in Delhi was along the Central Business District (CBD), which spreaded outwards after NCR's formation.

- Some of the other areas, which were developed, were Noida, Gurgaon, etc. (Refer fig. 3.3)

Services, infrastructure were attracted towards these areas and new policies, incentives were made for them.
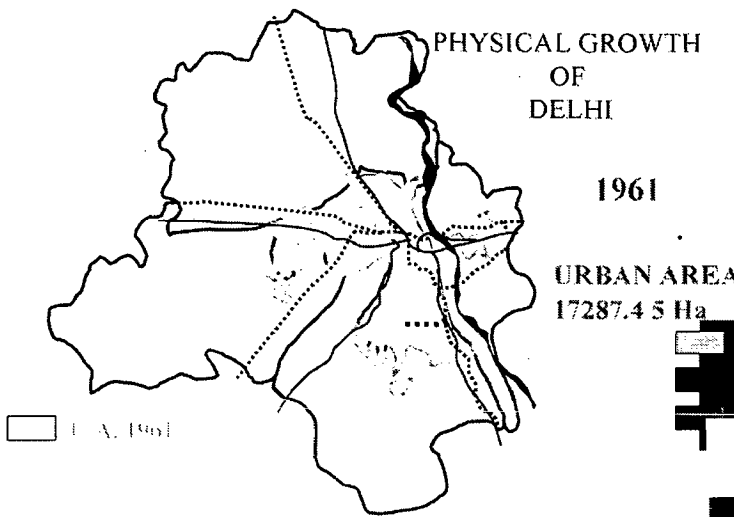
Fig. 3.4a Physical Growth of Delhi 1961
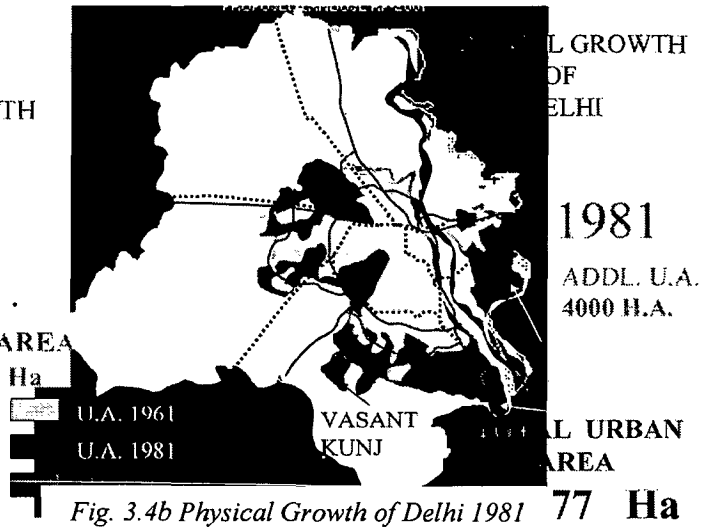


Fig. 3.4b Physical Growth of Delhi 1981 77 **Ha**
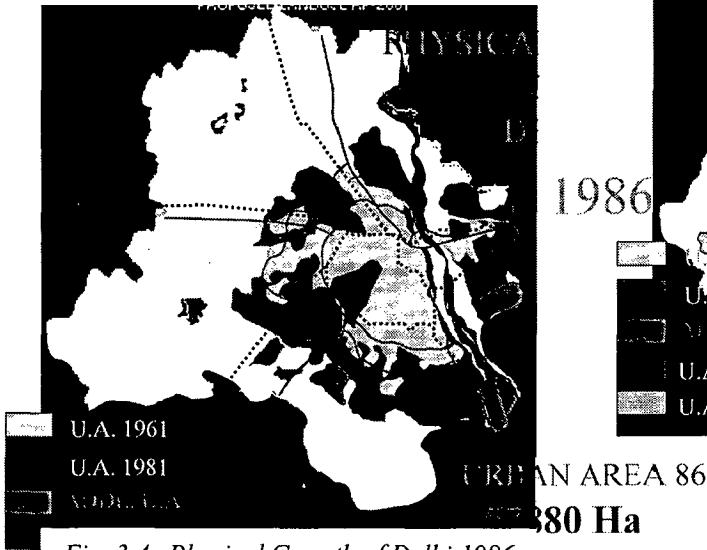


Fig. 3.4c Physical Growth of Delhi 1986
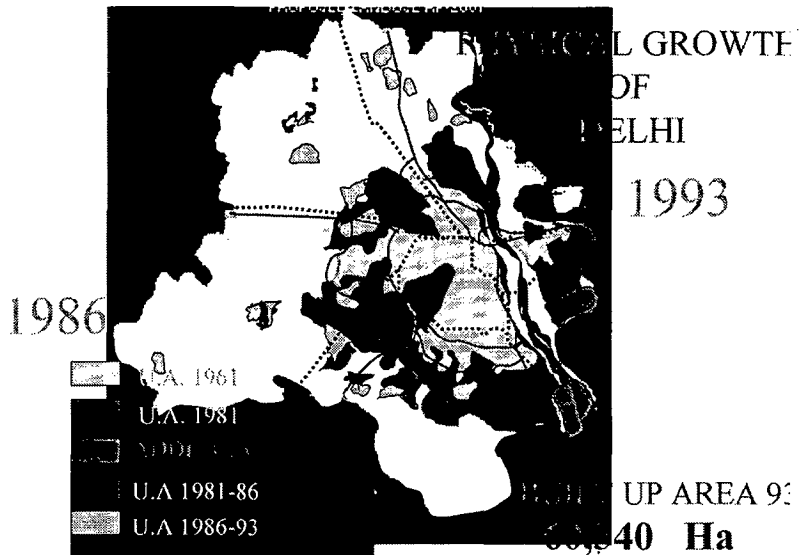


Fig. 3.4d Physical Growth of Delhi 1993
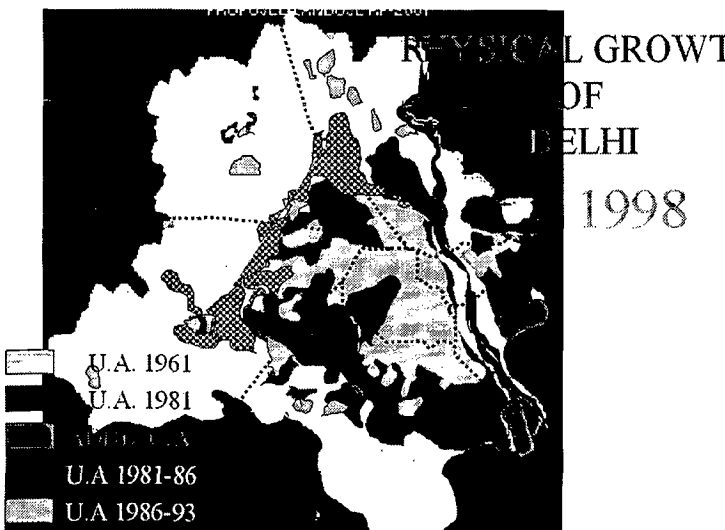


Fig. 3.4e Physical Growth of Delhi 1998

The fig. 3.4a, 3.4b, 3.4c, 3.4d, and 3.4e shows the gradual change in physical development of Delhi.

One can see that till 1986, development was taking place radially outward but from 1993 onwards, due to formation of some light industries, development became haphazard, and was basically along them only.

Fig. 3.4: Physical development of Delhi

- More than one-fourth of India's population (28%) inhabiting nearly 5161 urban centers already being in the cities, by 2021, 40% of the population is projected to be in these areas. The outcry for Good Urban Governance with policy emphasis on productivity, environment, community health, quality of life, equity and poverty alleviation is extremely well placed since nearly $2/3^{rd}$ of the national income is generated in the cities with sizable work force being employed to create goods and services for India's fast growing economy. For those who are primarily responsible to run these 'engines of growth' there are very little space and infrastructure facilities created in terms of shelters with concomitant human rights. This also explains a perceptible shift in the policy, the substitution of mass forced evictions and confrontations by negotiations and participation, *in situ* slums development, provision of better infrastructure and habitable living conditions etc.

- In the context of marginalized and vulnerable urban poor, a vast number of people live in Delhi without shelter, basic facilities and amenities for existence and adequate means of livelihood. According to the Delhi Development Authority and Municipal Corporation of Delhi, over 40,00,000 people live in 80,000 Jhuggi-jhopadi units, 15 lakh are living in resettlement colonies. Adding the population of unauthorized colonies as estimated about 35 lakh, we are left with only 29% people in city's 14 million population who are supposedly legally authorized to live in this city. Incidentally, as per the official documents, out of 70,000 hectares of land available under the Master Plan 1991, only 4000 hectares is said to be occupied by the slum & JJ clusters who constitute nearly 29% of city's population.

- For a realistic and truly holistic city planning, the requirements of slums, unauthorised colonies, the homeless, hawkers, vendors, rickshaw pullers, construction workers and other forms of unorganized labour (who form 93% of the working class in the country) besides the special needs of the disadvantaged groups like children, women, disabled, and uncared elders, must be taken into consideration with action plans and implementable schemes.

Above data clearly shows the poor living conditions in Delhi in present and near future. To avoid this unhealthy standard of living, congestion, polluted environment,

etc., formation of counter magnet areas, which can lighten the burden on Delhi, were formed.

## 3.1.4 Factors for Delhi attracting population



HIGHEST PER CAPITA INCOME
Rs. 19779 (1995-96)
Rs 15504 ( Punjab)
Rs 9321 ( India)

LOWER TAX REGIME

3 points can be listed out for this:
1. Highest per-capita income in Delhi
2. Lower tax regime
3. Subsidized services

SUBSIDISED SERVICES
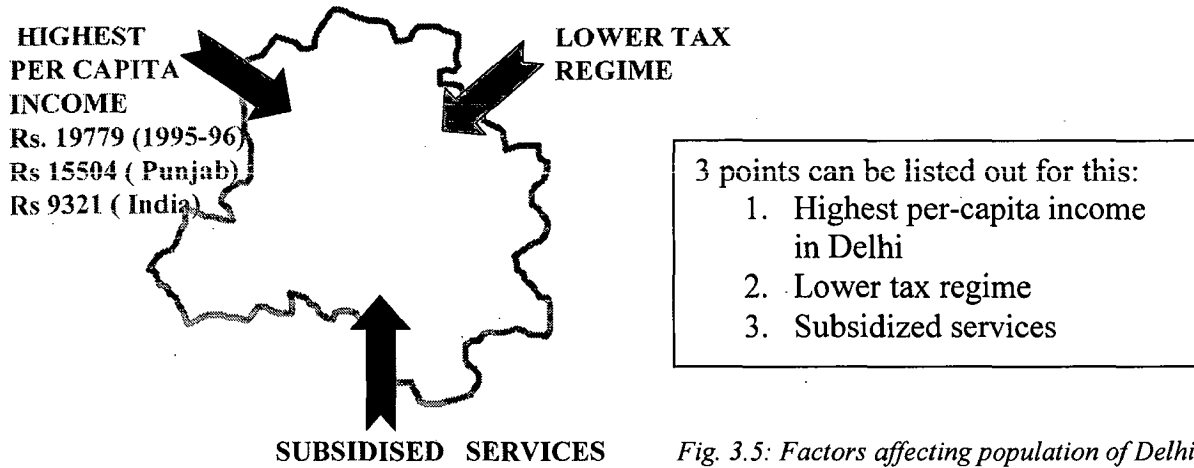
*Fig. 3.5: Factors affecting population of Delhi*

Taxes are comparatively less in Delhi. Thus, because of three reasons, mentioned in box above, Delhi is able to attract population. (Refer fig. 3.5)

## 3.1.5 Population Growth

The population growth of Delhi in past decades and its projection is illustrated below. (Refer fig. 3.6). Population is projected to be 224 lakhs in 2021 A.D. The reason for sprouting up of graph could be: better employment, better standard of living, better infrastructural facilities, better income, better policies and incentives and better scope in future.



2021 A.D                                (Lakhs) 224
2011                                            195
2001 1999                                  134.1 143
1991                                            94.2
1981                                            62.2
1971                                            40.7
1961                                            26.6
1951                                            17.4
1941                                            9.2
1931                                            6.4
1921                                            4.9
1911                                            4.10
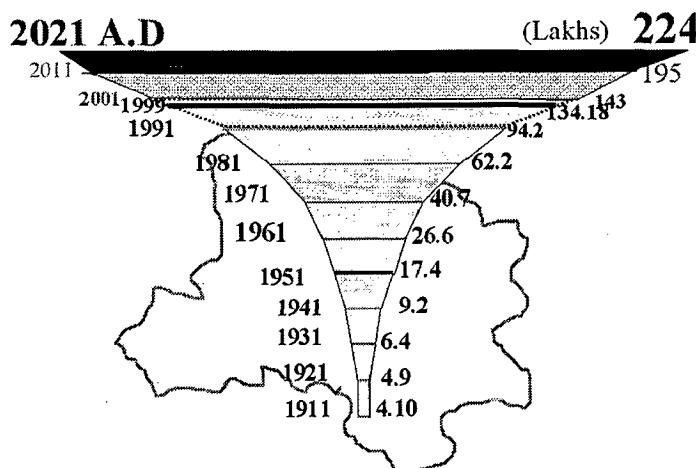
*Fig. 3.6: Population growth- Delhi*

**Strategies**

A pragmatic approach and strategy to meet the issues appropriately to achieve the plan objectives are as folows:

1. Decelerated and restricted growth in Delhi UT.

2. Controlled moderate growth of the DMA towns excluding Delhi so that the volume and directions of growth are well coordinated, and

3. Giving impetus to the regional centers through provision of adequate infrastructure and services so that they are able not only to dissuade the potential out migrating population but also attract and absorb the Delhi bound migrants.

Figures for state wise migration is illustrated in Fig. 3.7. Leaving apart the migration due to family ties, migration in search of employment is very high and comprise to about 35%. Redistribution of this population can equate the equation of economy of various regions.
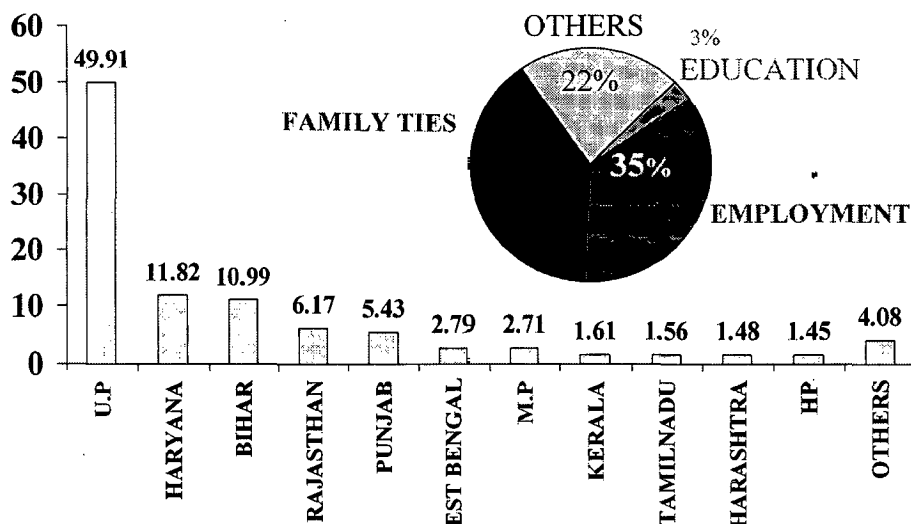


Fig. 3.7: State wise migration to NCR 1981-91 (%)

**3.1.6 Settlement Pattern Strategies**

- The first strategy was revitalization the economy of the stagnating regional urban centers and to integrate them in a well-knit system of settlements with specific functions to encourage an orderly development of economic activities and increase their complementarities.

❏ Secondly, the development of small urban centers and villages was integrated in relation to priority towns to achieve the objective of balanced development of the Region. They followed a four tier hierarchical system of settlements consisting of regional centers, sub-regional centers, service centers and basic villages with functionally specialized organized structure. Population size of each tier settlements is as follows:

| Level of settlement | Population size |
|---|---|
| 1. Regional Centres | 3.0 lakhs and above |
| 2. Sub- Regional Centres | 0.5 to 3.0 lakhs |
| 3. Service Centres | 10000 to 50000 |
| 4. Basic Villages | Less than 10000 |

The main centers of utmost activity concentration in this hierarchical system are the regional centers and sub-regional centers. The service centers and basic villages are mutually dependent on each other. The regional centers being self-contained should be capable enough to form an inter-dependent system, and interdependent to a great extent of the Delhi Metropolis.

❏ Thirdly, to attract and contain the Delhi bound potential migrants to the extent of 19 lakhs, the selected regional centers were developed on an intensified scale with conscious intervention to organize and stimulate economic activities to offer a variety in occupational structure and job opportunities.

### 3.1.7 Industries
### Strategies
Major employment generators in Delhi, which need be dispersed within the National Capital Region fall under three categories: Government and public sector offices, Wholesale Trade and Commerce and, Industry. For the dispersal and development of economic activities in the Region, a three pier policy approach has been envisaged in the Plan: A policy of strict control for creation of employment opportunities within the Union Territory of Delhi, moderate control outside Delhi within the Delhi Metropolitan Area and, encouragement with incentives, in the areas outside Delhi Metropolitan Area within the NCR.

### 3.1.8 Transportation

### Strengthening of regional linkages

Linkages of counter magnet areas with the hinterland as well as with the other important metropolitan centers are very strong in order to make meaningful use of the economic, social and physical infrastructure.
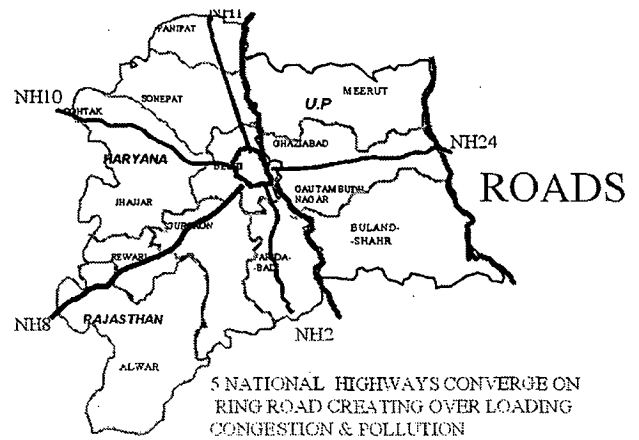


*Fig. 3.8: Regional Infrastructure development*

The ring roads are serving as arteries to the National capital. These go radially outward the Central Business District (CBD) (Refer Fig. 3.8). All the transfer of goods, any major circulation happens via these arteries only. This creates lot of loading, congestion and pollution.

### 3.1.9 Wholesale trade activities

All the commercial activities like fruits and vegetable market, building material shops, garment shops, grain markets, etc., are coming up on the ring road, resulting in the traffic congestion. The over loaded ring road is projected to need 12 to 24 lanes for future traffic needs. (Fig. 3.9)
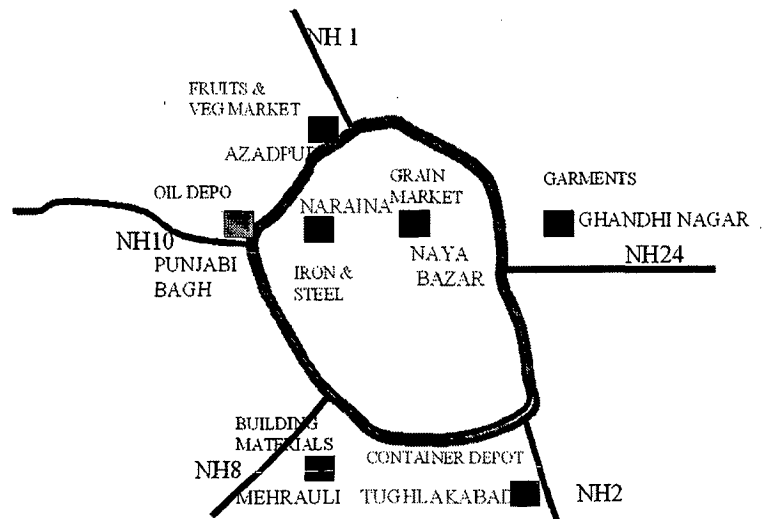


*Fig. 3.9: Wholesale trade activities*

### Strategies

1. Interconnection of regional centers among each other, and with the capital by efficient and effective network system for free movement.

2. Provision of shortest and free movement network to inter-connect the maximum traffic attracting and generating urban nodes in the Region to diminish the centrality of Delhi,

3. Decongestion of Delhi roads and terminals by diverting the bypassable long distance through traffic,

4. Provision of suitable fast sub-urban operating system for efficient and effective movement of commuters and for boosting up of the development of economic activities in the urban nodes of the Region, and,

5. Integration of road and rail network system in Delhi, DMA and rest of the Region with appropriate inter-facing facilities.

## 3.1.10 Education and Health

### Strategies

The distribution of social infrastructure, not only on the basis of population size but also on the catchment areas for each level institution in the Sub-regional centers, and basic villages will help to remove the imbalances in the provision of social infrastructure of the Sub-regions.

## 3.1.11 After effect of formation of NCR: Reversal of trend

Earlier, before the formation of National Capital Region, the goods, population, traffic, activities etc. used to be centered in Delhi but in today's scenario, after the formation of National Capital Region all the good, etc., are diverted to these counter magnet areas. (Fig. 3.10)



Fig. 3.10: Reversal of trend

Thus, this diversion has affected the economy of National Capital Region. The part of population, activities, goods tend to shift outside Delhi thus reversing the trend existed.

## 3.1.12 Counter magnet towns

### Strategy for Development

By creating counter magnet areas, lot of problems of congestion, infrastructure shortages etc. have been removed. This phenomenon of de-centralization has

affected the economy at a very high scale. This idea of connecting core areas needs very high order of physical and social infrastructure.

Also to connect these areas, regional road, rail and telecom linkages should be very strong. This new concept has generated employment in the specific areas.



HIGHER ORDER PHYSICAL & SOCIAL INFRASTRUCTURE

REGIONAL ROAD ,RAIL & TELECOM LINKAGES

EXISTING TOWN

CORE

CORE

DELHI
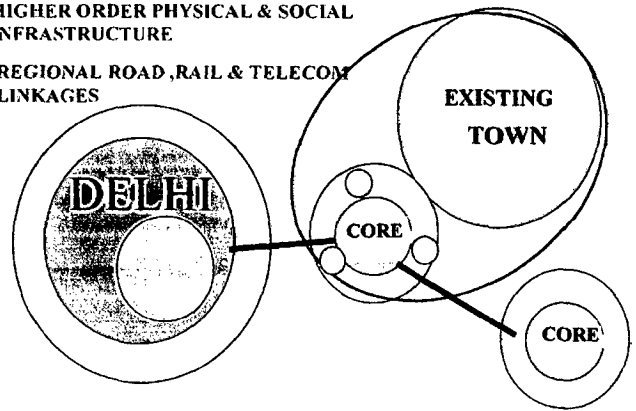
*Fig. 3.11: Strategy for development*



*Fig. 3.12: Counter magnet towns*

Some of the counter magnet towns were formed with a view in mind that it will help in deviating the population. (Fig. 3.12)

All these counter magnet areas are well linked with the road system that the facilities can be equally used.

Some of the counter magnet towns are Hissar, Patiala, Bareilly, Gwalior, Kota
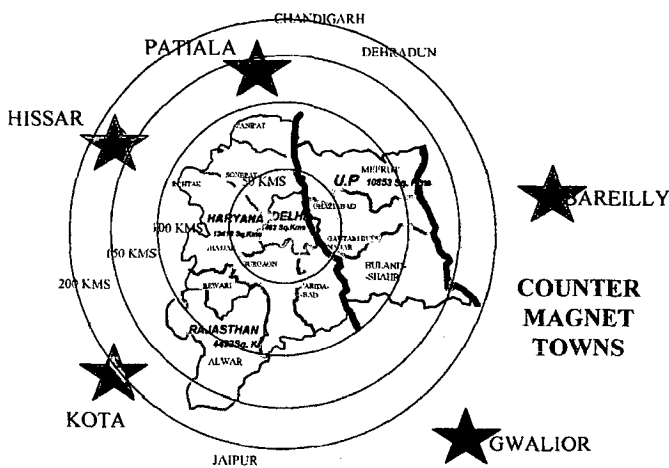
## 3.1.13 Distributive trade in NCT DELHI

Economy generated due to various things gives a varied picture. For e.g. Let 100% raw material of food grains comes into national capital then only 47% finished product goes out. In the case of Iron and Steel industry, 44% of finished product is exported to other area. In the case of Fuel oil industry, 49% of finished product is exported to other area and in the case of Vegetables and fruits, 78% of finished product is exported to other area.
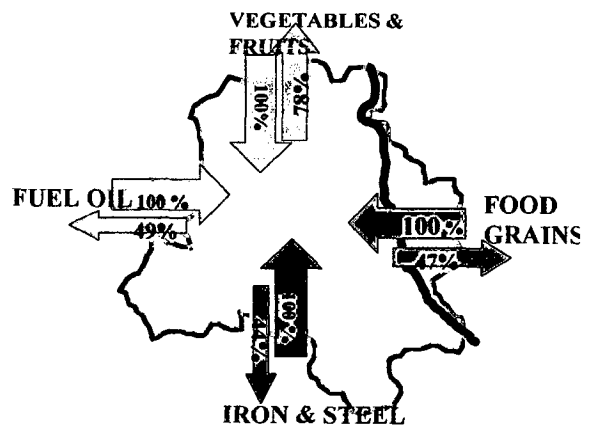


*Fig. 3.13: Distributive trade in NCT Delhi*

## 3.1.14 Growth of industries in Delhi

**No. of Industrial Units ('000)**



Employment
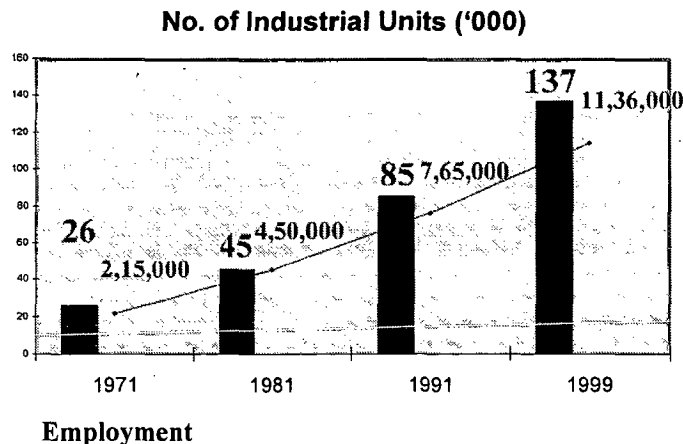
*Fig. 3.14: Growth of Industries in Delhi*

## Functional Plan For Industries In NCR

### Objectives

- ❑ breaking the strangle hold of Delhi in terms of location of industries and creation of job opportunities in industrial activities.

- ❑ preventing low tech & allow restricted growth of only high tech industries in Delhi, recycle low tech industries into high tech

- ❑ revitalizing the economy of the stagnating urban centers & rural settlements in the region

## Industry Promotion Organizations

The Department of Industries is the nodal agency to plan, promote and develop industries in Delhi. Since Delhi is the National Capital and a Metropolis, the thrust is on encouraging modern Hi-tech, sophisticated export-oriented small-scale industries in Delhi as well as those industries, which do not stretch its meager resources such as land, water and electricity. The small-scale sector is a free sector. No prior registration is required to set up any small-scale unit. However, the setting up of a small-scale unit is subject to location restrictions since these can only be set up in conforming areas. Household industries can be set up even in residential areas provided they conform to set norms.

The small-scale sector plays an important role in the industrial development of Delhi. Prior to independence, even small engineering items such as needles were being imported from outside the country. But today highly sophisticated engineering goods, computers, microprocessor based systems are being manufactured by the small-scale sector of Delhi. This amply proves that the Industry Department has been instrumental in promoting small-scale industries in the Capital.

### 3.1.15 Conclusions

1. All the regions should be framed under a single economic zone so that it does not have competitiveness among them.
2. Transportation links should be improved. Development of transport corridors would allow a measure of development within the city but spread the rest.
3. Formation of counter magnet areas will lessen the infrastructure load on main city.
4. Development of outer area of the city will check migration.
5. Locate the potential points and develop according to the potential of that area.
6. Strict check on building bye-laws and high penalty for change in land use would help in reducing mixed land use problem and haphazard development.
7. Another viable solution is the setting up of growth centers and decentralization. This would prevent concentration of people at a particular region.

## 3.2 Case Study II: Cuttack-Bhubaneshwar-Puri Regional Development Plan

### 3.2.1 Introduction

Cuttack-Bhubaneshwar-Puri Region (Fig. 3.15), made up of 14 community development blocks from three districts of Cuttack, Khurda and Puri in the eastern parts of Orissa, is an urban growth region. It has an area of 3,810 sq. km and a population of 2.57 million with 43 per cent of its population living in urban areas (Table 3.1).
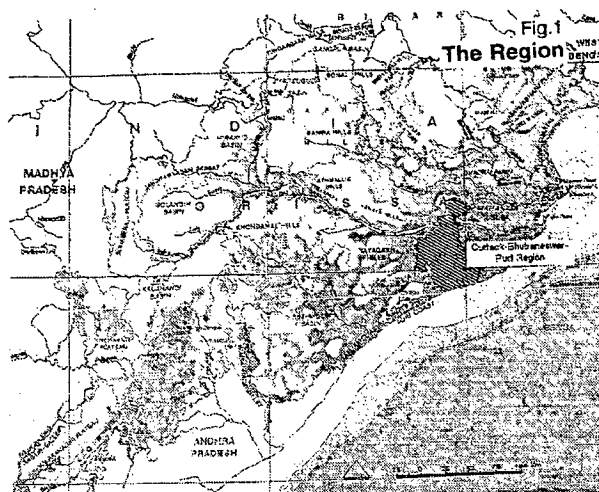


Fig. 3.15: Cuttack-Bhubaneshwar-Puri Region

Table 3.1 : Level of urbanization

| Development Block | Area (sq km) | Popn. 1991 (in lacs) | Density | Urban Popn. | Level of Urbanisation | Settlements | |
|---|---|---|---|---|---|---|---|
| | | | | | | Rural | Urban |
| **Cuttack** | 262.56 | 5.08 | 1936 | 4.08 | 80.42 | 82 | 2 |
| **Khorda** | 467.17 | 5.04 | 1080 | 4.11 | 81.55 | 112 | 1 |
| **Puri** | 277.66 | 2.40 | 865 | 1.25 | 52.12 | 142 | 1 |
| **Region (Total)** | 3810.57 | 25.74 | 676 | 11.05 | 42.94 | 1805 | 11 |
| **Orissa State** | 155707.0 | 316.59 | 203 | 42.34 | 13.38 | - | - |

Source: 1. Census of India, 1991, Population total vol. II
2. Primary Census Abstract, Districts Puri and Cuttack, Census of India, 1991 (Digital)

The Town and Country Planning Organisation first prepared an Inception Plan (April 1994) as a prelude to the preparation of a Regional Development Plan for the Cuttack-Bhubaneshwar-Puri Region. The Inception Plan had its primary objective a general acquaintance with the Region in its several aspects and identification of broad areas where problems of development have already arisen or are likely to arise in future. A second objective of this Plan was to prepare the ground for the State Government departments to recognize clearly the potentials and constraints of development and to identify those fields where collaborative and concurrent action would help to build up an integrated set of programmes for further developments in the Region.

Agriculture is the most important sector of the regional economy and is the main stay of the people (Fig. 3.16). About 56 per cent of the working force in the Region is employed in agriculture.

The Region has made good industrial progress, especially, in the last decade when a large no. of industrial units have been added in the existing very small industrial base. Cuttack, with its industrial suburbs Choudwar and Jagatpur is the main industrial node.

The Region covers 2.5 per cent of the total area and 8 per cent of the total population of the State. As compared to 203 per sq. km for the State as whole with 676 persons per sq. km., it is the most densely populated part of the State.



CUTTACK-BHUBANESWAR-PURI REGION

LAND USE

LEGEND

| | |
|---|---|
| ▓ | BUILT-UP LAND |
| | AGRICULTURAL LAND |
| ▒ | RABI |
| ▓ | KHARIF |
| | FORESTS |
| ■ | DENSE |
| ▓ | SCRUB LAND |
| | WASTE LAND |
| ▒ | SWAMPY LAND |
| ▒ | SANDY AREA |
| | WATER BODIES |
| ▭ | RIVER/STREAMS/CANAL |
| ■ | LAKE/RESERVOIR/TANK |

Bay of Bengal

TOWN AND COUNTRY PLANNING ORGANISATION
Ministry of Urban Affairs & Employment, Govt. of India
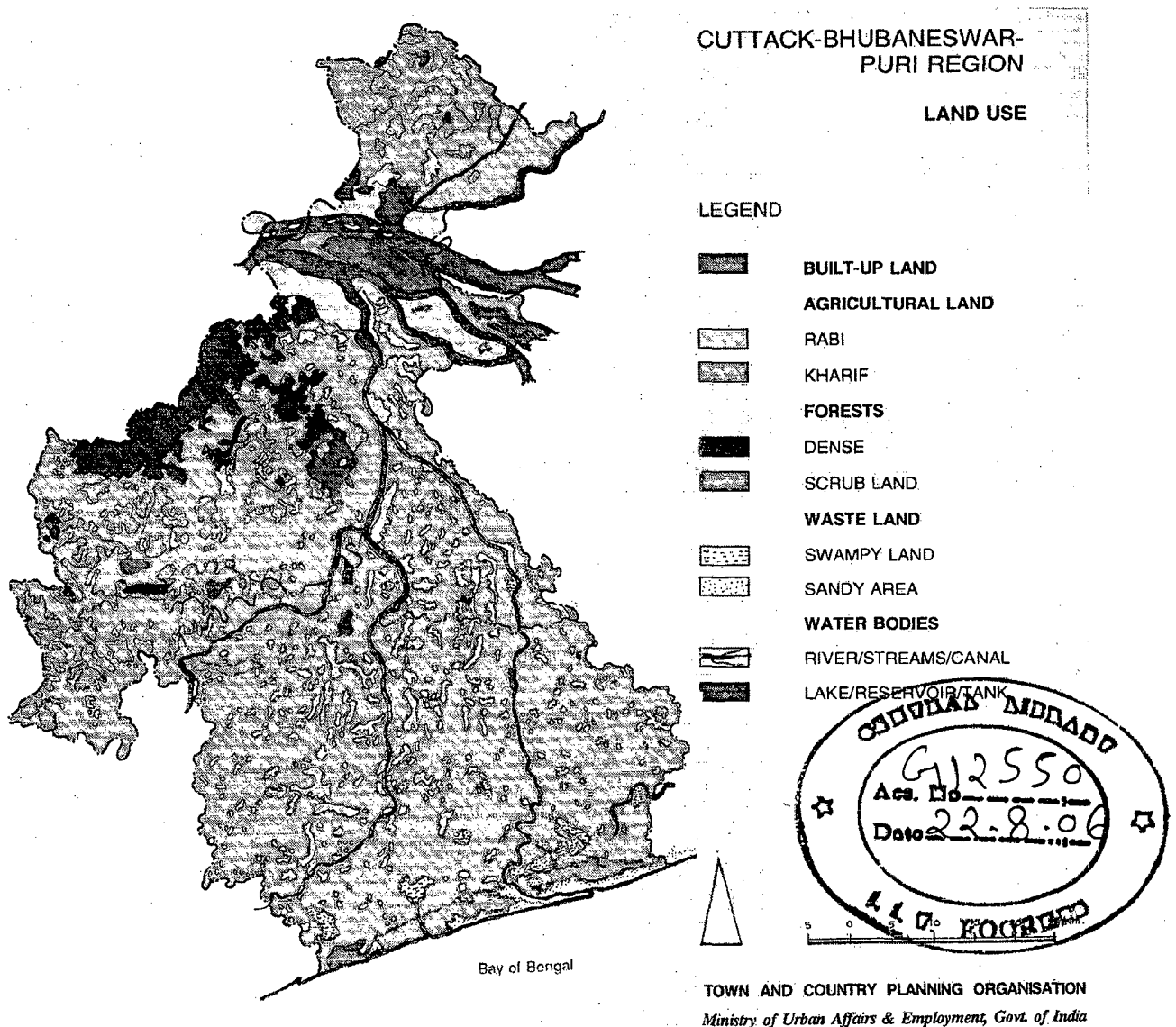
*Fig. 3.16: Landuse map of Cuttack-Bhubaneshwar-Puri Region*

### 3.2.2 Objectives of the Plan

The main objective of this Plan was to evolve an integrated development plan for improving the economic, social and cultural conditions of the people to attain a better living standards by promoting a systematic growth of urban and rural settlements in the Cuttack-Bhubaneswar-Puri Region so that an environmentally desirable and integrated settlement system, compatible with the emerging economic landscape could materialize in course of time. To realize this overall objective, the following specific steps were visualized.

1. To evaluate the resources of the Region and to examine their development in the regional context, spelling out the probable development prospects of the Region and indicating the most likely development pattern by 2001.

2. To examine the population growth trends, land use, and land availability, basic facilities and services both at the regional and at the settlement levels.

3. To suggest measures for an economically sound agricultural, industrial and tourism development to create jobs and to strengthen and diversify the economic base; rapid establishment of a self-generating urban industrial economy that will contribute to regional economic growth and absorb surplus population from overcrowded rural areas;

4. To suggest measures for upgradation and modernization of skills and to promote a healthy workforce, who are protected against epidemic and endemic disease and industrial accidents; increase in standard of family health, provision of good access to maternity and child care services, creation of sanitary living environment; improvement of opportunities for families of all income groups to attain adequate housing.

5. To access the impact of existing transport network system in the Region, especially between Bhubaneswar and Cuttack and to spell out measures for improvement on the transport network.

6. Formulation of a strategy for the conservation of the natural resources of the Region for future generations while using them for economic development; by protection of land, water, air and the population from pollution.

7. To identify the existing hierarchy of settlements in the Region and functional and spatial gaps therein.

8. To examine the links between the cities, towns and their hinterlands and the implications of the emerging linear growth of Cuttack and Bhubaneswar cities.

9. To evolve a well-knit regional settlement system, where the integration of urban and rural functions will be attained by means of a more balanced and mutually re-inforcing system of central places, bringing a series of necessary functions into the actual reach of the rural population and also to suggest measures for faster urbanisation in small and medium towns around Cuttack and Bhubaneswar so as to achieve a dispersal of economic development and also to counter the primacy of these two cities.

Functionally, the Region is divided into an "Inner Region" and a larger "Outer Region". The Inner Region comprises the Development areas covered by the cities of Cuttack and Bhubneshwar. The Outer Region is more than three times the size of the Inner Region and extends from north to Choudhar in the north to Puri in the Southeast.

### 3.2.3 Problems of Development
Development of infrastructure is quite uneven with concentration of investments and industries in and around Bhubneshwar and Cuttack cities thereby creating large-scale economic activities and employment opportunities, leading to high per capita income of the people of these cities while the smaller towns lack in infrastructure, dynamism and diversification in their functional character. Rural settlements in the Region also lack in many of the basic facilities like transport, linkages, safe drinking water, electricity, health, higher education, housing, markets and posts and telegraphs.

Organized industrial development have come up in and around Bhubneshwar and Cuttack cities while the rest of the Region is industrially backward. Tourist infrastructure and tourist based activities have concentrated in Puri which have caused over crowding and escalating costs of goods and services in the city, while tourist potential zones lack in tourist infrastructure.

National Highway-5 bisects the city of Bhubneshwar into almost two equal halves. The traffic density over the road is very high, about 4,000 vehicles per hour, when the through traffic is added to the internal traffic circulation, it creates more congestion in the city. The cross communication between the areas in the north and the south of the National Highway-5 are posing serious traffic problems. Further, because of intercommunication between commercially important Cuttack and the administrative center at Bhubneshwar, the traffic between the two places on the National Highway has considerably increased the pressure. Mixing of fast and slow moving traffic, particularly on Cuttack-Bhubneshwar stretch of NH-5, has led to delay and congestion of traffic. The existing two-lane carriageway of NH-5 between Cuttack-Bhubneshwar is insufficient to cater to the traffic demand.

Dominance of Cuttack-Bhubneshwar in the total urbanization of the Region has resulted in a spatial imbalance in the urbanization process. Scarcity and high price of developed land in these two cities have encouraged development, especially industrial, in the low-lying agricultural land between Bhubneshwar and Cuttack. The low-lying tract acts as water spread area, reducing the danger of flood to both cities. If this low lying area is filled up or their natural equilibrium is disturbed, it may affect the safety of Cuttack and Bhubneshwar.

If growth is allowed to take place in the intervening area between Bhubneshwar and Cuttack, these will merge into one big complex. It will create great problems of urban management because of the huge size of the complex. Moreover, both the cities are expanding, Bhubneshwr to the South and Cuttack to the north resulting into a linear growth pattern. This has further intensified the problems owing to its linear pattern,

raising the cost of creating infrastructural network for such basic services as water, sewerage and transport.

### 3.2.4 Tourism

The Region is very rich in tourism resources such as historical monuments and sites, antiquities, shrines as well places of natural scenic beauties. Temples like, Sun Temple at Konark, the temple of Lord Jaggannath at Puri and Lingraj temple at Bhubneshwar are of great importance. The city of Cuttack is also important place of tourist attraction. As such, the Cuttack-Bhubneshwar-Puri Region is the most important tourist zone of the State of Orissa.

Table 3.2 Hotel Accommodation in the Tourist Centres in the Region

| Name of the centre | No. of Tourists (1992) | No. of Hotels | No. of beds |
|---|---|---|---|
| Puri | 7,76,667 | 173 | 7,364 |
| Bhubneshwar | 2,95,666 | 42 | 2,041 |
| Cuttack | 2,03,252 | 54 | 2,386 |

*Source: Cuttack-Bhubneshwar-Puri Regional Development Plan*

### Recommendations

Following recommendations are made for the development of tourism in the Region:

1. "Golden Triangle" is an established tourist circuit now, therefore it is high time that measures should be taken for upgradation of tourist facilities side by side attracting more tourists to this area.

2. Government need not directly enter into hotel business but should facilitate the expansion of tourism activities by the development of infrastructure for tourism, transport and other related activities.

3. Necessary steps should be taken for upgrading hotels, tourist lodges, guest houses etc.

4. Private participation in the hotel and lodging facilities should be ensured by providing necessary financial and technical assistance to the interested persons who can provide standard tourist accommodation facilities at or adjoining their residences. Proper grading and tariff system should be formulated for such lodging and, necessary monitoring of such lodging facilities should be ensured by periodic inspection and conducting opinion polls of the tourists, who use such lodging facilities. This measure will directly

increase the earnings of the common people by participating in the tourism activities by investing moderate capital.

### 3.2.5 Regional development strategy

The broad strategy for development in the Region is discussed under three headings: economic, social and spatial.

### Economic Strategy

The programme of economic development in the Region is centred on labour intensive activities. The Region has no minerals but has rich agricultural resources and tourist potential. The importance of agriculture in the development strategy for the Region has been stressed by a number of factors. Three-fifths of the Region's population lives in villages, the standard of living of this section of population is directly conditioned by the productive level in agriculture. Secondly, the large concentration of the poor comes under the category of agricultural labourers to whom substantial relief has to be provided and this can be done if production level in agriculture goes up and the distribution of agricultural income is equitable and meets the norms of social justice.

- High priority has been given to the reclamation of the culturable waste, and provision of irrigation for putting agriculture on a modern productive basis. They have also laid stress on development of irrigation especially in western part.

- Economic growth of the area has gain momentum after boosting agricultural economy with the help of irrigation.

- The Region; especially Bhubaneswar,together with Puri and Konark forming the 'golden triangle' of Tourism in Orissa, is a tourist paradise because of its natural, historical, cultural and religious attractions. Because of these, the Region receives a substantial number of tourists, both foreign and Indian, which earns revenues and provides employment to the local people. Stress on developing tourist infrastructure has been laid in Puri which resulted in lopsided development of tourist infrastructure and excessive growth of tourist

development in Puri. This has caused over-crowding and escaling osts of goods and services.

- Other centres like Pipili, Kuruma, Balighai, Sakhigopal, and Raghurajpur, are also developed. Apart from all these, the rural tourism has enough potential for development due to the cultural, aesthetic and colourful heritage values. This aspect of tourism is also developed.

- Although the Region has agricultural resources and tourist potential, it is the manufacturing industries which give the opportunity to create sufficient employment to match the requirements of the social strategy to absorb population from the overcrowded rural areas of the Region.

- Despite the steps taken for expansion of the existing industries and setting up of new units, the industrial development in the Region is not commensurate with its economic requirements. Over and above, whatever industrial developments have taken place so far are located in and around Cuttack and Bhubaneswar.

The economic aspect of the strategy, so far as industrial development is concerned was based on two principles.

- First, from among those manufacturing projects which incurred no additional costs when located in the Cuttack-Bhubaneswar Puri Region than elsewhere in Orissa, enough projects to ensure the achievement of the strategy's employment objectives, were located in the Region. To do this, they examined carefully all manufacturing projects which are being contemplated in Orissa and asked the question whether there is any reason why this firm, plant or industry will either be more efficient if located in the Region than elsewhere or, on the contrary, will be less efficient if so located. In other words, a selective approach to the location of manufacturing is required.

- The second principle was to stimulate urban and industrial development in small and medium urban centres in the Region. This was done through concentrating public sector enterprises. In this way, these centres achieved some level of self-sustaining development. It lessen regional imbalance in per capita income or per capita production.

**The Social Strategy**

Bhubaneswar and Cuttack are the government, industrial, commercial and transport hub of Orissa, the largest cities of Orissa in population terms also.

- The social development component of the strategy is centred on massive immigration to the Region, especially to the cities of Bhubaneswar and Cuttack in order to absorb unskilled workers from the depressed regions of Orissa and to attract key professionals and skilled workers. Thus, a labour pool was to be created which would be attractive to industrialists. The professional and skilled workers formed a small proportion of the intake, which is essential for the economic development of the Region.

**The Spatial Strategy**

The existing settlement pattern has an immense significance for the spatial ordering of the strategy. The regional structure is markedly linear, dominated by parallel north to south infrastructure systems associated with three specialized nodes. The most significant advantage for the strategy is the high level of urbanization in the Region, which is growing at a rapid rate.

- The distinctiveness of each of the three urban areas, reflecting their differing locational opportunities and constraints, has provided an exceptionally appropriate basis for accommodating the implementation of economic programme. Economies of scale, ease of functional linkages and the maximum utilization of specialized infrastructure are all the more readily achieved given functionally distinct characteristics of the present settlements. The consequences will be the continuation of functionally distinct roles for each of the major settlements as growth occurs.

- Establishment and development of the State's major administrative, centers, modernization and expansion of educational and health facilities, development and expansion of trade and commercial activities, and the location of varied tourist and industrial projects in their appropriate locations are all examples of the physical manifestation of functional specialization, which constitute a flexible spatial strategy for regional development.

## Conclusions

1. Transportation links should be improved. Development of transport corridors would allow a measure of development within the city but spread the rest.

2. Development of outer area of the city will check migration.

3. Locate the potential points and develop according to the potential of that area.

4. Strict check on building bye-laws and high penalty for change in land use would help in reducing mixed land use problem and haphazard development.

## 3.3 Inferences

1. All the regions should be framed under a single economic zone so that it does not have competitiveness among them.

2. In NCR they have tried to have development along main transport corridors. Development of transport corridors would allow a measure of development within the city but spread the rest.

3. Formation of counter magnet areas will lessen the infrastructure load on main city.

4. Development of outer area of the city will check migration.

5. Locate the potential points and develop according to the potential of that area.

6. Strict check on building bye-laws and high penalty for change in land use would help in reducing mixed land use problem and haphazard development.

7. Another viable solution is the setting up of growth centers and decentralization. This would prevent concentration of people at a particular region.

8. The study felt that the Region needs to establish, maintain and regulate a continuing flow of immigration from the rural areas to constitute an expanding pool of suitable labour. This has to be combined with a special programme to attract limited number of essential skills.

9. To achieve this will involve (i) targeting procedures, (ii) training programmes, (iii) incentive arrangements and (iv) monitoring.

10. A well-thought and rational approach taking into consideration the future population of the city, and the requirements of the city, the proposals should be made for the backward areas of the region.

*This chapter deals with introduction of Uttar Pradesh. The chapter further identifies the cities/ districts to be proposed in the State Capital Region based on some parameters. Chapter further discusses the cities/ districts in detail.*

## 4.1 Uttar Pradesh State at a Glance:



| State Capital | Lucknow 26.85° N 80.91° E |
|---|---|
| Largest city | Kanpur |
| Abbreviation | UP |
| Official Languages | Hindi, Urdu |
| Legislature | Bicameral |
| Formation | 1950-02-02 |
| Area | 238,566 km² (4th) |
| Population (2001) | 166,052,859 (1st) |
| Density | 314.42/km² |
| Districts | 70 |

*Table 4.1 Uttar Pradesh State at a Glance*
  Source: www.up.nic.in

[1]Uttar Pradesh, also popularly known by its acronym UP, is the fourth largest (area wise) and the most populous State in India (refer Table 4.1). The administrative and legislative capital contained in Lucknow and the judicial capital is Allahabad. Other notable cities in the State are Agra, Aligarh, Ayodhya, Varanasi, Gorakhpur, Gorakhpur and Kanpur. This State is surrounded by many States/UTs which includes Uttaranchal, Himachal Pradesh, Haryana, Delhi, Rajasthan, Madhya Pradesh, Chattisgarh, Jharkhand and Bihar. Uttar Pradesh State also shares border with Nepal. For location and map of Uttar Pradesh refer fig. 4.1.

In 2000, the Parliament of India carved out the Northern part of Uttar Pradesh and formed the state of Uttaranchal. Uttar Pradesh covers a large part of the densely populated plains around the Rivers Ganges and Yamuna. It has about nearly 176 million inhabitants, and it is not only the most populous State in India but also the

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[1] http://en.wikipedia.org/wiki/Uttar_Pradesh

most populous subnational entity in the world. **Only five countries have a higher population than Uttar Pradesh** (China, India itself, the United States, Indonesia and Brazil). In sheer magnitude Uttar Pradesh is half the size of France, thrice that of Portugal, and four times of Ireland. Seven Switzerland and ten Belgium's could easily fit in this mammoth state. A little bigger than England, Uttar Pradesh has one out of every 36 persons in the World living here.



**Number of Persons Per Household**

- 6.51 & Above
- 6.01-6.50
- 5.51-6.00
- 5.01-5.50 (National Average-5.51)
- 4.51-5.00
- 4.50 & Below
- Data Not Available
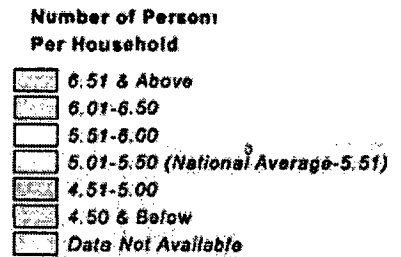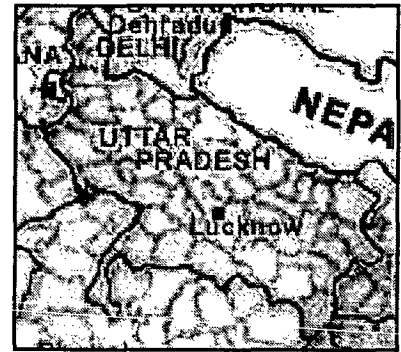
*Fig. 4.2 No. of persons per households*
*Source: mapsofindia.com*

There is lot of pressure on land due to high population. Population density of the State is more than national average (refer fig. 4.2).

It is also one of the most economically backward States of India and the literacy rate, as is the case with the rest of India, State has higher of males than females. In 1991, the Uttar Pradesh Government set up development funds, known as *nidhis* (dictionary meaning-money), to "ensure the twin objectives of balanced development and reducing inter-regional disparities and backwardness within State".

The female literacy situation in Uttar Pradesh is dismal. Only one out of four in the 7+ age group was able to read and write in 1991. This figure goes down to 19 per cent for rural areas, 11 per cent for the scheduled castes, 8 per cent for scheduled castes in rural areas, and 8 per cent for the entire rural population in the most educationally backward districts.



**Percentage of Female Literates of Total Female Population excluding Age Group 0-6**

- 35 and below
- 35.01 - 45.00
- 45.01 - 55.00
- 55.01 - 65.00
- 65.01 - 75.00
- 75.01 and above
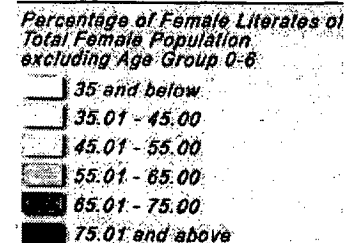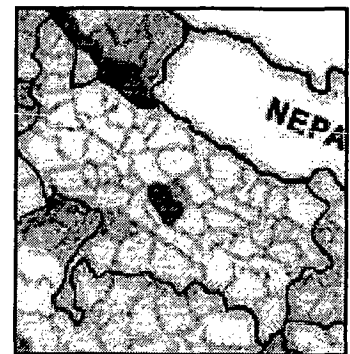
*Fig. 4.3 Female literacy level in Uttar Pradesh*
*Source: mapsofindia.com*

In terms of more demanding criteria of educational attainment on the completion of primary or secondary education, in Uttar Pradesh, in 1992-93 only 50 per cent of literate males and 40 per cent of literate females could complete the cycle of eight years of schooling involved in the primary and middle stages. Fig. 4.3 illustrates the literacy level of Uttar Pradesh State. One other distinguishing feature of Uttar Pradesh education system is the persistence

of high level of illiteracy among the younger age group. Among the younger age group, the illiteracy was endemic in rural. In the late 1980s, the incidence of illiteracy in the 10-14 age group was as high as 32 percent for rural males and 61 per cent for rural females, and more than two-thirds of all rural girls in the 12-14 age group never went to school.

### 4.1.1 Lucknow City - State Capital

Lucknow city, the capital of Uttar Pradesh is situated 123 Mts. above sea level. It is situated on 26.30 & 27.10 North latitude and 80.30 & 81.13 East longitude. Lucknow covers an area of 2544 sq.km. It is surrounded on the Eastern side by District Barabanki, on the Western side by district Unnao, on the Southern side by Raebareli and on the Northern side by Sitapur and Hardoi districts. River Gomti flows through the city. The population of district Lucknow as per census 2001 is 36,81,416 lacs as per *http://www.upgov.nic.in/*

Lucknow city lies on the bank of river Gomti that divides the city into two unequal halves, the southern half being larger than the Northern.



*Fig. 4.4 Residency*

It is believed that Lucknow derives its name from Lakshmana, the brother of Lord Rama. This theory is supported by the presence of a mound called lakshmana Tila that lies on the Northwestern border of the city.



*Fig.4.5 Vidhan Sabha*

Lucknow is in fact one of the few traditional cities that display the full glory of Mughal and British architecture in India (refer Fig. 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, and 4.10). Associated with the lavish culture of the Nawabs, the city is a capsule of styles depicting a distinct aesthetics of scale, proportion and ornamentation. It gives me pain to note that the City Planners have failed to guide the urban growth and to preserve the precious heritage.
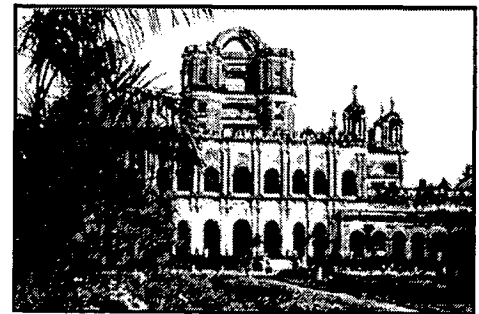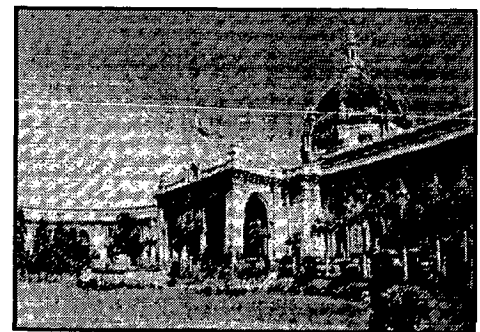


*Fig. 4.6 Charbagh Railway Station*

The urban character of Lucknow, known in earlier times as the city of gardens can best be understood as a consequence of social, political and cultural paradigms that percolated into the city structure ever since the invasion of Mahmood Ghaznavi in AD 1031. The Rajputs left further impressions on the city. Sheikhs, Pathans, the Moughals in the sixteenth century and subsequently, the rulers of Oudh ruled the city. Nawab Asaf-ud- Daula, in 1775, moved the capital from Faizabad to Lucknow and made it one of the most glittering cities of India. Finally, the British in the nineteenth century took over the reign.



*Fig. 4.7 Khurshid Manzil*

From the point of view of urban character, two significant and unique changes too place as a result of these historic processes. Firstly, as different ruling powers took control of the city in different periods, each left its impression in different parts of the city through a different urban ingredient. Whereas, the Nawabs gave the baghs, ganjs and imambaras (fig. 4.9) to the Western and Southern parts of the city, the Britishers gave the cantonment and the railway station to the East and South, respectively.



*Fig. 4.8 Rumi Gate*

Secondly, as a consequence of these different powers, there has been a layering process whereby the new power overlaid another fabric over the preceding one.
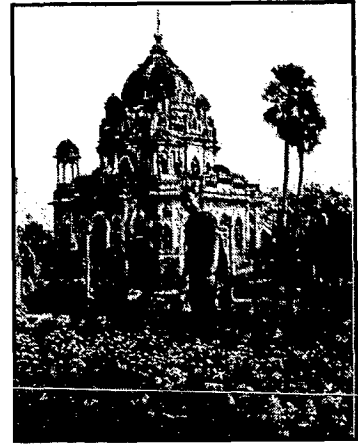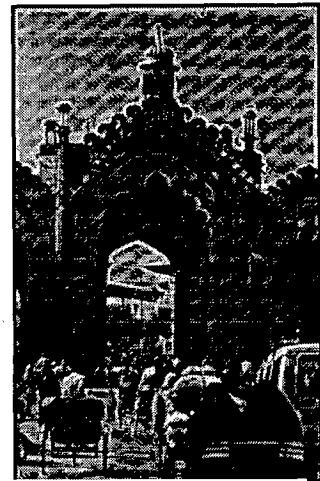


*Fig 4.9 Imambara*



*Fig. 4.10 La Mart's College*

The river Gomti formed the backdrop to the major activities during the Nawabi rule. The initial growth of the city started from the Western side at the right bank of the Gomti river, and this area was known as Chowk, and then the city later started spreading in South and South-East directions. It was only in the early part of the nineteenth century that the city started to grow towards the east with major colonial inputs in terms of cantonment by the British in the post 1857-mutiny period, and the Charbagh railway station in the South. During the post-independence and post partition period, a large migrant population settled in the Southern part of this city along with the Kanpur road. The sixties and seventies saw the Easterly growth of the city and the eighties saw the development of the Southeasterly part of the city.



*Fig. 4.11a Growth of Lucknow city pre 1857-1991*
Source: Lucknow Master Plan, 1991



*Fig. 4.11b Growth of Lucknow city till 2001*
Source: Lucknow Master Plan, 1991

## 4.2 Identification of State Capital Region

### 4.2.1 Parameters affecting growth of the city

The control parameters, which triggers the growth of Urban agglomerations are need to be studied carefully and can be used to effectively develop a much widespread region and effective counter magnets, hence leading to planned distribution of population in the entire region. The prime control parameters, which decide the functions of the city, are:

1. Employment

   a. Employment opportunities
   b. Trade and Commerce
   c. Industries
   d. Institutional Framework

2. Physical infrastructure

   a. Transport
   b. Communication
   c. Power
   d. Water supply
   e. Sewerage
   f. Solid Waste
   g. Drainage

3. Social infrastructure

   a. Health Care Infrastructure
   b. Educational Infrastructure
   c. Shelter (Housing)
   d. Security (Law & Order)
   e. Recreation

4. Ecology and environment

   a. Pollution
   b. Tourism
   c. Heritage
   d. Disaster Management
   e. Social Forestry

### 4.2.2 Indicators and Selection of cities/ districts

The pointers for identification of cities to be included in State Capital Region are:

1. Distance from Lucknow

   The cities should be in close proximity to the State Capital for better and all efficient development.

2. Existing infrastructure of Road Connectivity to Lucknow

The cities should preferably be connected to Lucknow citty by good quality road network so as to minimize on the development cost for improvement of road connectivity.

3. Existing infrastructure of Rail Connectivity to Lucknow

The cities should have sufficient railway infrastructure and interconnectivity to Lucknow so as to provide a base for deployment of MRTS (Mass Rapid Transportation System).

4. Existing Power and Communication infrastructure

The cities should have sufficient power/ communication infrastructure and network (as it is a base requirement of employment generation and human settlement) so as to incur the less cost in augmenting the existing system.

In light of the above pointers, the proposed cities/ districts for consideration of State Capital Region are as follows:

Table 4.2 Details of proposed cities/ districts for State Capital Region

| S. No | District | Distance from Lucknow | Road Conne-ctivity | Rail Connectivity | Power & Comm. Infrastruc. | Population (in lacs) | |
|---|---|---|---|---|---|---|---|
| | | | | | | Rural | Urban |
| 1. | Barabanki | 29 km. | NH-28 | Electrified Double line | Satisfactory | 24.25 | 2.49 |
| 2. | Sitapur | 46 km. | NH-24 | Metrer Gauge Non-Electrified Single line | Satisfactory | 31.87 | 4.33 |
| 3. | Unnao | 40 km. | NH-25 | Electrified Double line | Satisfactory | 22.89 | 4.12 |
| 4. | Hardoi | 98 km. | NH-29 | Electrified Double line | Satisfactory | 29.91 | 4.07 |
| 5. | Rae Bareli | 82 km. | NH-56 | Partly Single Partly Double line Non-Electrified | Satisfactory | 25.98 | 2.74 |

Source: HUDCO, Lucknow

## 4.3 Introduction to the Study areas

### 4.3.1 Barabanki

The district Barabanki is situated about 29 Kms. in the East direction of Lucknow the Capital of Uttar Pradesh. This district being one of the four districts of Faizabad division, is located in the heart of Awadh region and it lies between Latitudes 26° 30' North and 27° 19' North and Longitudes 80° 58' East and 81° 55' East. District Barabanki is surrounded by district Faizabad in the East, districts Gonda and Bahraich in the North East, district Sitapur in the North West, district Lucknow in the West, district Rae Bareli in the South and district Sultanpur in the South East. The river Ghaghra forms the North Eastern Boundary separating Barabanki from Bahraich and Gonda.[2]

*Fig. 4.12 Location of Barabanki in Uttar Pradesh State*

The district of Barabanki also known as the 'Entrance to Poorvanchal' has the privilege of being the penance ground to numerous saints and ascetics. There are several ancient sayings to the naming of this district. The most popular among them is that, due to the reincarnation of 'Bhagwan BAARAH' on this poise land, this place came to be known as 'BAANHANYA', which in course of time got corrupted to Barabanki. The headquarters of the district was at Dariyabad until 1858 AD, which was later shifted to Nawabganj in 1859 AD the other popular name of Barabanki.

### 4.3.2 Sitapur

District Sitapur is situated in the central part of Lucknow division, capital of U.P. It is 27.6° to 27.54° longitude in north of Lucknow & in between 80.18° & 81.24° latitude in east of Lucknow. This district is spread about 89 km. area from north to south & about 112 km. area from east to west. River Gomti makes the boundary from west to south of Sitapur & Hardoi. In the east river Ghagra which seprates district

*Fig. 4.13 Location of Sitapur in Uttar Pradesh State*

[2] www.barabanki.nic.in

Bahraich from Sitapur. This district adjoins Barabanki, Baharaich, Kheri, Hardoi & Lucknow.[3]

The City is situated on the riverbank of 'Sarayan', at Lucknow-Delhi National Highway No-24, 89 Km. from state capital Lucknow, and on meter gauge Railway line from Lucknow to Bareilly via Lakhimpur and Pilibhit. The Sitapur Eye Hospital along with its 32 branch hospitals is serving eye patients throughout Uttar Pradesh and providing sight to visually challenged peoples.

### 4.3.3 Unnao

The District is roughly a parallelogram in shape and lies between Lattitude 26°8' N & 27°2' N and Longitude 80°3' E & 81°3' E. It is bounded on the North by District Hardoi , on the East by District Lucknow, on the South by District Rae Bareli and on the West by the Ganga which seperates it from districts of Kanpur & Fatehpur. It is situated between rivers Ganga and Sai.[4]



*Fig. 4.14 Location of Unnao in Uttar Pradesh State*

The district is named after its Headquarter town, Unnao. About 1200 years ago, the site of this town was covered with extensive forests. Godo Singh, a Chauhan Rajput, cleared the forests probably in the the 3rd quarter of the 12th Century and founded a town, called Sawai Godo, which shortly afterwards passed into the hands of the rulers of the Kannauj, who appointed Khande Singh as the Governor of the place. Unwant Singh, a Bisen Rajput and a lieutenant of the Governor, killed him and built a fort here, renaming the place as Unnao after himself.

Topographical Status of Unnao Industrial Area is of great importance and is congenial for industrial requirement being totally free from any residential vicinity and having availability of roadways, railways and airport lying very close.

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[3] www.sitapur.nic.in
[4] www.unnao.nic.in

the *Bhars* and was known as *Bharauli* or *Barauli*, which in course of time got corrupted into Bareli. The prefix, Rae, is said to be a corruption of Rahi, a village 5km. west of the town. It is also said that the prefix, Rae, represents Rae, the common title of the Kayasths who were masters of the town for a considerable period of time.

## 4.4 Demographic data

Total area of the proposed State Capital Region is 23748.69 Ha, with total population 189.12 lakhs. Average population density of the proposed Region comes out to be 796 persons per Ha. (Refer Table 4.3)

Table 4.3 Comparative chart of area, population and population density

| DISTRICT | Area in Ha. | 'Total Popn.' | 'Male Popn.' | 'Female Popn.' | Popn. Density* |
|----------|-------------|---------------|--------------|----------------|----------------|
| LUCKNOW | 16270 | 3647834 | 1932317 | 1715517 | 224.21 |
| BARA BANKI | 670.19 | 2673581 | 1416921 | 1256660 | 3989.29 |
| SITAPUR | 1525.2 | 3619661 | 1941374 | 1678287 | 2373.24 |
| UNNAO | 3082 | 2700324 | 1422509 | 1277815 | 876.16 |
| HARDOI | 653.3 | 3398306 | 1842698 | 1555608 | 5201.75 |
| RAE BARELI | 1548 | 2872335 | 1472230 | 1400105 | 1855.51 |
| **Total** | 23748.69 | 18912041 | 10028049 | 8883992 | 796.34 |

*Source: Census of India, master plans of concerned district*
*\* person per Ha.*

Decadal Population Growth of State Capital, Lucknow, Barabanki, and Sitapur is higher than the State itself. (Refer Table 4.4) This may be due to the high influx of people in search of good employment, education, infrastructure, and scope.

Table 4.4 Decadal Population Growth of cities/ districts

| State/District | 1901-11 | 1911-21 | 1921-31 | 1931-41 | 1941-51 | 1951-61 | 1961-71 | 1971-81 | 1981-91 | 1991-01 |
|----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| UTTAR PRADESH | -1.36 | -3.16 | 6.56 | 13.57 | 11.78 | 16.38 | 19.54 | 25.39 | 25.55 | 25.80 |
| LUCKNOW | -3.63 | -5.24 | 8.72 | 20.60 | 18.78 | 18.68 | 20.84 | 24.52 | 37.14 | 33.25 |
| BARA BANKI | -8.09 | -4.97 | 3.31 | 9.28 | 8.75 | 11.95 | 15.38 | 17.26 | 26.59 | 26.40 |
| SITAPUR | -3.09 | -4.32 | 7.13 | 10.82 | 6.73 | 15.94 | 17.18 | 24.03 | 22.24 | 26.58 |
| UNNAO | -6.73 | -10.08 | 4.46 | 12.14 | 11.20 | 14.97 | 21.00 | 22.78 | 20.73 | 22.72 |
| HARDOI | 2.59 | -3.29 | 3.97 | 9.97 | 9.88 | 15.54 | 17.57 | 23.00 | 20.75 | 23.67 |
| RAE BARELI | -1.63 | -7.89 | 4.04 | 9.35 | 8.65 | 13.71 | 14.29 | 24.93 | 23.57 | 23.66 |

*Source: www.censusindia.com*

Demographic Data on 0-6yrs. populations, SC/ ST population, total literates, no. of households, working population, marginal workers, total agriculturals, cultivators, etc. are given in Annexxure-II.

## 4.5 Study of existing land use (2001)

### 4.5.1 Existing land use statement – Barabanki

Table 4.5 Land use description of Barabanki

| Sl. No. | Land Use Description | Area in Ha. | Per cent |
|---------|---------------------|-------------|----------|
| 1 | Residential | 308.75 | 46.07 |
| 2 | Commercial | 51.35 | 7.66 |
| 3 | Industrial | 82.55 | 12.31 |
| 4 | Public/Semi Public | 24.14 | 3.6 |
| 5 | Official | 57.5 | 8.58 |
| 6 | Play grounds | 4.5 | 0.67 |
| 7 | Transportation | 110.7 | 16.52 |
| 8 | Water Bodies | 16.2 | 2.42 |
| 9 | Open and Green area | 14.5 | 2.16 |
| 10 | Total | 670.19 | 100 |

*Source: Barabanki Master Plan, 2001*
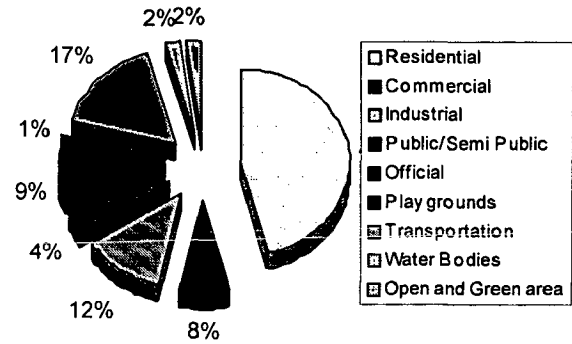


*Fig. 4.17 Land use of Barabanki*

### 4.5.2 Existing land use statement – Sitapur

Table 4.6 Land use description of Sitapur

| Sl. No. | Land Use Description | Area in Ha. | Per cent |
|---------|---------------------|-------------|----------|
| 1 | Residential | 466.33 | 30.58 |
| 2 | Commercial | 27.27 | 1.79 |
| 3 | Industrial | 43.19 | 2.83 |
| 4 | Public/Semi Public | 222.65 | 14.6 |
| 5 | Official | 60.33 | 3.96 |
| 6 | Play grounds | 17.42 | 1.14 |
| 7 | Transportation | 224.14 | 14.7 |
| 8 | Water Bodies | 102.36 | 6.71 |
| 9 | Open and Green area | 55.51 | 3.63 |
| 10 | Total | 1525.2 | 100 |

*Source: Sitapur Master Plan, 2001*
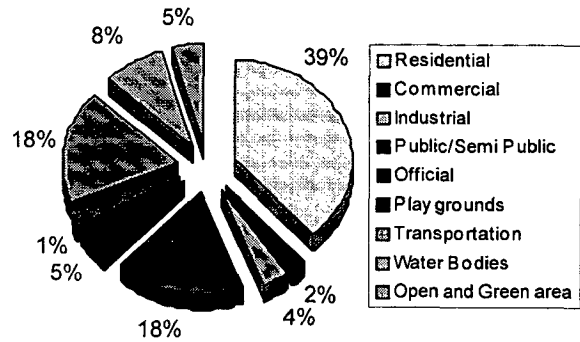


*Fig. 4.18 Land use of Sitapur*

### 4.5.3 Existing land use statement – Unnao

Table 4.7 Land use description of Unnao

| Sl. No. | Land Use Description | Area in Ha. | Per cent |
|---------|---------------------|-------------|----------|
| 1 | Residential | 1661.20 | 53.9 |
| 2 | Commercial | 36.98 | 1.2 |
| 3 | Industrial | 379.09 | 12.3 |
| 4 | Public/Semi Public | 64.72 | 2.1 |
| 5 | Official | 64.72 | 2.1 |
| 6 | Play grounds | 33.90 | 1.1 |
| 7 | Transportation | 530.10 | 17.2 |
| 8 | Water Bodies | 36.98 | 1.2 |
| 9 | Open and Green area | 274.30 | 8.9 |
| 11 | Total | 3082 | 100 |

*Source: Unnao Master Plan, 2001*
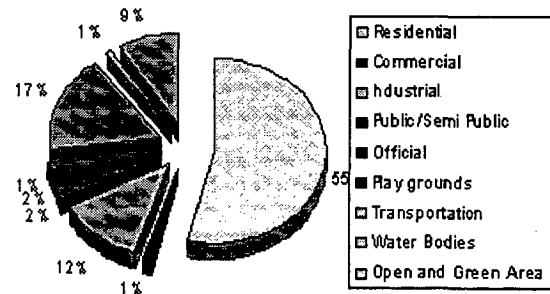


*Fig. 4.19 Land use of Unnao*

## 4.5.4 Existing land use statement – Hardoi

Table 4.8 Land use description of Hardoi

| SI. No. | Land Use Description | Area in Ha. | Per cent |
|---------|---------------------|-------------|----------|
| 1 | Residential | 203.7 | 31.4 |
| 2 | Commercial | 13.1 | 2 |
| 3 | Industrial | 6 | 0.9 |
| 4 | Public/Semi Public | 48.7 | 7.6 |
| 5 | Official | 47.6 | 7.4 |
| 6 | Play grounds | 6.2 | 0.9 |
| 7 | Transportation | 59.7 | 9.2 |
| 8 | Water Bodies | 22.4 | 3.5 |
| 9 | Open and Green area | 129 | 19.9 |
| 10 | Agriculture | 116.9 | 18 |
| 11 | Total | 653.3 | 100 |

*Source: Hardoi Master Plan, 2001*
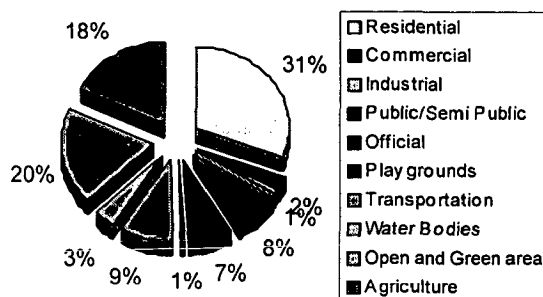


*Fig. 4.20 Land use of Hardoi*

## 4.5.5 Existing land use statement – Rae Bareli

Table 4.9 Land use description of Rae Bareli

| SI. No. | Land Use Description | Area in Ha. | Per cent |
|---------|---------------------|-------------|----------|
| 1 | Residential | 739 | 47.7 |
| 2 | Commercial | 36 | 2.3 |
| 3 | Industrial | 278 | 18 |
| 4 | Public/Semi Public | 130 | 8.4 |
| 5 | Official | 121 | 7.8 |
| 6 | Play grounds | 86 | 5.6 |
| 7 | Transportation | 138 | 8.9 |
| 8 | Water Bodies | 20 | 1.3 |
| 9 | Open and Green area | *** | *** |
| 10 | Total | 1548 | 100 |

*Source: Rae Bareli Master Plan, 2001*
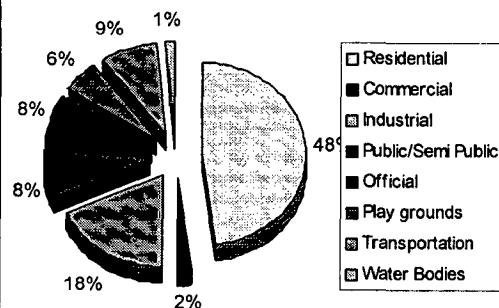


*Fig. 4.21 Land use of Rae Bareli*

## 4.5.6 Existing land use statement – Lucknow

Table 4.10 Land use description of Lucknow

| SI. No. | Land Use Description | Area in Ha. | Per cent |
|---------|---------------------|-------------|----------|
| 1 | Residential | 8945 | 55 |
| 2 | Commercial | 360 | 2.2 |
| 3 | Industrial | 990 | 6.1 |
| 4 | Public/Semi Public | 1410 | 8.7 |
| 5 | Official | 560 | 3.4 |
| 6 | Play grounds | 435 | 2.7 |
| 7 | Transportation | 1240 | 7.6 |
| 8 | Water Bodies | 310 | 1.9 |
| 9 | Open and Green area | 2020 | 12.4 |
| 11 | Total | 16270 | 100 |

*Source: Lucknow Master Plan, 2001*
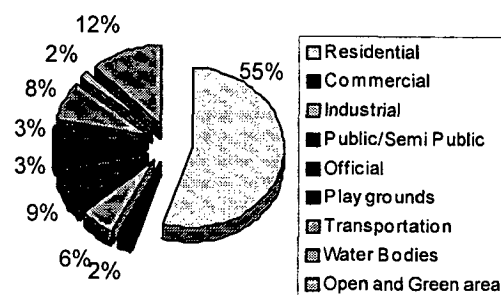


*Fig. 4.22 Land use of Lucknow*

NORTH

Sitapur

Hardoi

Barabanki

Lucknow

Unnao

Rae Bareli
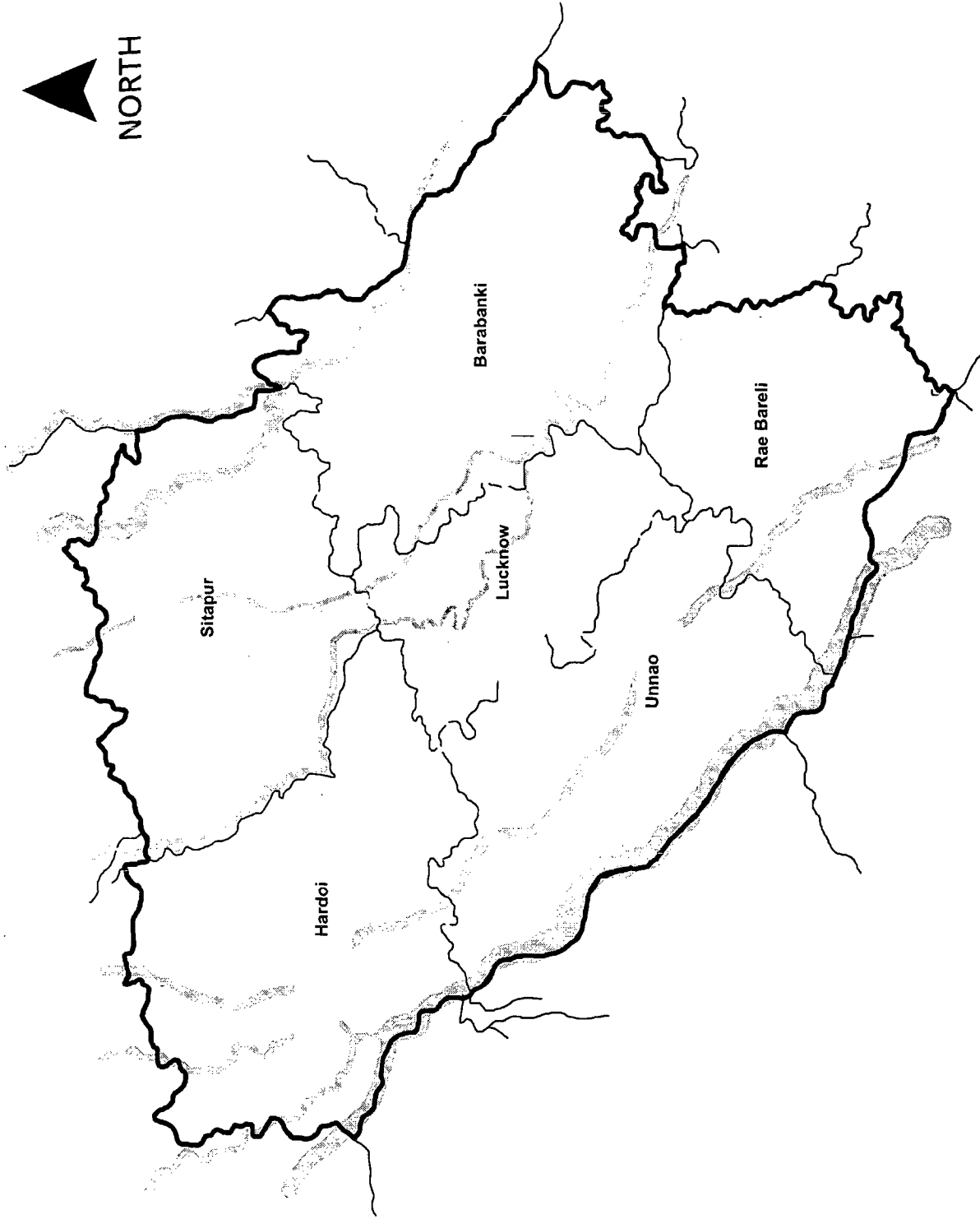
LEGEND

PROPOSED
STATE CAPITAL REGION

Planning for Uttar Pradesh
State Capital Regional
Development

Richa Singh
M.U.R.P – II Yr.

Deptt. Of Architecture & Planning,
I.I.T, Roorkee

NORTH

DRAWING NO. 1

SCALE: NOT TO SCALE

## LEGEND

- ◔ Hardoi
- ◑ Baraba
- ● Luckno
- ● Sitapur
- ◎ Rae Bai
- ○ Unnao

- ○ Stations
- ⌁ River
- ┅ Rail Track
- ── Region

**RAIL NETWORK OF
PROPOSED
STATE CAPITAL REGION**

**Planning for Uttar Pradesh
State Capital Regional
Development**

Richa Singh
M.U.R.P – II Yr.

Deptt. Of Architecture & Planning,
I.I.T, Roorkee

◀ NORTH

**DRAWING NO. 3**

**SCALE: NOT TO SCALE**

▲ NORTH

Sitapur

Hardoi

Barabanki

Lucknow

Unnao

Rae Bareli

*PLANNING FOR UTTAR PRADESH STATE CAPITAL REGIONAL DEVELOPMENT*

73
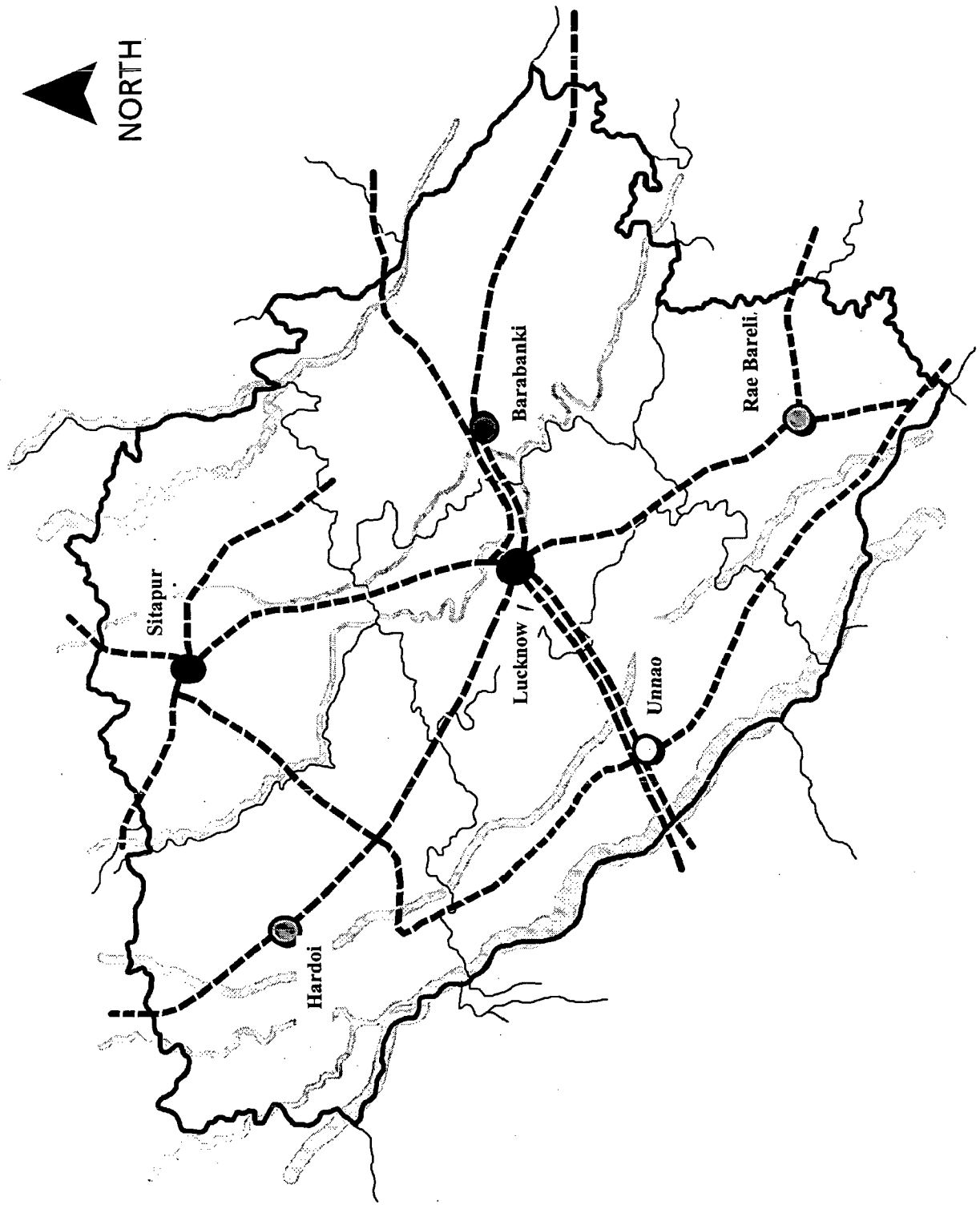
*This chapter deals with the existing conditions observed by the investigator in the study area.*

It has been observed that the Government of Uttar Pradesh, very recently, made some arrangement to prepare feasibility reports to develop the state based on regional planning concept and develop the State Capital Region in the line with National Capital Region to address the problems associated with imbalanced urban growth.

The need of the hour is to create counter magnets for the city of Lucknow and develop a much more widespread area to accommodate the future growth caused by rapid urbanization. Therefore, a need is felt to develop the State Capital Region in line with the National Capital Region to sort out the problems associated with imbalanced urban growth.

*'Parijaat '* world's unique tree, Kunteshwar Mahadev temple, and its extremely ancient Shivling, Kunteshwar (Kintur) on the poise banks of Ghaghra, Bazaar Dharam Mandi (Dhamedi), and the famous Lodheshwar Mahadeva's Shivling etc. in Barabanki are plance of historical importance.

The Sitapur Eye Hospital along with its 32 branch hospitals is serving eye patients throughout Uttar Pradesh and providing sight to visually challenged peoples.

Though the Industries of Unnao are very small, however this Industrial area if taken care of a little by the Govt. of UP, may attract the industrialists and entreprenures of leather as well as other fields increasingly due to the aesthetical and topographical features of this industrial area helping prevention of environmental degradation and enrich up to a great extent being a major issue in present industrial scenario.
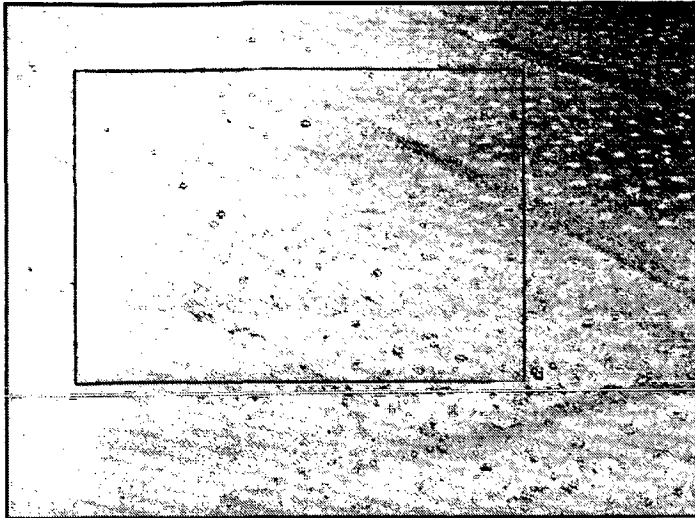
*Fig. 5.1 Taking up of new technologies: New material used for road layout in State Capital, Lucknow*

*Fig. 5.2 Widening of roads in Lucknow*





*Fig. 5.3 Improving the Vista : Round about in Lucknow renovated with water fountain and Neon lights*

*Fig. 5.8 Development of transport corridors: Coming up of new motels on the Luknow-Rae bareli corridor.*



*Fig. 5.9 Wood used for vineer production in Rae Bareli*
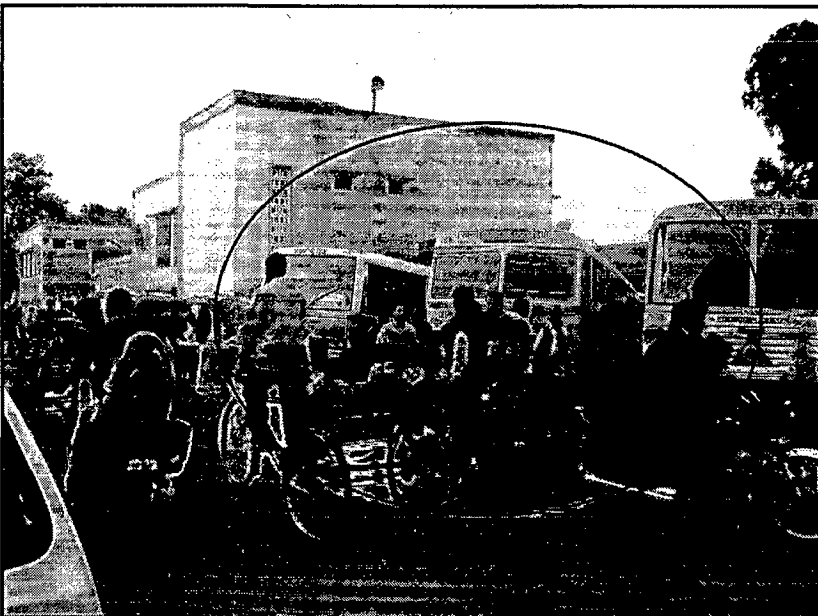


*Fig. 5.10 Improper Bus stand (Rae Bareli)*
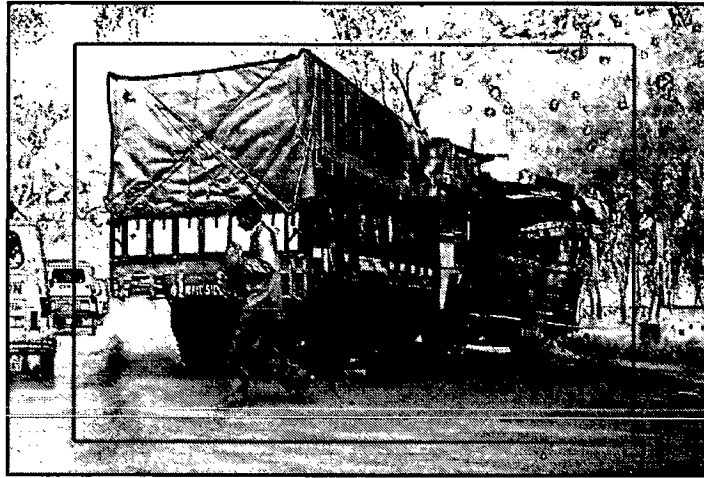
*Fig. 5.11 Accident on roads is a common view due to absence of street lights (Lucknow-Sitapur Highway)*



*Fig. 5.12 Improper Bus stand (Sitapur)*



*Fig. 5.13 Famous Eye Hospital in Sitapur*
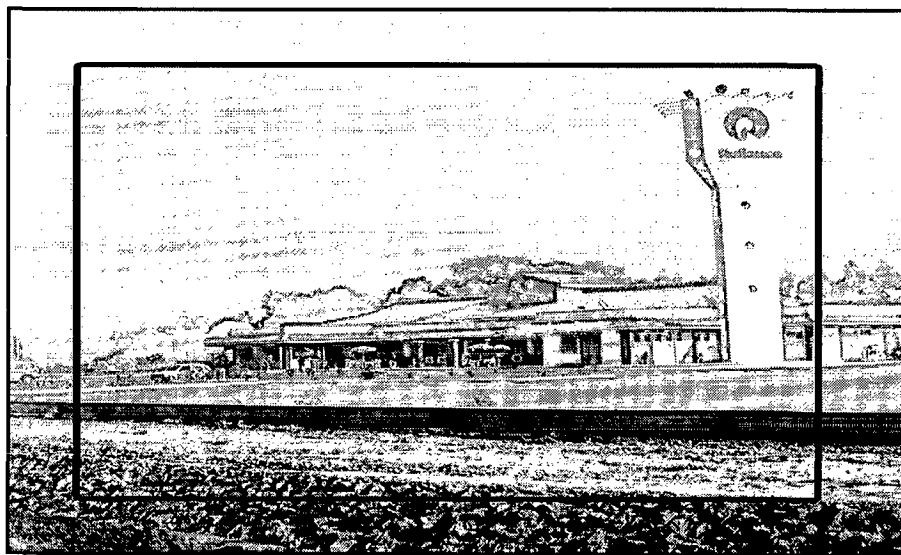


*Fig. 5.14 New upcoming companies eg. Reliance are taking interest in the region, enhancing the economy of the region (Lucknow-Sitapur Highway)*

*Fig. 5.15 Improper Bus stand (Barabanki)*

*Fig. 5.16 Poorly maintained railway station (Barabanki)*
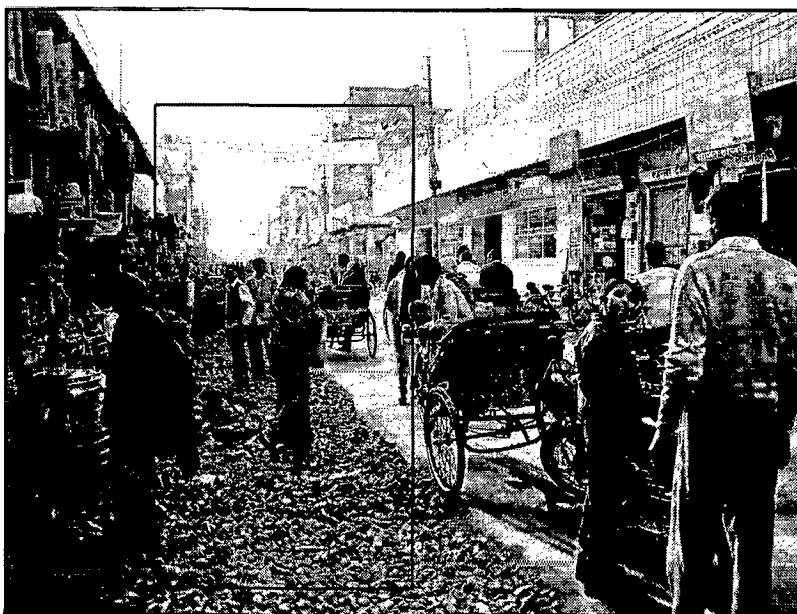




*Fig. 5.17 Widening of road will help reducing congestion on road (A view of a market, Hardoi)*

*This chapter deals with illustration followed by discussion of the secondary and primary collected from various sources and surveys conducted. Chapter has been divided into three sections, A, B and C for Comparative analysis of Secondary data, and Primary data respectively. Chapter concludes with Section C stating findings and Strengths, Weaknesses, Opportunities, and Threats of the region.*

## 6.A Comparative analysis of Secondary Data

Secondary data has been collected from the various Government Institutions like Development Authority, Municipal Corporation, Nagar Nigam, Nagar Maha Palika, Electricity office, Water Boards, Public Works Department, Regional Transport Office, etc. Financial report of State Capital, Lucknow, prepared by RITES, New Delhi has also been studied thoroughly for the analysis.

Secondary data provides the total figures of the whole area and hence can be utilized for understanding the true picture of the study area. Having this knowledge in mind, the Investigator collected the secondary data on number of households, household size, total population, 0-6 years population, SC/ST population, sex ratio, literate/ illiterate population, literacy rate, total working population, main and marginal workers, and, presented in figures below.

### 6.A.1 Total No. of Households



*Fig. 6.A.1 Total No. of Households*

- As seen in the Fig. 6.A.1 Maximum number of households (6.44 lakhs) are in State capital, Lucknow. Amongst all the regions proposed in State Capital Region, minimum number of households are in Barabanki (4.59 lakhs).

## 6.A.2 Comparative Household size



*Fig.6.A.2 Comparative Household size*

- Household size of the region varies from 5.7 to 6.1, which is less than the State's household size (6.5).

- Housing need in 2021 is calculated based on projected population and projected household size by using the formulae

$$P_n = P_0 (1+r)^t \qquad \text{------------------ Eq. 1}$$

$$HH = P_n / hs \qquad \text{------------------ Eq. 2}$$

Where,

| | | |
|---|---|---|
| $P_n$ | = | Projected population |
| $P_0$ | = | Present population |
| r | = | Growth Rate |
| t | = | Time period |
| HH | = | Number of households |
| hs | = | Household size |

Using the equations 1 and 2, household requirement in 2021 is 57,94,217 in comparison to 32.23 lakhs households in 2001.

- Steps should be taken beforehand in order to meet the housing requirement in the future.

## 6.A.3 Comparative Population in cities in Study Area
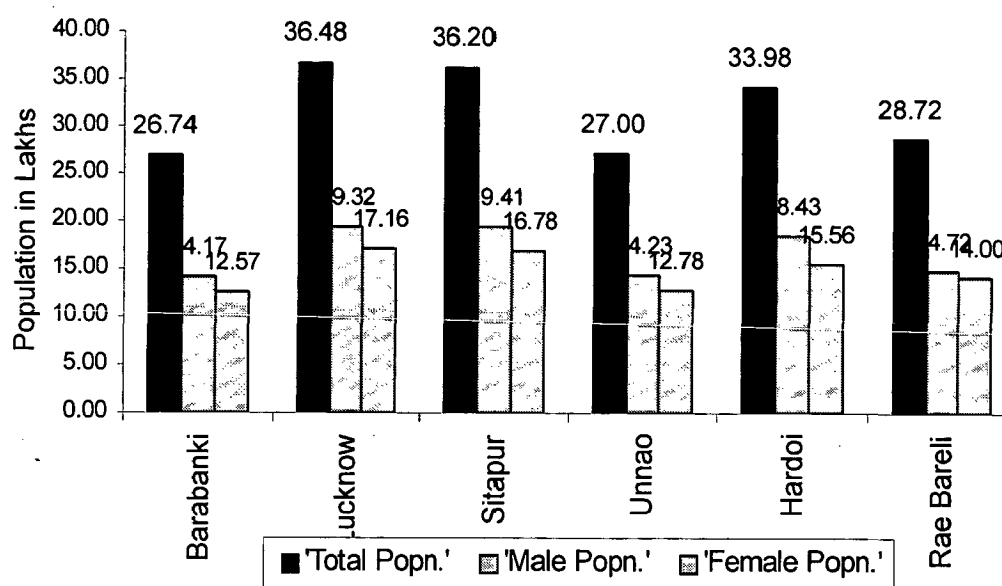


Fig. 6.A.3 Comparative Population in cities in Study Area

- As observed from the Fig. 6.A.3 highest population (36.48 lakhs) is in State capital, Lucknow. Amongst all the regions proposed in State Capital Region, minimum population is in Barabanki (26.74 lakhs). Sitapur's population (36.20 lakhs) is next to Lucknow's population. Male-Female population does not show much difference.

## 6.A.4 Comparative 0-6 yrs. Population in cities in Study Area

- Fig. 6.A.4 shows that highest 0-6 years population is highest (7.13 lakhs) in Sitapur, followed by 6.61 lakhs in Hardoi. Minimum child population is observed in Unnao (4.76 lakhs). This is because of less population in Unnao.

- Although Lucknow's population is high, yet child population is comparatively less. This may be because of population control awareness.
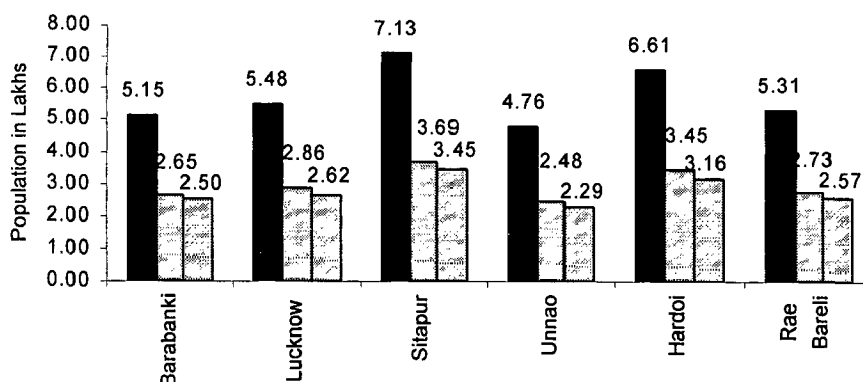


Fig. 6.A.4 Comparative 0-6 yrs. Population in cities in Study Area

## 6.A.5 Comparative Scheduled Caste population
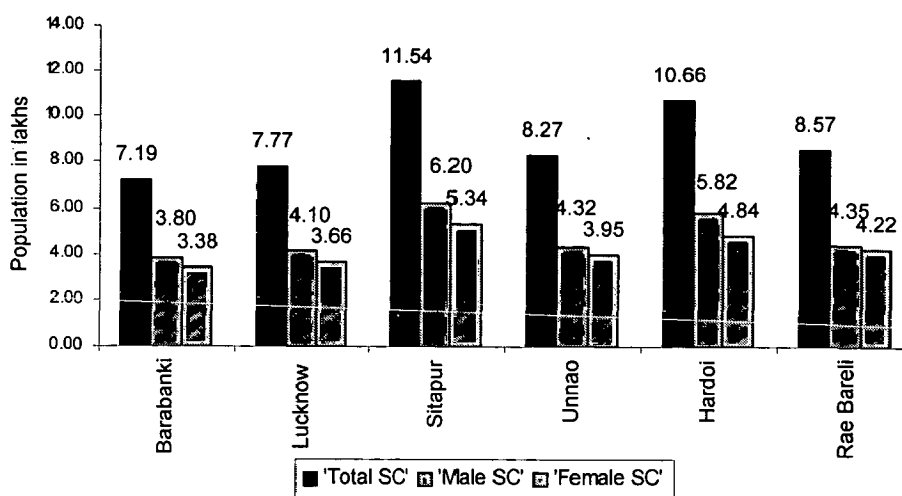


Fig. 6.A.5 Comparative Scheduled Caste population

- Fig. 6.A.5 reveals that highest number of Scheduled caste people are in Sitapur (11.54 lakhs), followed by 10.66 lakhs in Hardoi. The value is further less in raebareli (8.57 lakhs), Unnao (8.27 lakhs), Lucknow (7.77 lakhs). Least number of Scheduled caste people are accounted in Barabanki (7.19 lakhs).

## 6.A.6 Comparative Scheduled Tribes Population
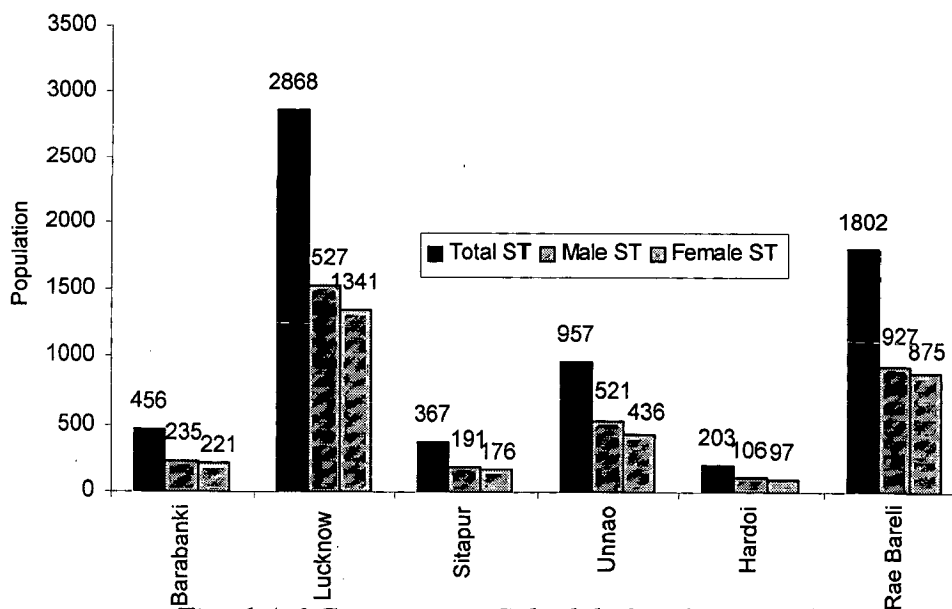


Fig. 6.A.6 Comparative Scheduled Tribes Population

- Reverse trend can be noticed in the case of Scheduled tribe people. Maximum number is accounted in Lucknow (2868), followed by 1802 in Rae Bareli. Minimum numbers are observed in Hardoi (203) as shown in Fig. 6.A.6.

- This remarkable differentiation is may be due to better work environment and opportunities in Capital city, Lucknow.

## 6.A.7 Comparative Sex Ratio of the cities in Study Area
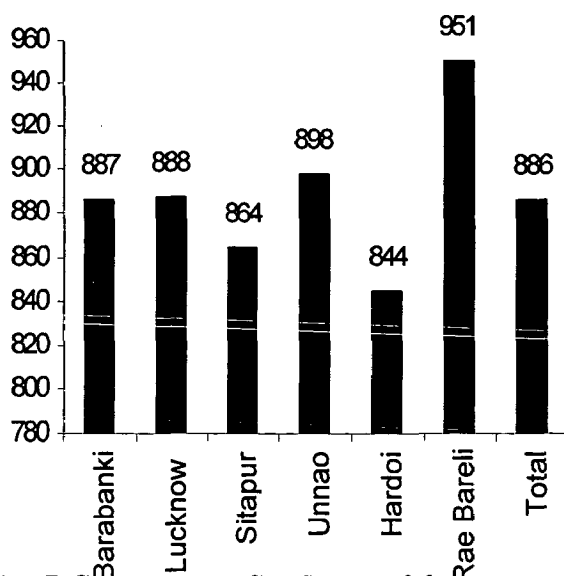


*Fig. 6.A.7 Comparative Sex Ratio of the cities in Study Area*

- Sex ratio is observed to be highest in Rae Bareli (951 females per 1000 males), followed by 898 in Unnao. Sex ratio is almost same is all other cities except for 844 in Hardoi as shown in Fig. 6.A.7.

- On average, sex ratio is coming out to be 886 for the whole region, which can be improved by providing knowledge, giving facilities for female child, etc.

## 6.A.8 Comparative Sex Ratio



■ Sexratio ▢ Sexratio 06Years ▣ Sexratio SC ▢ Sexratio ST
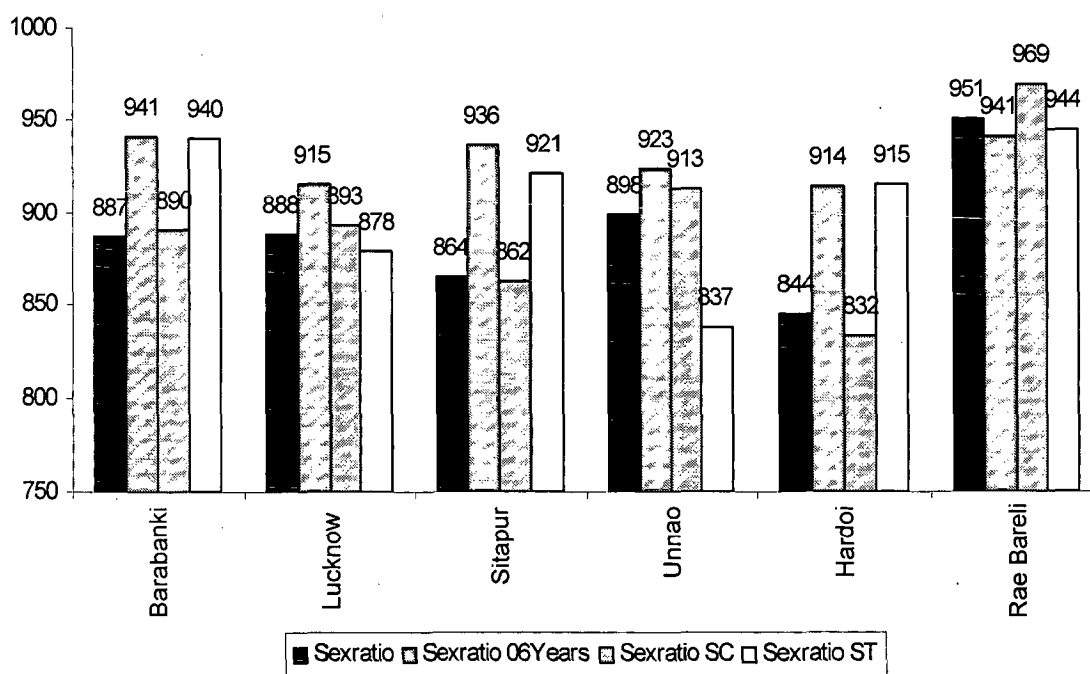
*Fig. 6.A.8 Comparative Sex Ratio*

- Fig. 6.A.8 shows that Sex ratio in 0-6 years is higher than total sex ratio, except in Rae Bareli. This may be due to the movement of female child after her marriage.

## 6.A.9 Comparative Literate Population
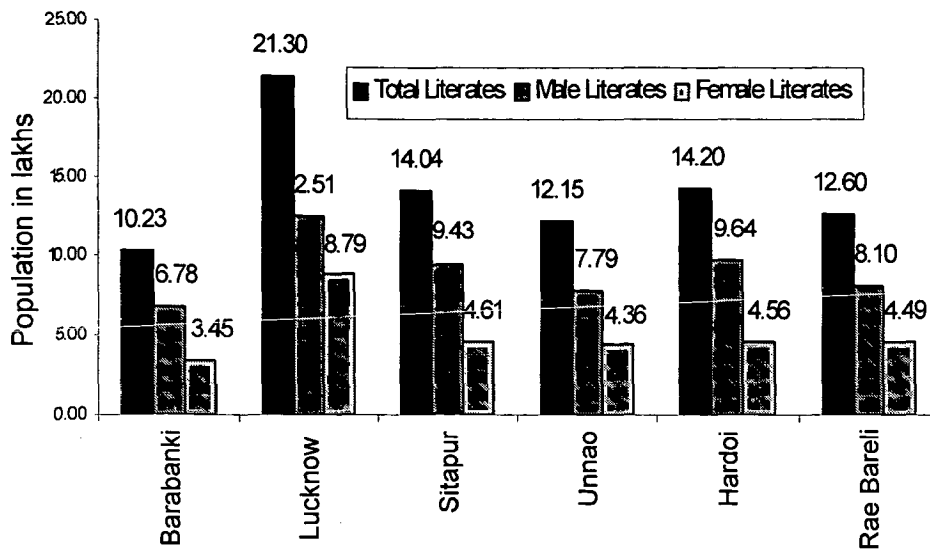


*Fig. 6.A.9 Comparative Literate Population*

- Sex ratio in Scheduled tribes is almost equal to total sex ratio, but a reverse trend is seen in case of scheduled tribe people.

- Maximum literates (21.30 lakhs) are recorded in the State Capital, Lucknow, followed by 14.20 lakhs in Hardoi. A wide gap of about 7.10 lakhs is there in between the two cities as shown in Fig. 6.A.9.

- Minimum literates are recorded in Barabanki.

## 6.A.10 Comparative Illiterate Population
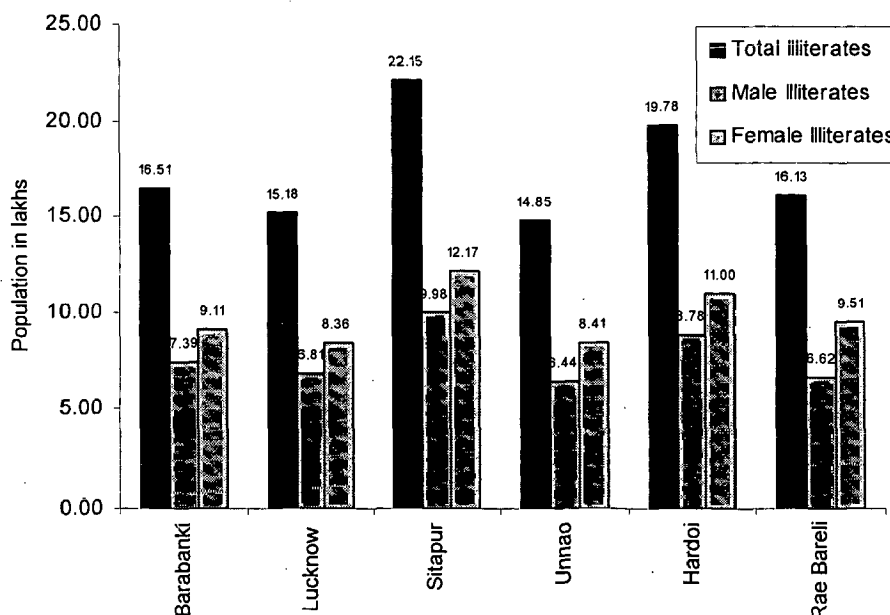


*Fig. 6.A.10 Comparative Illiterate Population*

- Fig. 6.A.10 shows that maximum illiterates are in Sitapur (22.15 lakhs) followed by 19.78 lakhs in Hardoi

- Female literates are comparatively very less in number.

- Some programs should be held in these areas to improve female literacy.

## 6.A.11 Comparative Literacy Rate

- Fig. 6.A.11 shows that literacy rate is highest in the State capital, Lucknow (68.7 per cent), followed by 54.6 per cent in Unnao. Literacy rate is less than half in Sitapur (48.3 per cent) and minimum in Barabanki (47.4 per cent).
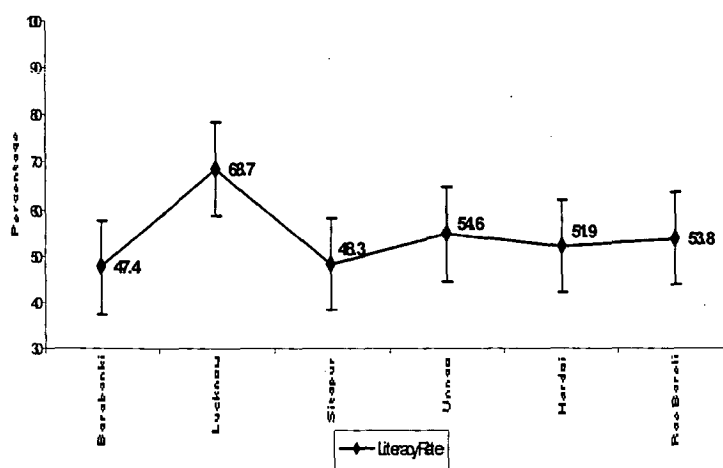


Fig.6.A.11 Comparative Literacy

## 6.A.12 Comparative Working Population
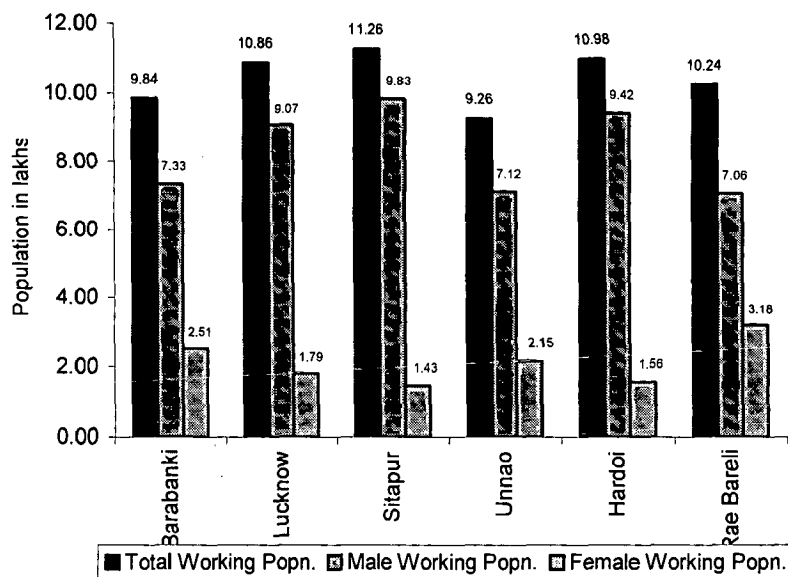


Fig.6.A.12 Comparative Working Population

- Fig. 6.A.12 shows that working population is almost equally distributed in all regions with minor variations. It is maximum in Sitapur (11.26 lakhs).

- Female working population is very less in comparison to male workers.

- Handloom, Papad making, pickle, etc., small scale industries can be set up so as to utilize female population.

## 6.A.13 Comparative Main Workers



*Fig. 6.A.13 Comparative Main Workers*

• As shown in Fig. 6.A.13 main working population is almost same in Sitapur, Hardoi and Lucknow, with only minor variations.

• Main workers are least in Rae Bareli (6.61 lakhs), which is one-fourth of the total population of Rae Bareli.

• Female main workers are again less in all the cities of the region.

## 6.A.14 Comparative Marginal Workers
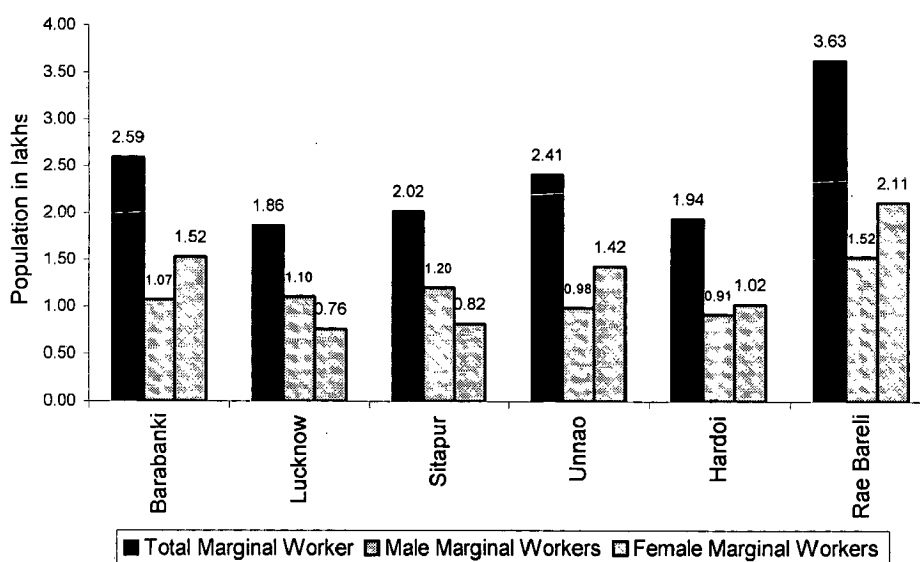


*Fig. 6.A.14 Comparative Marginal Workers*

• Marginal workers range from 3.63 lakhs in Rae Bareli to 1.86 lakhs in Lucknow.

• Except for Lucknow and Sitapur, female marginal workers hold more share than male marginal workers as shown in Fig. 6.A.14.

## 6.A.15 No. of Units, Investment, and Employment in Heavy Industries & Small Scale Industries

Table 6.A.1 No. of Units, Investment, and Employment in Heavy Industries & Small Scale Industries

| S.No. | DISTRICT/ CITY | NO. OF UNITS | | | INVESTMENT (Rs. In crore) | | | EMPLOYMENT | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Heavy Ind. | Small Sc. Ind. | Total | Heavy Ind. | Small Sc. Ind. | Total | Heavy Ind. | Small Sc. Ind. | Total |
| 1 | Lucknow | 41 | 11945 | 11986 | 151.45 | 98.39 | 249.84 | 17479 | 45270 | 62749 |
| 2 | Unnao | 28 | 8028 | 8056 | 54.14 | 133.42 | 187.56 | 4539 | 22454 | 26993 |
| 3 | Barabanki | 16 | 8520 | 8536 | 122.79 | 71.06 | 193.85 | 6488 | 25714 | 32202 |
| 4 | Hardoi | 7 | 6569 | 6576 | 45 | 52.88 | 97.88 | 1599 | 17384 | 18983 |
| 5 | Sitapur | 15 | 5934 | 5949 | 64.15 | 36.09 | 100.24 | 7557 | 20195 | 27752 |
| 6 | Rae Bareli | 28 | 7958 | 7986 | 269.19 | 61.76 | 330.95 | 16562 | 25234 | 41796 |
| | TOTAL | 135 | 48954 | 49089 | 706.72 | 453.6 | 1160.3 | 54224 | 156251 | 210475 |

Source: Directorate of Industries, U.P., Kanpur (Computer Cell)

Small Scale Industry has been one of the major planks of India's economic development since independence. It may be observed from Table 6.A.1 that overall there are about fifty thousand industries which give employment to more than two lakh people. High number of Small Scale Industries shows the scope of their further development. Total investment was Rs. 706.71 crore in Heavy Industries, while Rs. 453.60 crore in Small Scale Industries. Maximum investment was in Rae Bareli followed by Lucknow. Minimum investment of Rs. 97.88 crore was observed in Hardoi.

## 6.A.16 Item wise consumption of Electricity in Study Area 2003 ('000 kW hour)

Table 6.A.2 Item wise consumption of Electricity in Study Area 2003 ('000 kilo Watt hour)

| No. | Details | Lucknow | Unnao | Barabanki | Hardoi | Sitapur | Rae Bareli |
|---|---|---|---|---|---|---|---|
| 1 | Domestic | 967010 | 88.402 | 172.32 | 151.47 | 191.54 | 145.57 |
| 2 | Commercial | 260550 | 9.05 | 25.1 | 21.76 | 32.59 | 20.32 |
| 3 | Industrial | 169830 | 12.72 | 7.64 | 9.12 | 8.63 | 11.41 |
| 4 | Public Light | 67680 | 4.148 | 6.32 | 7.41 | 7.19 | 6.73 |
| 5 | Agricultural | 114300 | 5.43 | 6.12 | 6.73 | 8.13 | 9.16 |
| 6 | Others | 74340 | 2.01 | 4.97 | 6.39 | 8.92 | 7.04 |
| 7 | Total | 1653710 | 121.76 | 222.47 | 202.88 | 257 | 200.23 |
| 8 | Rate | 2.5 Rs./Unit | 2.5 Rs./Unit | 2.0 Rs./Unit | 2.0 Rs./Unit | 2.0 Rs./Unit | 1.9Rs./Unit |
| 9 | Time | 18 hrs. | 15 hrs. | 11 hrs. | 10 hrs. | 16 hrs. | 12 hrs. |

Source: Statistical Handbook, different districts/cities, 2003.

It may be observed from Table 6.A.2 that more than half of the total consumption of electricity in all the districts were found in the household domestic purpose at 58.48 per cent. Commercial, Industrial, and agricultural purpose of electricity consumption was at the rate of 15.75 per cent, 10.27 per cent, and 6.91 per cent of the total consumption respectively. The lowest consumption was observed in public lighting category at 4.09 per cent of the total consumption.

## 6.A.17 Percentage of Households with Basic Amenities in Urban India, Uttar Pradesh, and Study area

Table 6.A.3 Percentage of Households with Basic Amenities in Urban India, Uttar Pradesh, and Study area

| No. | Details | Lucknow | Unnao | Barabanki | Hardoi | Sitapur | Rae Bareli | India | UP |
|-----|---------|---------|-------|-----------|--------|---------|-----------|-------|-----|
| 1 | Electricity | 76.25 | 71.73 | 72.97 | 63.12 | 74.39 | 69.89 | 75.78 | 67.76 |
| 2 | Safe Drinking Water | 88.21 | 81.68 | 82.32 | 80.09 | 84.71 | 80.4 | 81.38 | 85.78 |
| 3 | Toilet | 73.02 | 72.96 | 71.84 | 69.3 | 72.9 | 68.3 | 63.85 | 66.54 |
| 4 | All the 3 items | 63.37 | 61.11 | 59.08 | 58.37 | 61.36 | 59.07 | 50.46 | 53.72 |
| 5 | None of first 3 items | 5 | 8 | 7 | 7 | 6 | 8 | 5.41 | 7 |

Source: Census of India, Occasional Paper No. 5, Statistical Hanbook, different districts/cities, 2003.

It may be observed from Table 6.A.3 that in State Capital Region Urban Agglomeration 71.39 per cent of the households had the facility of power supply, more than four fifth (82.90 per cent) of them have excess to safe drinking water and slightly less than three fourth (71.39 per cent) of them are served by sewerage system. All the above three mentioned services are available to 60.39 per cent of the total households in the State Capital Region Urban Agglomeration. Thus, the basic requirement of the basic infrastructure except electricity, of State Capital Region Urban Agglomeration is higher than that of Urban India and Urban UP.

## 6.A.18 Information regarding Water Supply in Study Area

Table 6.A.4 Information regarding Water Supply in Study Area

| No. | Details | Lucknow | Unnao | Barabanki | Hardoi | Sitapur | Rae Bareli |
|-----|---------|---------|-------|-----------|--------|---------|-----------|
| 1 | Consumption of Water (MLD) | | | | | | |
| | Domestic | 276.3 | 8.32 | 9.61 | Data Not Available | | |
| | Non-Domestic | 30.71 | 2.43 | 3.89 | | | |
| | Total | 307.01 | 10.75 | 13.5 | | | |
| 2 | Average duration of Water Supply | 2 hrs/day | 4 hrs/day | 4 hrs/day | 3 hrs/day | 6 hrs/day | 5 hrs/day |
| 3 | Total Water Supply (MLD) | 471.6 | 10.75 | 10.89 | Data Not Available | | |
| 4 | Total Consumption (MLD) | 307.01 | 19 | 13.5 | | | |
| 5 | Balance (MLD) | 164.59 | -8.25 | -2.61 | | | |
| 6 | Average price of Water | Rs. 2/1000 lt. | Rs. 1/1125 lt. | Flat rate Rs 50 (D) Rs 150 (ND) | Flat rate Rs 50 (D) Rs 150 (ND) | Rs. 2/1000 lt. | Rs. 2/1000 lt. |

Source: Jal Board, various cities/ districts.

It may be observed from Table 6.A.4 that in Unnao and Barabanki, water consumption is more than water supplied by Government. Many households rely on hand pumps and bore-wells for their basic needs, resulting into lowering water table. Data was not available for three districts. It can be clearly observed that there is acute water shortage in some backward areas.

## 6.A.19 Communicative network in Study Area 2003

Table 6.A.5 Communicative network in Study area 2003

| No. | Details | Lucknow | Unnao | Barabanki | Hardoi | Sitapur | Rae Bareli |
|---|---|---|---|---|---|---|---|
| 1 | No. of Post offices | 284 | 192 | 366 | 197 | 232 | 445 |
| 2 | No. of Telegraph off. | 16 | 14 | 20 | 12 | 15 | 14 |
| 3 | No. of Public Call Off. | 7296 | 6385 | 4992 | 5731 | 6835 | 5817 |
| 4 | No. of Telephones | 244165 | 42178 | 26749 | 36854 | 49817 | 25887 |

*Source: Statistical Handbook, different districts/cities, 2003.*

It may be inferred from Table 6.A.5 that Study Area has good communication network. Increase in public call office may result into reduction in usage of post offices and telegraph offices.

## 6.A.20 Health Facilities in Study Area 2003

Table 6.A.6 Health Facilities in Study area 2003

| No. | Details | Lucknow | Unnao | Barabanki | Hardoi | Sitapur | Rae Bareli |
|---|---|---|---|---|---|---|---|
| 1 | Allopathic | 41 | 16 | 0 | Data Not Available | | 34 |
| 2 | Ayurvedic | 36 | 49 | 20 | | | 54 |
| 3 | Homeopathic | 42 | 32 | 23 | | | 50 |
| 4 | Unani | 6 | 4 | 7 | | | 6 |

*Source: Statistical Handbook, different districts/cities, 2003.*

It may be observed from Table 6.A.6 that number of Unani hospitals are very less in all the districts. In absence of data like number of beds, number of doctors, etc., it is very difficult to find the shortages of the number of hospitals. Although, projection of number of hospitals required in 2021 is calculated in Chapter VII, Table 7.5.

## 6.A.21 Educational Facilities in Study Area 2003

Table 6.A.7 Educational Facilities in Study area 2003

| No. | Details | Lucknow | Unnao | Barabanki | Hardoi | Sitapur | Rae Bareli |
|---|---|---|---|---|---|---|---|
| 1 | Junior basic Sch. | 1964 | 1865 | 1658 | 1838 | 1953 | 1908 |
| 2 | Senior Basic Sch. | 773 | 484 | 299 | 363 | 423 | 399 |
| 3 | Higher Sec. Sch. | 207 | 152 | 65 | 127 | 157 | 142 |
| 4 | Degree College | 30 | 6 | 6 | 6 | 4 | 8 |
| 5 | PG Degree College | 8 | 3 | 6 | 6 | 2 | 7 |
| | Total | 2982 | 2510 | 2034 | 2340 | 2539 | 2464 |
| 6 | Total Students | 627502 | 27419 | 34857 | 30258 | 46974 | 31459 |

*Source: Statistical Handbook, different districts/cities, 2003.*

It may be observed from Table 6.A.7 that total number of PG Degree college is maximum in Lucknow. This may be due to the intervention of Government for higher education and is essential for the job seekers in the international arena. There is a vast difference between students in Lucknow and other districts. It may be due to better qualitative educational facilities in Lucknow.

## 6.A.22 Vehicle Population in Study Area 2005

Table 6.A.8 Vehicle Population in Study area 2005

| No. | Details | Lucknow | Unnao | Barabanki | Hardoi | Sitapur | Rae Bareli |
|-----|---------|---------|-------|-----------|--------|---------|-----------|
| 1 | Two wheeler | | | | | | |
| | Motor Cycle | 540396 | 3435 | 43274 | 40207 | 55737 | 88922 |
| | Moped | 61341 | 24 | 459 | 198 | 6124 | 300 |
| 2 | Car | 97278 | 206 | 2957 | 2935 | 2978 | 3843 |
| 3 | Carriage Wagon | 16011 | 87 | 782 | 589 | 1513 | 913 |
| 4 | Motor Cab | 2457 | 56 | 176 | 142 | 1349 | 700 |
| 5 | Taxi | 890 | 0 · | 0 | 10 | 10 | 3 |
| 6 | Minibus <35 seat | 1005 | 18 | 55 | 115 | 44 | 97 |
| 7 | Bus >35 seat | 1051 | 3 | 128 | 348 | 185 | 7 |
| | Total | 720429 | 3829 | 47831 | 44544 | 67940 | 94785 |

*Source: Regional Tranport offices of individual cities/ districts*

It may be observed from Table 6.A.8 that 9.79 lakh vehicles were present during the year 2005 in the State Capital Region. Region has 8.40 (85.81 per cent) lakh two-wheelers. Cars constitute nearly 11.25 per cent. Carriage wagon constitutes about 2.03 per cent of the total vehicles in the Region. Rest all have a very negligible value.

## 6.A.23 Banking Facilities in Study Area 2003

Table 6.A.9 Banking Facilities in Study area 2003

| No. | Details | Lucknow | Unnao | Barabanki | Hardoi | Sitapur | Rae Bareli |
|-----|---------|---------|-------|-----------|--------|---------|-----------|
| 1 | Nationalised Bank | 288 | 58 | 40 | 52 | 147 | 56 |
| 2 | Regional rural Bank | 6 | 56 | 81 | 72 | 12 | 74 |
| 3 | Other Bank | 13 | 26 | 29 | 17 | 11 | 1 |
| 4 | Total | 307 | 140 | 150 | 141 | 170 | 131 |

*Source: Statistical Handbook, different districts/cities, 2003.*

It may be observed from Table 6.A.9 Nationalised bank branches constitute higher proportion at 61.69 per cent. Regional rural bank constitutes 28.97 per cent of the total branches in the Region. Whereas, Other banks constitute only 9.35 per cent of the banking facilities in the Region.

## 6.A.24 Average Wage rate of Building Workers in Study Area

Table 6.A.10 Average Wage rate of Building Workers in Study Area

| No. | Details | Lucknow | Unnao | Barabanki | Hardoi | Sitapur | Rae Bareli |
|-----|---------|---------|-------|-----------|--------|---------|-----------|
| 1 | Manson (1st Class) | 110 Rs. | 100 Rs. | 95 Rs. | 90 Rs. | 90 Rs. | 80 Rs. |
| 2 | Carpenterter (1st Class) | 110 Rs. | 100 Rs. | 95 Rs. | 90 Rs. | 90 Rs. | 80 Rs. |
| 3 | Unskilled Labour | 57 Rs. | 52 Rs. | 50 Rs. | 50 Rs. | 55 Rs. | 50 Rs. |

*Source: Metropolitan housing Statistics, NBO, 2002, and, Development Authorities*

It may be inferred from Table 6.A.10 that average wage rate of construction workers is maximum in State Capital, Lucknow. It is minimum in Rae Bareli. It may be due to less construction industry or abundant labourers in the district. Rest of the districts have almost same rate with minor variations.

## 6.B Comparative Analysis of Primary Survey

**Field Survey**

Field survey is very necessary to find out the existing prevailing condition regarding population, infrastructure, amenities, etc. in the study area. Study area as discussed in earlier chapters consists of Barabanki, Lucknow, Sitapur, Unnao, Hardoi, and, Rae Bareli. To analyze the living standard, financial background, appliances available, infrastructure, amenities, etc., of the households of the system, certain samples from each locality are surveyed and studied in great detail. The investigator had conducted an observation study of the region to understand the functions of the system thoroughly. Further, she decided to conduct household survey in the study area for understanding the system at the micro level by employing pretested schedules. Taking 20 samples from each above-mentioned cities, total of 120 sample surveys are done. The survey includes the study of the physical, social, economic, ecological and environmental aspects of the study area. The questionnaire and the list of variables used for this present investigation are presented in Annexure-I.

**Objective of the Field Survey**

The objective of this study is to analyze the living standard of the surveyed households of the study area. The field survey basically throws light on following information

Income is dependent on following factors:

1. Education
2. Occupation
3. Religion
4. Size of Family
5. Expenditure
6. Caste
7. Sex ratio
8. Migration
9. Vehicles
10. Energy Consumed

11. Home Finance
12. Type of Housing
13. Ownership
14. Physical condition of the house
15. Access Road
16. Maintenance of road
17. Piped water supply
18. Water supply system
19. Waste disposal
20. Frequency of waste collection

21. Agency of waste collection
22. Drainage problem
23. Washing machine
24. Cooler
25. Computer
26. Radio
27. Television
28. Microwave
29. Mixer
30. Fridge
31. Geyser
32. Stove

33. Mode of Conveyance, Frequency (per week) and Satisfaction level of:
    a. Primary Education
    b. College Education
    c. Daily Shopping
    d. Shopping Center
    e. Work
    f. Recreation
    g. Hospital
    h. Dispensary/ clinic
    i. Police Station
    j. Post Office

## Data Sources

Data from various sources are collected to visualize the overall picture of the study area. Various secondary data sources are used mainly, Census of India, various publications of government, media etc. Census data is basically used to get generalized picture of the study area. Field survey is used as a tool to get comprehensive information about population in the study area.

This data is useful in understanding the problem in a better way and propose efficient measures for efficient and balanced development. Public's perspective is must to plan for any region.

## 6B.1 Number of Households

Income is the most important parameter, which decides the function of the system. Income increases, purchasing power of the peoples of the system increases, which leads to increase in standard of living, investment in higher education, good health, owning vehicles, household appliances, etc. in social point of view, in Indian society higher income leads to higher social status of the people in the system. In economic view, income of the system increase higher capital formation, which leads to higher investment which leads to higher production, which leads to higher trade and commercial activities, which leads to higher income, which leads to higher saving, which leads to higher capital formation, which leads to higher investment, thorough which the cyclic process continues. In the present investigation, having the importance of income in mind, the Investigator considers income as dependent (Y) variable, and rest of the variables as independent ($x_1$, $x_2$, $x_3$,...... , $x_n$) variables for analysis. Further, the investigator looked at the range of income of the households, and the households are grouped, such as, income of Rs. <10,000, Rs. 10,000-20,000, Rs. 20,000-30,000, and Rs. 30,000 and above, for analysis and are presented in Table No. 6B.1. This table illustrates that about half (47.50 %) of the households of the surveyed households in the system are confined in the lowest income group category, i.e., the monthly income group belong to Rs. <10,000, and two-fifth (40 %) of the households are confined in the next group category, i.e., the monthly income group of Rs. 10,000-20,000, and the rest are scattered over the next two categories. It is also observed that number of household's availability in different income group category is decreasing along with increase in income, which shows that most of the households belong to lower income group categories.

Table No. 6B.1: Income Vs. Number of Households

| No. of Households | | |
|---|---|---|
| | Total | % |
| <10000 | 57 | 47.50 |
| 10000-20000 | 48 | 40.00 |
| 20000-30000 | 9 | 7.50 |
| >30000 | 6 | 5.00 |
| Total | 120 | 100.00 |

The table 6B.1 and Fig. 6B.1 explains that less than half number of surveyed households (47.50 per cent) has income less than Rs. 10,000. Two-fifth (40.00 per cent) of the total number of surveyed households falls into income category Rs. 10,000-20,000. Rest having the minimal share of 7.50 per cent ans 5.00 per cent are scattered in income category Rs. 20,000-30,000 and Rs. >30,000 respectively.

No. of Households



≤10000  ■10000-20000  □20000-30000  □>30000
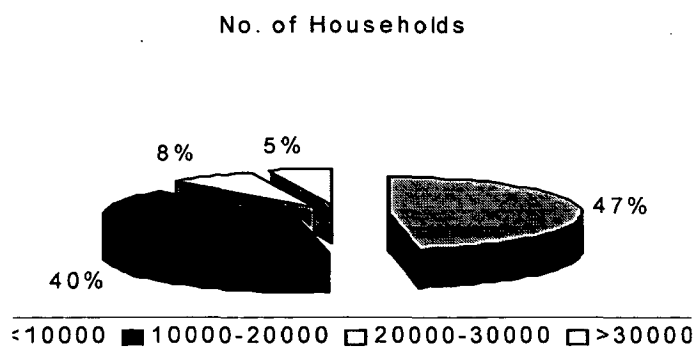
Fig No. 6B.1: Income Vs. Number of Households

The table reveals that people are not well to do as 47.50 per cent of the surveyed households fall into income category Rs. <10,000

## 6B.2 Education

Income and education are interdependent on each other. Higher the education level, better will be the employment and hence income, which increases their purchasing power. Similarly, better the economic status of the family, higher will be the affordability, awareness and willingness to study and send their wards to schools and colleges.

Education not only helps in increasing economy of the individual but also economy of the region, State and country. It also increases awareness about diseases, disguise unemployment, population control, etc. Having this knowledge in mind, the investigator investigated the educational status of the households in the study area, and presented in Table No. 6B.2 and Fig. No. 6B.2.

Table No. 6B.2: Income Vs. Education

| | Primary | % | Secondary | % | Graduate | % | Post Graduate | % | Total | % |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Education | | | | | |
| <10000 | 3 | 5.26 | 18 | 31.58 | 30 | 52.63 | 6 | 10.53 | 57 | 47.50 |
| 10000-20000 | 0 | 0.00 | 6 | 12.50 | 27 | 56.25 | 15 | 31.25 | 48 | 40.00 |
| 20000-30000 | 0 | 0.00 | 0 | 0.00 | 3 | 33.33 | 6 | 66.67 | 9 | 7.50 |
| >30000 | 0 | 0.00 | 0 | 0.00 | 6 | 100.00 | 0 | 0.00 | 6 | 5.00 |
| Total | 3 | | 24 | | 66 | | 27 | | 120 | 100.00 |
| % | 2.50 | | 20.00 | | 55.00 | | 22.50 | | 100.00 | |

This table explains that in Income category Rs. <10,000, more than half (52.63 per cent) of the surveyed households are graduates, slightly less than one-third (31.58 per cent) have secondary education, approximately one-tenth (10.53 per cent) are post graduates and rest 5.26 per cent have primary education only. In Income category Rs. 10,000-20,000, highest share of 56.25 percent are graduates, slightly less than one-third (31.25 per cent) are postgraduates and rest above one-tenth (12.50 per cent) have secondary education. In Income category Rs. 20,000-30,000, two-third (66.67 per cent) of the surveyed households are postgraduates and rest one-third (33.33 per cent) are graduates. None fall into category of primary and secondary education. All households in Income category Rs. >40,000, are graduates.

The table also reveals that educational status of the people of the surveyed households is good as more than half families (55.00 per cent) of the surveyed households are graduates, less than one-quarter (22.50 per cent) are post graduates, one-fifth (20 per cent) have secondary education and rest 2.5 per cent have only primary education.

**Education**



☐ Primary ☐ Secondary ■ Graduate ▨ Post Graduate
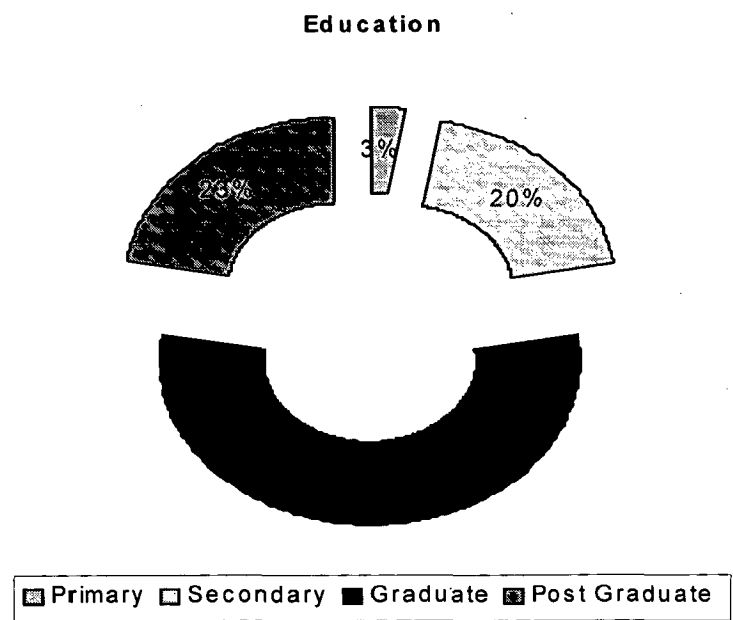
*Fig. No. 6B.2: Level of Education*

## 6B.3 Occupation

Occupation is a very important parameter, which decides the functions of the system. In India, in rural area, major sections of the people are engaged in primary sector, whereas in urban area, people prefer to be in secondary or tertiary sector. In less developed area, in a single household, different members can be observed to be occupied in all primary, secondary, tertiary and self employed. Males of the household are normally occupied in either of three sectors, whereas females are self employed i.e. they runs their confectionary shop, STD/PCO booth, etc. to increase

their economic status. Occupation plays a very important role in deciding the income, expenditure, etc. Having this knowledge in mind, the investigator studied the occupational character of the people of the study area and classified them on basis of occupation, and grouped them into primary, secondary, tertiary and self employed, and presented in Table No. 6B.3 and Fig. No. 6B.3.

Table No. 6B.3: Income Vs. Occupation

| | Occupation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Primary | % | Secondary | % | Tertiary | % | Others | % | Total | % |
| <10000 | 0 | 0.00 | 0 | 0.00 | 45 | 78.95 | 12 | 21.05 | 57 | 44.19 |
| 10000-20000 | 9 | 16.67 | 0 | 0.00 | 39 | 72.22 | 6 | 11.11 | 54 | 41.86 |
| 20000-30000 | 0 | 0.00 | 3 | 33.33 | 3 | 33.33 | 3 | 33.33 | 9 | 6.98 |
| >30000 | 0 | 0.00 | 0 | 0.00 | 6 | 66.67 | 3 | 33.33 | 9 | 6.98 |
| Total | 9 | | 3 | | 93 | | 24 | | 129 | 100.00 |
| % | 6.98 | | 2.33 | | 72.09 | | 18.60 | | 100.00 | |

It is observed from the survey conducted that slightly less than four fifth (78.95 per cent) of the households having income Rs. <10,000 are employed in tertiary sector and rest more than one fifth (21.05 per cent) are self employed like medical store, confectionary shop, STD/PCO booth, etc. in income group Rs. 10,000-20,000,

**Main Occupation**



☐ Primary  ☐ Secondary  ■ Tertiary  ▨ Others

Fig. No. 6B.3: Occupation Break-up

less than three fourth (72.22 per cent) households of the surveyed households in the system are employed in tertiary sector, one sixth (16.67 per cent) are employed in primary sector and rest 11.11 per cent are self employed. In income group Rs. 20,000-30,000; surveyed households are equally distributed in secondary, tertiary and self-employment (33.33 per cent). In income group Rs. >30,000, two third (66.67 per cent) are employed in tertiary sector and rest one third (33.33 per cent) are self-employed.

Thus it is observed that major share (72.09 per cent) of the total surveyed households are employed in tertiary sector, less than two-fifth (18.60 per cent) are self-employed, one-fifteenth (6.98 per cent) are employed in primary sector and a negligible amount of 2.33 per cent households are employed in secondary sector.

## 6B.4 Religion

Religion plays a very important role in Indian society. Lot of religions like Hindu, Muslim, Sikhism, Buddhism, Christian, Jainism, etc. are found in our vast country. Out of these religions, Hindu and Muslim religions are found to be dominant. It is observed that people of same religion tend to form a group because of similar cult, background, beliefs, festivals, etc. this tendency of grouping together varies from region to region. Hence it is very essential to have religion data as it effects development activities. Having this knowledge in mind, the investigator has made an attempt to study the religious pattern of the surveyed household, and presented in Table No. 6B.4 and Fig. 6B.4 a,b,e,d, and e.

Table No. 6B.4: Income Vs. Religion

| Religion | | | | | | |
|---|---|---|---|---|---|---|
| | Hindu | % | Muslim | % | Total | % |
| <10000 | 44 | 77.19 | 13 | 22.81 | 57 | 47.50 |
| 10000-20000 | 40 | 83.33 | 8 | 16.67 | 48 | 40.00 |
| 20000-30000 | 6 | 66.67 | 3 | 33.33 | 9 | 7.50 |
| >30000 | 6 | 100.00 | 0 | 0.00 | 6 | 5.00 |
| Total | 96 | | 24 | | 120 | 100.00 |
| % of the HH | 80.00 | | 20.00 | | 100.00 | |

This table elucidates that the surveyed households either belonged to Hindu or Muslim community. The region is Hindu dominated with four fifth (80 per cent) population and rest one fifth (20 per cent) are Muslims.
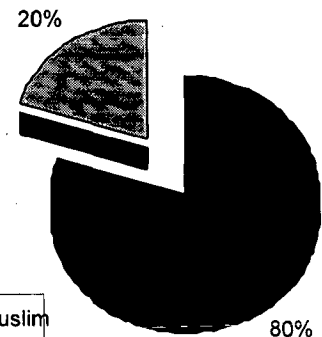


Fig. 6B.4a Religion break-up
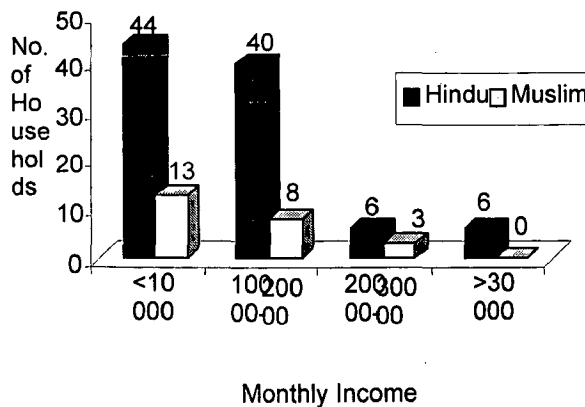


Fig. 6B.4b Income Vs. Religion

For all the income categories except for income category Rs. 20,000-30,000, it is observed that more than three fourth of the surveyed households are Hindus. Religion does not show any direct bearing with the income.

## 6B.5 Size of the Family

Population is one of the most important parameters, which decides the function of the system. In population growth, family size plays a vital role. In Indian context, economically weaker section goes for more production of children. It is due to lack of awareness, superstition and also mentality. Major section of economically weaker section thinks that, more number of children; more will be the income source. Having this knowledge in mind, the investigator studied the size of the family of the surveyed households, and presented in Table No. 6B.5 and Fig. No. 6B.5a, 6B.5b, 6B.5c, and 6B.5d.

Table No. 6B.5: Income Vs. Size of the Family

| | Size of Family | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 to 4 | % | 5 to 8 | % | >9 | % | Total | % |
| <10000 | 11 | 19.30 | 15 | 26.32 | 31 | 54.39 | 57 | 47.50 |
| 10000-20000 | 20 | 41.67 | 14 | 29.17 | 14 | 29.17 | 48 | 40.00 |
| 20000-30000 | 4 | 44.44 | 2 | 22.22 | 3 | 33.33 | 9 | 7.50 |
| >30000 | 3 | 50.00 | 1 | 16.67 | 2 | 33.33 | 6 | 5.00 |
| Total | 38 | | 32 | | 50 | | 120 | 100.00 |
| % of the HH | 31.67 | | 26.67 | | 41.67 | | 100.00 | |

This table explains that more than two-fifth (41.67 per cent) households have family size greater than 9. Less than one-third (31.67 per cent) of the surveyed households have family size less than 4. Rest, more than a quarter (26.67 per cent) has family size in between 5 to 8.

Percentage of family size less than 5 is more in upper income group households.



Fig. 6B.5a Size of Family for Monthly Income Rs.<10000

Fig. 6B.5b Size of Family for Monthly Income Rs.10000-20000

Fig.6B.5c Size of Family for Monthly Income Rs.20000-30000

Fig.6B.5d Size of Family for Monthly Income Rs.>30,000

■ 1 to 4 ▦ 5 to 8 □ >9

## 6B.6 Expenditure

Income and expenditure are directly proportional variables. If income level of a household increases, expenditure also increases and if income decreases, expenditure also decreases. Expenditure, on few parameters like food, health, etc. shows a very slight change with change in income, but, parameters like clothes, recreation, education, etc. are remarkably affected by change in income. Expenditure depends upon the need as well as affordability of the individual. Few necessary variables like fridge, cooler, radio, etc. can be observed in most of the household irrespective of their affordability. Having this knowledge in mind, the investigator made an attempt to study the expenditure pattern of the surveyed households, and presented in Table No. 6B.6 and Fig. 6B.6a.

Table No. 6B.6: Income Vs. Monthly Expenditure

| | Monthly Expenditure | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Food | Education | Recreation | Water | Transport | Loan Repayment | Clothes | Health | Telephone | Total | % |
| <10000 | 2242.11 | 2142.11 | 189.47 | 11.58 | 326.32 | 547.53 | 321.05 | 236.84 | 328.95 | 6345.96 | 7.87 |
| 10000-20000 | 3687.5 | 3325 | 325 | 78.75 | 743.75 | 893.75 | 693.75 | 378.13 | 921.88 | 11047.51 | 13.70 |
| 20000-30000 | 3333.33 | 45000 | 233.33 | 100 | 1200 | 0 | 566.67 | 100 | 5583.33 | 56116.66 | 69.57 |
| >30000 | 3250 | 0 | 600 | 0 | 350 | 0 | 2600 | 0 | 350 | 7150 | 8.86 |
| Total | 12512.94 | 50467.11 | 1347.8 | 190.33 | 2620.07 | 1441.28 | 4181.47 | 714.97 | 7184.16 | 80660.13 | 100 |
| % | 15.51 | 62.57 | 1.67 | 0.24 | 3.25 | 1.79 | 5.18 | 0.89 | 8.91 | 100 | |

This table elucidates that maximum share of about more than three fifth (62.57 per cent) of the income is spend in education. After this, less than one sixth (15.51 per cent) of the income is spend for food. A large amount of one-twelfth (8.91 per cent) is consumed in telephone. Clothes accounts for one-twentieth (5.18 per cent) and transportation accounts for 3.35 per cent. About one-sixtieth (1.67 per cent) of the income is spend for recreation and rest minimal shares goes for drinking water, loan repayment and health.



Fig No. 6B.6a Expenditure break-up

It is observed from the following figures that households in Income Category Rs. <10,000 spend more on food, education, loan repayment and health and less on

## 6B.7 Caste

In Indian culture, caste plays an important role in deciding the financial, educational and social status of the individual. Earlier, caste used to decide the occupation of the person. In some parts of the country, this differentiation of caste is still practiced. Normally, people coming in general category are more well to do as they hold better position in good occupation. Government of India has made some incentives to uplift the financial, educational and social status of the lower class people (OBC, SC and ST). Having this knowledge in mind, the Investigator made an attempt to study the caste of the surveyed households, and presented in Table No. 6B.7 and Fig. 6B.7a.

Table No. 6B.7: Income Vs. Caste

| | General | % | OBC | % | SC | % | ST | % | Total | % |
|---|---|---|---|---|---|---|---|---|---|---|
| <10000 | 33 | 57.89 | 6 | 10.53 | 15 | 26.32 | 3 | 5.26 | 57 | 47.50 |
| 10000-20000 | 21 | 43.75 | 15 | 31.25 | 9 | 18.75 | 3 | 6.25 | 48 | 40.00 |
| 20000-30000 | 6 | 66.67 | 3 | 33.33 | 0 | 0.00 | 0 | 0.00 | 9 | 7.50 |
| >30000 | 3 | 50.00 | 0 | 0.00 | 3 | 50.00 | 0 | 0.00 | 6 | 5.00 |
| Total | 63 | | 24 | | 27 | | 6 | | 120 | 100.00 |
| % | 52.50 | | 20.00 | | 22.50 | | 5.00 | | 100.00 | |

This table explains that more than half (52.50 per cent) of the surveyed households of the system comes in general category, followed by more than one-fifth (22.50 per cent) Scheduled Caste, followed by one-fifth (20.00 per cent) Other Backward Caste, and rest 5 per cent Scheduled Tribes.
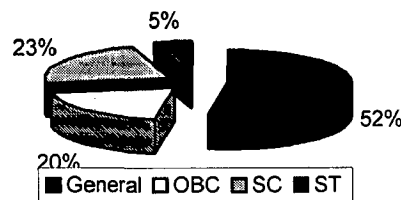


Fig. No. 6B.7a Caste break-up

Fig. B.7 a,b,c,d. explains that scheduled tribe people are present only in Income Rs.<20,000. In income class Rs. 20,000-30,000, about two-third (67.0 per cent) comes in general category and rest one-third (33.00 per cent) are OBC's. Scheduled population decreases with rise in Income level except the reverse trend in Income class Rs. >30,000. Some measures for upliftment of lower class people should be taken as slightly less than half (47.50 per cent) of the surveyed households belong to lower category.



Caste pattern for income for Rs.<10000

Caste pattern for Income for Rs.10000-20000

Caste pattern for Income for Rs. 20000-30000

Caste pattern for Income for Rs.>30000

| General ■ OBC □ SC □ ST |

*Fig. 6B.7 b,c,d,e Income Vs. Caste*

## 6B.8 Sex Ratio

Sex Ratio under normal circumstances defines the mentality of the population in general. Sex ratio of Uttar Pradesh State is 846 females per 1000 males[1] as compared to India's sex ratio being 933 females per 1000 males[2]. Condition of female is moderate in Uttar Pradesh. Sex ratio of the total region taken up for study is 886 females per 1000 males[3], which is higher than the State. Normally it is considered that more the male number in a household more will be the income. However, sex ratio has no direct bearing with the income. Better the income, better will be the educational level, hence better will be the mentality, but, this may or may not effect the sex ratio. Having this knowledge in mind, the Investigator made an attempt to study the sex ratio of the surveyed households, and presented in Table No. 6B.8 and Fig. 6B.8.

Table No. 6B.8: Income Vs. Sex Ratio

| Sex Ratio | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1:1 | % | 1:1 1/2 | % | 1:2 | % | 1:3 | % | 1:3 1/2 | % | >1:4 | % | Total | % |
| <10000 | 21 | 36.84 | 6 | 10.53 | 3 | 5.26 | 6 | 10.53 | 9 | 15.79 | 12 | 21.05 | 57 | 47.50 |
| 10000-20000 | 18 | 37.50 | 9 | 18.75 | 3 | 6.25 | 0 | 0.00 | 0 | 0.00 | 18 | 37.50 | 48 | 40.00 |
| 20000-30000 | 3 | 33.33 | 3 | 33.33 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 3 | 33.33 | 9 | 7.50 |
| >30000 | 0 | 0.00 | 3 | 50.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 3 | 50.00 | 6 | 5.00 |
| Total | 42 | | 21 | | 6 | | 6 | | 9 | | 36 | | 120 | 100.00 |
| % | 35.00 | | 17.50 | | 5.00 | | 5.00 | | 7.50 | | 30.00 | | 100.00 | |

Fig. 6B.8 reveals that 1:1 male-female ratio accounts for maximum i.e. 35 per cent. 30 per cent households have male population almost four times to that of female, hence it is a male dominated area.
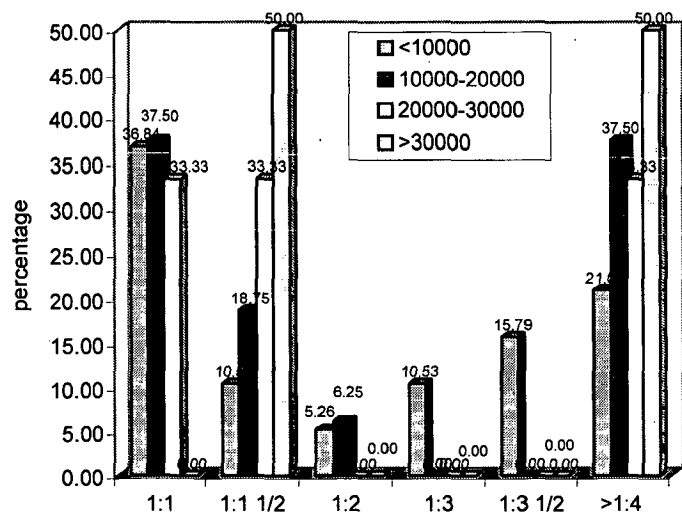


Fig. No. 6B.8 Income Vs. Sex-Ratio

[1] "Uttar Pradesh 2005", Uttar Pradesh-An overview, p 937.
[2] "India 2005 Observer Statistical Handbook", India at a glance, p. A-01.
[3] Public Census Abstract-Uttar Pradesh, Census of India.

## 6B.9 Migration

Generally, migration takes place due to prevailing socio-economic evils in the system. In India, though India has huge quantity of human resources, most of the human resources are not utilized properly due to several factors. More quantity of financial resources is very much essential to make them into technically advanced.

Unfortunately, more than half of the total population is still illiterate. Most of the literate persons are also experiencing or undergoing the problems of socio-economic evils, such as, unemployment, under employment, disguised unemployment, vicious circle of poverty, malnutrition, etc. Under these circumstances, the illiterate persons
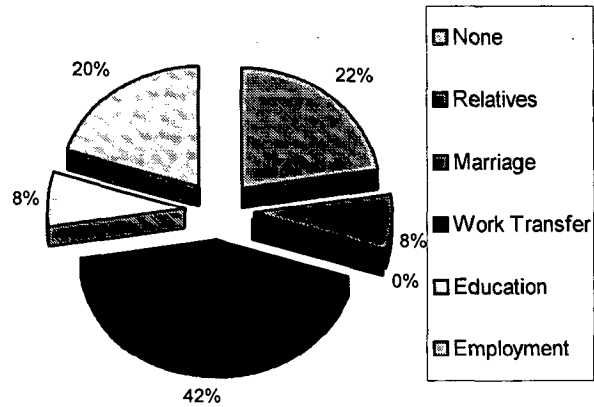


*Fig. 6B.9a Factors for migration*

do not have standing at all, and are mostly chained with misfortune of socio-economic evils. These factors are virtually responsible for migration. Having all this knowledge in mind, the Investigator studied the reasons for migration among the surveyed households, and presented in Table No. 6B.9 and Fig 6B.9a,b, c, d, and e.

Table No. 6B.9: Income Vs. Migration

| | None | % | Relatives | % | Work Transfer | % | Education | % | Employment | % | Total | % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| <10000 | 9 | 15.79 | 3 | 5.26 | 18 | 31.58 | 9 | 15.79 | 18 | 31.58 | 57 | 47.50 |
| 10000-20000 | 12 | 25.00 | 3 | 6.25 | 27 | 56.25 | 0 | 0.00 | 6 | 12.50 | 48 | 40.00 |
| 20000-30000 | 6 | 66.67 | 3 | 33.33 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 9 | 7.50 |
| >30000 | 0 | 0.00 | 0 | 0.00 | 6 | 100.00 | 0 | 0.00 | 0 | 0.00 | 6 | 5.00 |
| Total | 27 | | 9 | | 51 | | 9 | | 24 | | 120 | 100.00 |
| % | 22.50 | | 7.50 | | 42.50 | | 7.50 | | 20.00 | | 100.00 | |

Fig. 6B.9a illustrates that main reason of migration is wok transfer. More than two-fifth (42 per cent) migrated due to work transfer. Relatives and marriage are also important factors of migration.

**Migration in Income group<10000**
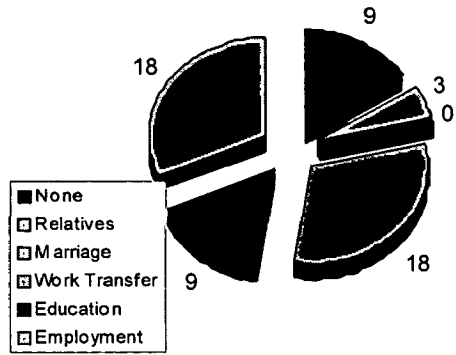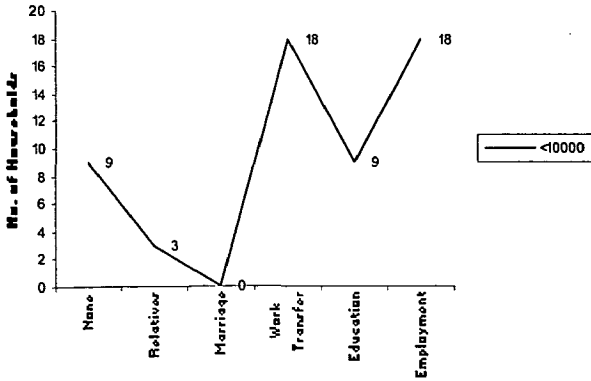




*Fig. 6B.9b Migration in Income group <10,000*

**Migration in Income group10000-20000**
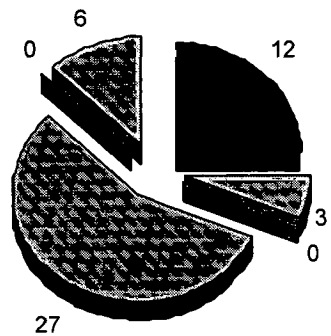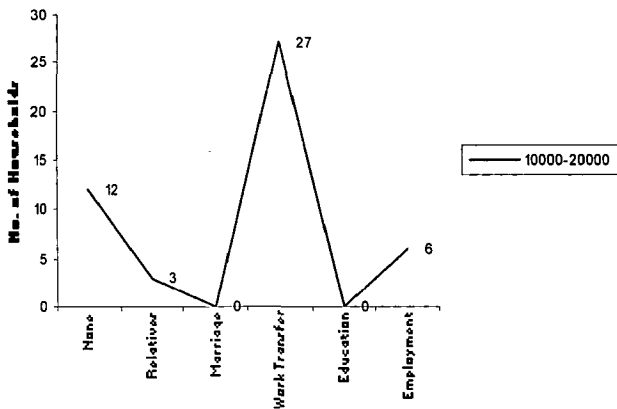




*Fig.6 B.9c Migration in Income group 10000-20000*

**Migration in Income group20000-30000**
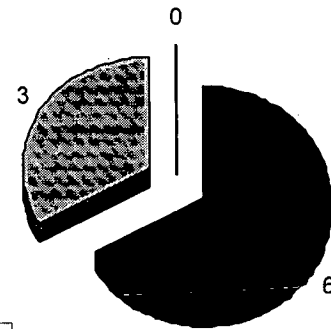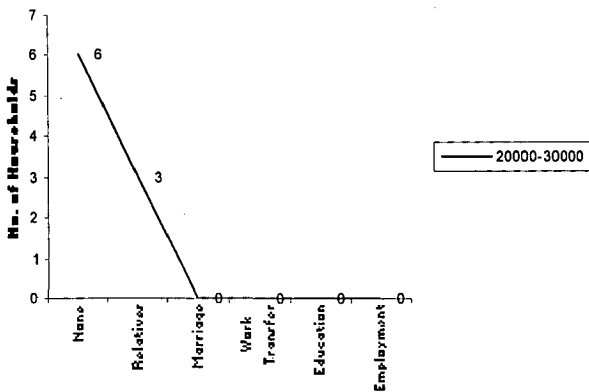




*Fig.6B.9d Migration in Income group 20000-30000*

**Migration in Income group>30000**
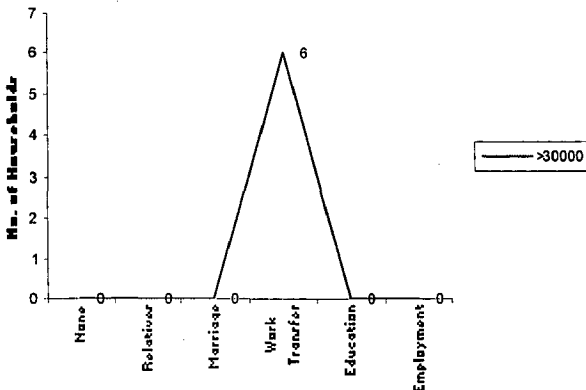




*Fig. 6B.9e Migration in Income group >30000*

## 6B.10 Vehicles

In Indian scenario the tendency to judge the economic status of any family is by counting the number and type of vehicles, household appliances like fridge, cooler, television, computer, microwave, radio, etc. some people find inconvenience in using public transport as they take more time, they are not clean, etc. if on one hand, vehicle offers freedom of accessibility, on the other hand it also increases cost of living due to high rate of petrol, diesel,



Fig 6B.10: Vehicles break-up

maintenance, etc. if the economic condition of the household is good than only he can afford a vehicle.

Having this knowledge in mind, the Investigator made an attempt to study the sex ratio of the surveyed households, and presented in Table No. 6B.10 and Fig. 6B.10.

Table No. 6B.10: Income Vs. Vehicles

| | Vehicles | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Cycle | % | 2-Wheeler | % | 4-Wheeler | % | Total | % |
| <10000 | 42 | 48.28 | 42 | 48.28 | 3 | 3.45 | 87 | 46.77 |
| 10000-20000 | 18 | 27.27 | 36 | 54.55 | 12 | 18.18 | 66 | 35.48 |
| 20000-30000 | 6 | 33.33 | 9 | 50.00 | 3 | 16.67 | 18 | 9.68 |
| >30000 | 6 | 40.00 | 6 | 40.00 | 3 | 20.00 | 15 | 8.06 |
| Total | 72 | | 93 | | 21 | | 186 | 100.00 |
| % | 38.71 | | 50.00 | | 11.29 | | 100.00 | |

## 6B.11 Ownership

Food, cloth and shelter are the three basic necessities of a person. Everybody works hard in order to obtain these three things for themselves and their family. In Indian context people want to invest their money in land property and jewellery as price of both shoot up very fast.

Shelter is very important for human beings as it gives them feeling of security, safety and privacy. People who cant afford a house of their own, take house on rent.
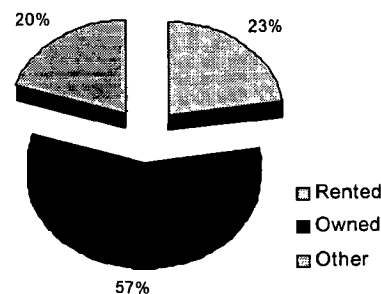


Fig 6B.11: Ownership break-up

House ownership shows the financial power of the household. There are few people who give part or full of their residence on rent as it is a good income source. Keeping this in mind, the Investigator studied the ownership pattern of the surveyed households and presented in the Table 6B.11.

Table No. 6B.11: Income Vs Ownership

| | Ownership | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Rented | % | Owned | % | Other | % | Total | % |
| <10000 | 15 | 26.32 | 36 | 63.16 | 6 | 10.53 | 57 | 47.50 |
| 10000-20000 | 6 | 12.50 | 27 | 56.25 | 15 | 31.25 | 48 | 40.00 |
| 20000-30000 | 0 | 0.00 | 6 | 66.67 | 3 | 33.33 | 9 | 7.50 |
| >30000 | 6 | 100.00 | 0 | 0.00 | 0 | 0.00 | 6 | 5.00 |
| Total | 27 | | 69 | | 24 | | 120 | 100.00 |
| %-of total HH | 22.50 | | 57.50 | | 20.00 | | 100.00 | |

Fig. 6B.11 reveals that more than half of the surveyed households (57 per cent) stays in their own house. Major share of about one-fifth (20 per cent) are habited in Government quarters, etc. Rest 23 per cent are habited in rented accommodation.

## 6B.12 Finance

Food, cloth, shelter are the three basic necessities of a person. Individual works hard in order to provide at least food, cloth and shelter to his family. Among the three variables, shelter is one of the important parameter. In Indian context, everybody wants to possess his or her own house. Those who can afford it, construct by their own. Rest of them takes loan from banks or other institutions for the construction of their houses. Mode of finance also shows the financial condition of a household. It also shows that people want to avail the facility of home loans etc. Now a days lot of banks are coming up with very good schemes of giving loan at very low interest rate. People want to avail these facilities. Keeping this in mind, the Investigator studied the house finance pattern of the surveyed households and presented in Table 6B.12.

Table No. 6B.12: Income Vs Finance

| | Finance | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Ancestral | % | Self | % | Bank | % | Rented | % | Total | % |
| <10000 | 18 | 31.58 | 27 | 47.37 | 6 | 10.53 | 6 | 10.53 | 57 | 47.50 |
| 10000-20000 | 9 | 18.75 | 18 | 37.50 | 9 | 18.75 | 12 | 25.00 | 48 | 40.00 |
| 20000-30000 | 3 | 33.33 | 6 | 66.67 | 0 | 0.00 | 0 | 0.00 | 9 | 7.50 |
| >30000 | 0 | 0.00 | 6 | 100.00 | 0 | 0.00 | 0 | 0.00 | 6 | 5.00 |
| Total | 30 | | 57 | | 15 | | 18 | | 120 | 100.00 |
| % | 25.00 | | 47.50 | | 12.50 | | 15.00 | | 100.00 | |

Table 6B.12 reveals that maximum share of households (47.50 per cent) have self financed their houses, and minimum (12.50 per cent) took loan from bank for construction.

## 6B.14 Water Supply

Water is one of the basic necessities of a human being and is priceless for a life. Earlier when population was less, water was in abundance, but, it has become scarce now due to high population.

An economic theory, "water-diamond paradox" clearly states that since diamond is scarce in comparison to water, hence, it is expensive. Although water is in abundance, but still there is scarcity of drinking water. In few cities, people pay to get drinking water. Having this knowledge in mind, the, Investigator studied the water supply system of the surveyed households and also the duration of water supply and presented in the Table 6B.14a, 6B.14b, and 6B.14c, and Fig. 6B.14a, and Fig. 6B.14b.

Table No. 6B.14a: Duration of Water Supply

| Time of Water Supply | | |
|---|---|---|
| | Hours Per Day | % |
| Barabanki | 10.8 | 45.00 |
| Hardoi | 8 | 33.33 |
| Sitapur | 14.5 | 60.42 |
| Rae Bareli | 4 | 16.67 |
| Unnao | 4 | 16.67 |
| Lucknow | 12 | 50.00 |
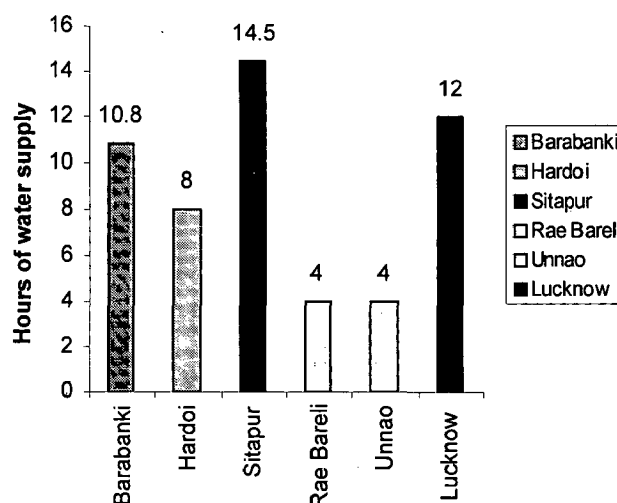


Fig 6B.14a: Duration of Water Supply

Table No. 6B.14b: Piped Water Supply

| Piped Water Supply | | | | |
|---|---|---|---|---|
| | Yes | % of total HH | No | % of total HH |
| <10000 | 42 | 35.00 | 15 | 12.50 |
| 10000-20000 | 39 | 32.50 | 9 | 7.50 |
| 20000-30000 | 9 | 7.50 | 0 | 0.00 |
| >30000 | 3 | 2.50 | 3 | 2.50 |
| Total | 93 | 77.50 | 27 | 22.50 |
| % of total HH | 77.50 | | 22.50 | |



■ Yes  ▦ No
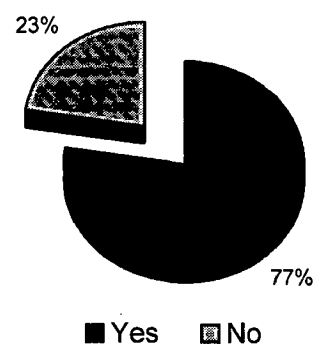
Fig 6B.14b: Availability of
Piped Water Supply

Table No. 6B.14c: Income and Supply System

| | Public Supply | % | Pvt. Well | % | Bore Well | % | Community Well | % | Hand Pump | % | Total | % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| <10000 | 30 | 52.63 | 3 | 5.26 | 3 | 5.26 | 3 | 5.26 | 18 | 31.58 | 57 | 47.50 |
| 10000-20000 | 27 | 56.25 | 0 | 0.00 | 9 | 18.75 | 0 | 0.00 | 12 | 25.00 | 48 | 40.00 |
| 20000-30000 | 9 | 100.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 9 | 7.50 |
| >30000 | 0 | 0.00 | 0 | 0.00 | 3 | 50.00 | 0 | 0.00 | 3 | 50.00 | 6 | 5.00 |
| Total | 66 | | 3 | | 15 | | 3 | | 33 | | 120 | 100.00 |
| % of total HH | 55 | | 2.5 | | 12.5 | | 2.5 | | 27.5 | | 100.00 | |

Table 6B.14a, 6B.14b, and 6B.14c, and Fig. 6B.14a, and Fig. 6B.14b shows that more than three-fourth (77 per cent) of surveyed households have access to piped water supply. Duration of water supply is very uneven in the region. Sitapur has 14.5 hours water supply, whereas Rae Bareli and Unnao get only 4 hours supply. More than half (55 per cent) use public system of water supply, slightly more than one-fourth (27.5 per cent) rely on hand pump for their daily needs. Rest use borewell, private well and community well.

## 6B.15 Disposal

Everybody wants to live in a clean and healthy environment. Household is the primary unit from where the waste comes. Method of waste disposal adopted reflects the mentality of a person. Few households have the tendency to store the household waste for manure. Few of them store in dustbin and dispose daily. Few just throw it out. This affects the built as well as natural environment. This mentality is also based on the Income level, educational background etc.

Government authorities are also responsible for waste collection. In few areas government authorities are not active and only private agencies take care of the waste collection.

Frequency of collecting waste directly affects the environment. Having this knowledge in mind, the Investigator studied the method of waste disposal, agency/authority who takes its responsibility and the frequency of waste collection and presented in the Table 6B.15.

Table 6B.15 reveals that garbage is stored maximum in Rae-Bareli for manure formation. It is not at all stored in Hardoi and Lucknow. Some campaigns on benefit of garbage storage are required in these places. Garbage is thrown out maximum (65 per cent) in Unnao.

| Waste Disposal | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Hardoi | Storage | % | Dustbin | % | Burning | % | Throwing Out | % | Total | % |
| <10000 | 0 | 0.00 | 7 | 58.33 | 0 | 0.00 | 5 | 41.67 | 12 | 10.00 |
| 10000-20000 | 0 | 0.00 | 4 | 50.00 | 0 | 0.00 | 4 | 50.00 | 8 | 6.67 |
| 20000-30000 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| >30000 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| Total | 0 | | 11 | | 0 | | 9 | | 20 | 100.00 |
| % | 0.00 | | 55.00 | | 0.00 | | 45.00 | | 100.00 | |

Table No. 6B.15: Income and Waste Disposal

| Waste Disposal | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Rae Bareli | Storage | % | Dustbin | % | Burning | % | Throwing Out | % | Total | % |
| <10000 | 6 | 60.00 | 0 | 0.00 | 0 | 0.00 | 4 | 40.00 | 10 | 8.33 |
| 10000-20000 | 4 | 40.00 | 2 | 20.00 | 1 | 10.00 | 3 | 30.00 | 10 | 8.33 |
| 20000-30000 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| >30000 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| Total | 10 | | 2 | | 1 | | 7 | | 20 | 100.00 |
| % | 50.00 | | 10.00 | | 5.00 | | 35.00 | | 100.00 | |

| Waste Disposal | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lucknow | Storage | % | Dustbin | % | Burning | % | Throwing Out | % | Total | % |
| <10000 | 0 | 0.00 | 2 | 28.57 | 0 | 0.00 | 5 | 71.43 | 7 | 5.83 |
| 10000-20000 | 0 | 0.00 | 7 | 77.78 | 0 | 0.00 | 2 | 22.22 | 9 | 7.50 |
| 20000-30000 | 0 | 0.00 | 4 | 100.00 | 0 | 0.00 | 0 | 0.00 | 4 | 3.33 |
| >30000 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| Total | 0 | | 13 | | 0 | | 7 | | 20 | 100.00 |
| % | 0.00 | | 65.00 | | 0.00 | | 35.00 | | 100.00 | |

| Waste Disposal | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Barabanki | Storage | % | Dustbin | % | Burning | % | Throwing Out | % | Total | % |
| <10000 | 3 | 21.43 | 0 | 0.00 | 0 | 0.00 | 11 | 78.57 | 14 | 11.67 |
| 10000-20000 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 6 | 100.00 | 6 | 5.00 |
| 20000-30000 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| >30000 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| Total | 3 | | 0 | | 0 | | 17 | | 20 | 100.00 |
| % | 15.00 | | 0.00 | | 0.00 | | 85.00 | | 100.00 | |

| Waste Disposal | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sitapur | Storage | % | Dustbin | % | Burning | % | Throwing Out | % | Total | % |
| <10000 | 0 | 0.00 | 8 | 80.00 | 0 | 0.00 | 2 | 20.00 | 10 | 8.33 |
| 10000-20000 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 20000-30000 | 1 | 20.00 | 0 | 0.00 | 4 | 80.00 | 0 | 0.00 | 5 | 4.17 |
| >30000 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 5 | 100.00 | 5 | 4.17 |
| Total | 1 | | 8 | | 4 | | 7 | | 20 | 100.00 |
| % | 5.00 | | 40.00 | | 20.00 | | 35.00 | | 100.00 | |

| Waste Disposal | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Unnao | Storage | % | Dustbin | % | Burning | % | Throwing Out | % | Total | % |
| <10000 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 3 | 100.00 | 3 | 2.50 |
| 10000-20000 | 3 | 21.43 | 3 | 21.43 | 0 | 0.00 | 8 | 57.14 | 14 | 11.67 |
| 20000-30000 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| >30000 | 0 | 0.00 | 0 | 0.00 | 1 | 33.33 | 2 | 66.67 | 3 | 2.50 |
| Total | 3 | | 3 | | 1 | | 13 | | 20 | 100.00 |
| % | 15.00 | | 15.00 | | 5.00 | | 65.00 | | 100.00 | |

## 6B.16 Household appliances

Household appliances are directly dependent on the income of the household. Higher the Income level of the family, better will be the purchasing power of the household. Few appliances like cooking appliances (stove, etc.) are the basic necessity but few appliances like television, computer, microwave, geyser etc. are the outcome of consumerism. Keeping this in mind, the Investigator studied the household appliances in the surveyed households of the system and presented in the Table 6B.16a,b, c, and d.

Table No. 6B.16a,b, c, and d Income Vs. Household appliances (radio, fridge, cooler, television)

| Radio | Total | % |
|---|---|---|
| <10000 | 39 | 46.43 |
| 10000-20000 | 39 | 46.43 |
| 20000-30000 | 6 | 7.14 |
| >30000 | 0 | 0.00 |
| Total | 84 | 100.00 |

| Cooler | Total | % |
|---|---|---|
| <10000 | 36 | 44.44 |
| 10000-200 | 33 | 40.74 |
| 20000-300 | 9 | 11.11 |
| >30000 | 3 | 3.70 |
| Total | 81 | 100.00 |

| Fridge | Total | % |
|---|---|---|
| <10000 | 36 | 40.00 |
| 10000-20000 | 42 | 46.67 |
| 20000-30000 | 9 | 10.00 |
| >30000 | 3 | 3.33 |
| Total | 90 | 100.00 |

| T.V. | Total | % |
|---|---|---|
| <10000 | 51 | 45.95 |
| 10000-200 | 45 | 40.54 |
| 20000-300 | 9 | 8.11 |
| >30000 | 6 | 5.41 |
| Total | 111 | 100.00 |

## 6B.17 Conveyance for work

For any person, place of work is of great importance. Work is the income source for any individual. Normally lower class employees tend to live near their work place in order to reduce the transportation costs. Frequency of going to the work place depends upon the nature of work. High-class people prefer to travel by their private vehicles for their convenience and saving time. Keeping this in mind, the Investigator studied the mode of conveyance, frequency of going to work place and presented in the Table 6B.17.

| Barabanki | Conveyance | | | | Frequency (per week) | Satisfaction | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Public | % | Pvt. | % | | Yes | % | No | % |
| <10000 | 10 | 71.43 | 4 | 28.57 | 6 | 8 | 57.14 | 6 | 42.86 |
| 10000-20000 | 2 | 33.33 | 4 | 66.67 | 6 | 5 | 83.33 | 1 | 16.67 |
| 20000-30000 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0.00 | 0 | 0.00 |
| >30000 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0.00 | 0 | 0.00 |
| Total | 12 | | 8 | | 6.00 | 13 | | 7 | |
| % | 60 | | 40 | | | 65 | | 35 | |

**Work**

| Sitapur | Conveyance | | | | Frequency (per week) | Satisfaction | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Public | % | Pvt. | % | | Yes | % | No | % |
| <10000 | 3 | 30.00 | 7 | 70.00 | 6 | 6 | 60.00 | 4 | 40.00 |
| 10000-20000 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0.00 | 0 | 0.00 |
| 20000-30000 | 0 | 0.00 | 5 | 100.00 | 5 | 5 | 100.00 | 0 | 0.00 |
| >30000 | 0 | 0.00 | 5 | 100.00 | 5 | 5 | 100.00 | 0 | 0.00 |
| Total | 3 | | 17 | | 5.33 | 16 | | 4 | |
| % | 15 | | 85 | | | 80 | | 20 | |

**Work**

| Unnao | Conveyance | | | | Frequency (per week) | Satisfaction | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Public | % | Pvt. | % | | Yes | % | No | % |
| <10000 | 3 | 100.00 | 0 | 0.00 | 6 | 2 | 66.67 | 1 | 33.33 |
| 10000-20000 | 5 | 35.71 | 9 | 64.29 | 6 | 14 | 100.00 | 0 | 0.00 |
| 20000-30000 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0.00 | 0 | 0.00 |
| >30000 | 0 | 0.00 | 3 | 100.00 | 5 | 3 | 100.00 | 0 | 0.00 |
| Total | 8 | | 12 | | 5.67 | 19 | | 1 | |
| % | 40 | | 60 | | | 95 | | 5 | |

**Work**

| Hardoi | Conveyance | | | | Frequency (per week) | Satisfaction | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Public | % | Pvt. | % | | Yes | % | No | % |
| <10000 | 4 | 33.33 | 8 | 66.67 | 7 | 10 | 83.33 | 2 | 16.67 |
| 10000-20000 | 2 | 25.00 | 6 | 75.00 | 6 | 6 | 75.00 | 2 | 25.00 |
| 20000-30000 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0.00 | 0 | 0.00 |
| >30000 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0.00 | 0 | 0.00 |
| Total | 6 | | 14 | | 6.50 | 16 | | 4 | |
| % | 30 | | 70 | | | 80 | | 20 | |

**Work**

| Rae Bareli | Conveyance | | | | Frequency (per week) | Satisfaction | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Public | % | Pvt. | % | | Yes | % | No | % |
| <10000 | 8 | 80.00 | 2 | 20.00 | 6 | 7 | 70.00 | 3 | 30.00 |
| 10000-20000 | 5 | 50.00 | 5 | 50.00 | 6 | 8 | 80.00 | 2 | 20.00 |
| 20000-30000 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0.00 | 0 | 0.00 |
| >30000 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0.00 | 0 | 0.00 |
| Total | 13 | | 7 | | 6.00 | 15 | | 5 | |
| % | 65 | | 35 | | | 75 | | 25 | |

**Work**

| Lucknow | Conveyance | | | | Frequency (per week) | Satisfaction | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Public | % | Pvt. | % | | Yes | % | No | % |
| <10000 | 4 | 57.14 | 3 | 42.86 | 7 | 5 | 71.43 | 2 | 28.57 |
| 10000-20000 | 5 | 5.56 | 4 | 4.44 | 6 | 6 | 6.67 | 3 | 3.33 |
| 20000-30000 | 0 | 0.00 | 4 | 100.00 | 5 | 4 | 100.00 | 0 | 0.00 |
| >30000 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0.00 | 0 | 0.00 |
| Total | 9 | | 11 | | 6.00 | 15 | | 5 | |
| % | 45 | | 55 | | | 75 | | 25 | |

Table No. 6B.17: Income Vs. Conveyance (work)

### 6B.18 Inter city Distance
Table No. 6B.18: Distance

|  | Lucknow | Barabanki | Sitapur | Hardoi | Kanpur | Unnao | Rae Bareli |
|---|---|---|---|---|---|---|---|
| Lucknow | - | | | | | | |
| Barabanki | 29 | - | | | | | |
| Sitapur | 46 | 90 | - | | | | |
| Hardoi | 98 | 115 | 42 | | | | |
| Kanpur | 79 | 119 | 96 | 139 | - | | |
| Unnao | 40 | 90 | 75 | 111 | 21 | - | |
| Rae Bareli | 82 | 95 | 128 | 180 | 105 | 97 | - |

- Table 6B.18 shows that all the cities proposed in the State Capital Region and Kanpur, a major commercial center on the near proximity, are in 100 km radius to the State Capital, Lucknow.

### 6B.19 Road Width
Table No. 6B.19: Road Width

|  | Lucknow | Barabanki | Sitapur | Hardoi | Kanpur | Unnao | Rae Bareli |
|---|---|---|---|---|---|---|---|
| Lucknow | - | | | | | | |
| Barabanki | 8.0 m | - | | | | | |
| Sitapur | 6.0 m | 6.0 m | - | | | | |
| Hardoi | 6.0 m | 4.0 m | 4.0 m | - | | | |
| Kanpur | 12.0 m | 6.0 m | 8.0 m | 8.0 m | - | | |
| Unnao | 8.0 m | 6.0 m | 8.0 m | 8.0 m | 12.0 m | - | |
| Rae Bareli | 9.0 m | 4.0 m | 6.0 m | 6.0 m | 8.0 m | 6.0 m | - |

- Table 6B.19 shows that Condition of road from Lucknow to all other cities proposed in the State Capital Region except for Sitapur and Hardoi is good. Connecting road width is not sufficient for these two cities.

### 6B.20 Street light facility
Table No. 6B.20: Street light facility

|  | Lucknow | Barabanki | Sitapur | Hardoi | Kanpur | Unnao | Rae Bareli |
|---|---|---|---|---|---|---|---|
| Lucknow | - | | | | | | |
| Barabanki | Yes | - | | | | | |
| Sitapur | Yes | No | - | | | | |
| Hardoi | No | No | No | - | | | |
| Kanpur | Yes | No | Yes | No | - | | |
| Unnao | No | No | No | No | Yes | - | |
| Rae Bareli | No | No | No | No | No | No | - |

- As observed from the Fig. 6B.20, out of 21 routes, only 5 of them avails the facility of street lighting.

- Only 3 out of 6 routes from Lucknow and Kanpur have the facility of street lighting.

- None of the roads to Hardoi and Rae Bareli have street lighting.

## 6B.21 Bus Facility

Table No. 6B.21: Bus Facility

| | Lucknow | Barabanki | Sitapur | Hardoi | Kanpur | Unnao | Rae Bareli |
|---|---|---|---|---|---|---|---|
| Lucknow | - | | | | | | |
| Barabanki | Yes | - | | | | | |
| Sitapur | Yes | No | - | | | | |
| Hardoi | Yes | No | Yes | - | | | |
| Kanpur | Yes | Yes | Yes | Yes | - | | |
| Unnao | Yes | Yes | Yes | Yes | Yes | - | |
| Rae Bareli | Yes | No | No | No | Yes | No | - |

- As observed from the Fig. 6B.21 , 6 out of 21 routes do not have bus access.

- Rae Bareli is not accessible by 4 out of 6 cities in the Study Area.

- Barabanki is not accessible by 3 out of 6 cities in the Study Area.

## 6B.22 Time taken by bus

Table No. 6B.22: Time taken by bus

| | Lucknow | Barabanki | Sitapur | Hardoi | Kanpur | Unnao | Rae Bareli |
|---|---|---|---|---|---|---|---|
| Lucknow | | | | | | | |
| Barabanki | 45 mins. | | | | | | |
| Sitapur | 2 hrs. | - | | | | | |
| Hardoi | 3 hrs. | - | 2.5 hrs. | | | | |
| Kanpur | 2 hrs. | 3 hrs | 5.5 hrs. | 4.5 hrs. | | | |
| Unnao | 1 hr. | 2 hrs. | 4 hrs. | 3.5 hrs. | 1 hr. | | |
| Rae Bareli | 2 hrs. | - | - | - | 3.5 hrs. | - | |

- Fig. 6B.22 reveals that all the cities in the Study area takes not more than 2 hrs. from Lucknow, except for Hardoi, which takes 3 hrs. from bus.

- All the cities proposed in State Capital Region do not take more than 2 hrs. in going their neighbour city.

## 6B.23 Petrol Pumps

Table No. 6B.23: Number of Petrol Pumps

| | Lucknow | Barabanki | Sitapur | Hardoi | Kanpur | Unnao | Rae Bareli |
|---|---|---|---|---|---|---|---|
| Lucknow | - | | | | | | |
| Barabanki | 9 | - | | | | | |
| Sitapur | 14 | 12 | - | | | | |
| Hardoi | 7 | 5 | 2 | - | | | |
| Kanpur | 24 | 9 | 11 | 9 | - | | |
| Unnao | 19 | 7 | 8 | 4 | 5 | - | |
| Rae Bareli | 8 | 6 | 4 | 7 | 8 | 5 | - |

- Fig. 6B.23 shows that there is no fixed pattern of the facility. Rae Bareli is 82 kms. From Lucknow, it has only 8 petrol pumps on the way. On the other hand, Sitapur is 46 kms. from Lucknow, yet there are 14 petrol pumps.

## 6.C FINDINGS

Following inferences have been derived from the analysis of the primary data, and

discussion made in the system. They are:

### 6.C.1. Physical aspects

Land use

- Mixed land use is observed in the region, which has given rise to haphazard growth.

- Open areas are not maintained properly leading to rapid deterioration of environment

- Percentage of open area and water bodies has reduced from previous decades due to pressure on land.

### 6.C.2. Infrastructural aspects

Infrastructure in the area is inadequate and very poor. In this region since infrastruture growth is non commensurate with population growth.

**Transportation**

- Traffic load on roads has been increased, due to rapid increment in population

- Public buses are very less in number and do not fulfill the requirement of the people.

- There is no adequate parking provision in the main commercial centers.

- Rickshaw pullers in the old city further add to the problem of congestion.

- Major district roads are not maintained properly. Provision of street lighting is also not available in most of the district roads.

- All the households have vehicles showing good economic background.

- Usually private vehicles are used to go for work. This gives convenience and also saves time.

## Water supply

- Duration of water supply in few areas is very less. A considerable share of people of the region rely on hand pumps, wells for their water requirement.

- Public water supply is the main source of water supply system in the region. Yet, few people depend on hand pump and bore well for their daily water requirement.

- The water supply is varying from town to town within the region. It has been observed that the average supply is about 8.5 hrs per day.

## Drainage and Sewerage system

- The waste disposal system in the study area is satisfactory.

- Most of the drains in the study area are open, which clogs and overflows in the rainy season, resulting to unhygienic conditions.

## Housing condition

- Pressure on land has increased due to rapid increment in population, which has increased occupancy rate. Thus, unhygienic living conditions can be observed.

- A considerable amount of people live in dilapidated houses.

- Most of the people live in their owned houses and the percentage of people living in rented house is considerably less.

- Less than half of the people live in self-financed houses and a quarter of them live in their ancestral house. Only a meager number of households constructed their houses by arranging loan from banks.

## Tele-communications

- Management in the area is far from effective. In many areas, provision for power, telephone was seen but facility was absent.

## Power supply

- Pressure on power supply has also increased, due to increased population,. Power cut is a normal thing in few areas.

- Power tariff is on flat rate in few areas. Some areas also have non-metered connections.

## 6.C.3. Social aspects
## Commercial and Recreational facilities

- People from Hardoi go to Lucknow for shopping and recreational facilities, as there is no variety of commercial shops in their region.

- Unplanned Shandy areas create lot of congestion and nuisance in the region.

- Most of the people belong to middle income group and the purchasing power parity of the households is average.

- Most of the people in the study area are graduates. There is good literacy rate in the region.

- Major share of the people are engaged in tertiary activities. A considerable share of people runs their own shops from within their houses.

- Majority of people belong to Hindu community while a very minor share belongs to Muslim community.

- Most of the households have family size greater than 9.

- Maximum share of the monthly income goes in education, followed by food and telephone. Rest goes for other necessary activities.

- Major section of the people, in the study area, belongs to general category, followed by scheduled caste people. Scheduled tribe population is negligible.

- It is the male dominated region.

- Most of the people have migrated because of transfer in job.

- The people have a good living standard. All income group people is enjoying all types of household appliances, such as radio, cooler, fridge, television, etc.

- Most of the households use private vehicles for going their work. This gives convenience and also saves time.


## 6.C.4. Ecological and Environmental aspects

- There is an increase in population. As a consequence, pressure on land has increased. To overcome the problem of land, open areas have been reduced, trees have been cut, which results in imbalanced environment.

- More number of vehicles has resulted in high noise pollution and poor air quality. Water quality is also affected by the carbon mono-oxide produced by vehicles.

The Investigator has discussed the results of the investigation and grouped them into four aspects, such as, strengths, weakness, opportunities, and threats of the region and are presented as follows:

### 'Strengths' of the Region

1.   Presence of the State capital-Lucknow.

2.   Most important Industrial city, Kanpur, is in the close proximity of the region.

3.   The land of Lucknow, Sitapur and Barabanki district possesses a rich heritage in keeping with its glorious past and is famous in India due to its mythological & historical background.

4.   Availability of large amount of vacant land.

5.   Connectivity of all cities with State and National Highways.

6.   Availability of rail and road connectivity.

7.   The local people of the Region are skilled with art of cloth 'chiken' embroidery, handloom clothes, cotton and woolen mat (Durries), pickle making, spices making, papad making earthen potteries, wooden carvings, and leatherwork.

8.   Raebareli enjoys a very long history of traditional arts. Shoes (NAAGRE) of Semrauta, brassware of Maharajganj and earthen toys of Kakoran are living examples of craftsmanship for which Raebareli was always famous.

9.   Availability of work force in all sectors.

10.  Availability of power and telecommunication facilities.

11.  The climate and land of Hardoi is very suitable for growing guava, different variety of mangos, lemon, herbal etc.

12.  The Sitapur Eye hospital along with its 32 branches serves eye patients throughout the Uttar Pradesh State and providing sight to visually challenged peoples.

13.  Sitapur Police Training College is an important center for training of police personnel.

14.  Several varieties of birds like Ducks, King Fisher, partridges, pigeons, peacock and several other water birds.

15.  Agro Industries in Raebareli, which produces flowers and medicinal grass.

16.  High production of wheat, paddy, pulses, juar, oilseed, barley, and potato in Raebareli.

| CITY/TOWN | STRENGTHS |
|---|---|
| Lucknow | Since it is a capital city having maximum population, located in the center of the State Capital region and it is well connected to all other cities. |
| Unnao | It is the biggest industrial area of the region |
| Rae Bareli | It is the biggest exporter of wheat, paddy, pulses, juar, oilseed, barley, and potato. |
| Sitapur | It has the biggest eye hospital of the region. |
| Barabanki | It has rich historical background |
| Hardoi | It has rich historical background |

**'Weaknesses' of the Region**
1. High population density. (674 persons per square km.)
2. Only 21.65 per cent urban population.
3. Lack of drinking water resources.
4. Lack of health care facilities.
5. Lack of public amenities.
6. Lack of community facilities.
7. Lack of sanitation and drainage facilities.
8. Work participation rate is only 33.32 per cent.
9. River pollution due to industrial effluent.

**'Opportunities' of the Region**
1. Commercialization of silk weaving and carpet making.
2. Scope of tourism development, so that it can be made a center of tourist attraction.
3. Employment of skilled labour in small and household industries.
4. Employment of skilled labour in building industries.
5. Area can be used for the large-scale production of sugar, floor, rice, medicinal plants, wheat, paddy, pulses, *juar*, oilseed, barley, and potato.
6. Export of local art of embroidery, cotton and woolen mats, shoes, brassware, and earthen toys.

7. 'Birds sanctuary' can be made due to the availability of several varieties of birds like Ducks, King Fisher, partridges, pigeons, peacock and several other water birds and migratory birds,

8. Riverbanks can be well developed and can be used as 'Water parks'.

9. Climate of the Northern part of the Sitapur district receives more rain, hence climate is good for the production of wheat, rice & *'urd'* (main crops) & sugarcane, mustard & groundnuts (cash crops).

## 'Threats' of the Region

1. Uncontrolled inmigration.

2. Rait is a stream in Barabanki, which flows dangerously during rains, flooding its adjoining areas.

3. High land value.

4. River pollution due to effluent of the industries in Unnao town.

*This chapter deals with projection of Physical Infrastructure, social Infrastructure, commercial centers, miscellaneous facilities, and other services for year 2021.*

## Forecasting the Demand of Facilities for the year 2021A.D.

The chapter deals with forecasting the facilities required, for the year 2021A.D. in the system. Population of the cities confined in the study area is projected for the year 2021 using by geometric progression method.

The important control parameters, which decides functions of the system, considered for projections are:

1.    Population
2.    Housing
3.    Water supply
4.    Electricity
5.    Sewerage system
6.    Solid waste management
7.    Commercial Activities
8.    Tele-communication
9.    Postal services
10.    Education
11.    Health Care Facilities
12.    Socio-cultural facilities
13.    Distribution services
14.    Police
15.    Fire

There are few methods available for forecasting such as, geometric increment method, regression method, arithmetic increment method, incremental increase method, logistic curve method, etc. In this investigation, population is considered as the focal point. Considering the population, other requirements are calculated by employing relevant standards, which have been set for different variables by different concerned organizations.

To have plausible projections, the planning standards that are given in the UDPFI (Urban Development Plan Formulation & Implementation) guidelines have been followed.

To project the population availability for the year 2021, geometric progression method is employed by considering the population increment from 1991 census to 2001 census. The method, which is followed, for population calculation for the study and is as follows:

**Population**

Total population in the year 1991 = 139.23 lakhs

Total population in the year 2001 = 189.12 lakhs

According to Geometric Increment Method:

$$P_n = P_0 (1+r)^t \qquad \text{-------------- Eq. 1}$$

Where,

$P_n$ = Projected population

$P_0$ = Present population

$r$ = Growth Rate

$t$ = Time period

Calculating r,

$$P_{2001} = P_{1991} (1+r)^{10}$$

$$189.12 = 139.23 (1+r)^{10}$$

$$1+r = 1.0311$$

$$r = 0.0311$$

Therefore, population in the year 2021

$$P_{2021} = P_{2001} (1+0.0311)^{20}$$

$$= 189.12 (1.0311)^{20}$$

$$= 340.70 \text{ lakhs}$$

Thus, the population of the study area in the year 2021 would be 340.70 lakhs.

Therefore,

Increase in population = $P_{2021} - P_{2001}$

$$= 340.70 - 189.12 \text{ lakhs}$$

$$= 151.58 \text{ lakhs}$$

## 7.1 PHYSICAL INFRASTRUCTURE

Table 7.1 Projection for Physical Infrastructure for year 2021

| S. No. | Facilities | Norms/ standards | Requirement in 2021 |
|--------|------------|------------------|---------------------|
| | | | |
| i. | Households | Popn./ household size | 57,94,218 |
| ii. | Water supply | 135 lpcd | 4599.45 ML/day |
| iii. | Electricity | | |
| | No. of connections | no. of households | 57,94,218 |
| | Power required | 2 Kw per household | 11,588,435 |
| | No. of electric sub-station | 1 (11Kw) for 15,000 | 206 |
| iv. | Sewerage system | 80 % of water supply | 3679.56 MLD |
| v | Solid waste management | | |
| | Total Solid waste generated | 500 gms. Per capita | 12035 t/day |
| | No. of composting plants | 1-capacity 200 tonnes | 60 nos. |

*Source: Projected by Author based on UDPFI guidelines*

## 7.2 COMMERCIAL CENTRES

Table 7.2 Projection for Commercial Centers for year 2021

| S. No. | Facilities | Norms/ standards | Requirement in 2021 |
|--------|------------|------------------|---------------------|
| i. | Sector centre | 1 for 200 persons | 1,70,350 |
| ii. | Community centre | 1 for 200 persons | 1,70,350 |
| iii | District centre | 1 for 300 persons | 1,13,567 |

*Source: Projected by Author based on UDPFI guidelines*

## 7.3 MISCELLANEOUS FACILITIES

Table 7.3 Projection for Miscellaneous Facilities for year 2021

| S. No. | Facilities | Norms/ standards | Requirement in 2021 |
|--------|------------|------------------|---------------------|
| i. | Cremation/Burial Ground | 2 sites for 5 lakh popn. | 136 |
| ii. | Dhobi Ghat | 1 site for 1 lakh popn. | 341 |

*Source: Projected by Author based on UDPFI guidelines*

## 7.4 OTHER FACILITIES AND SERVICES

Table 7.4 Projection for Other facilities and services for year 2021

| S. No. | Facilities | Norms/ standards | Requirement in 2021 |
|--------|------------|------------------|---------------------|
| i. | Telecommunication | 10 lines per 100 popn. | 3407000 |

*Source: Projected by Author based on UDPFI guidelines*

## 7.5 SOCIAL INFRASTRUCTURE

Table 7.5 Projection for Social Infrastructure for year 2021

| S. No. | Facilities | Norms/ standards | Strength | Requirement in 2021 |
|---|---|---|---|---|
| **A. EDUCATIONAL FACILITIES** | | | | |
| a. Pre-primary to Secondary Education | | | | |
| i. | Pre-primary, nursery school | 1 for 2,500 popn. | | **13628** |
| ii. | Primary school (class I to V) | 1 for 5,000 popn. | 500 students | **6814** |
| iii. | Senior Secondary school (VI to XII) | 1 for 7,500 popn. | 1000 students | **4543** |
| iv. | Integrated school without hostel | 1 for 90,000-1 lakh popn. | 1500 students | **341** |
| v. | Integrated school with hostel | 1 for 90,000-1 lakh popn. | 1000 students | **341** |
| vi. | School for handicapped | 1 for 45,000 popn. | 400 students | **757** |
| | | | | |
| b. Higher Education- General | | | | |
| vii. | College | 1 for 1.25 lakh popn. | 1000-1500 stude | **273** |
| | | | | |
| c. Technical Education | | | | |
| viii. | Technical education centre | 1 for 10 lakh popn. | 900 students | **34** |
| ix. | Technical centre | 1 for 10 lakh popn. | | **34** |
| | | | | |
| **B. HEALTH CARE FACILITIES** | | | | |
| i. | General Hospital | 1 for 2.5 lakh popn. | 500 beds | **136** |
| ii. | Intermediate hospital (Category-A) | 1 for 1 lakh popn. | 200 beds | **341** |
| iii. | intermediate hospital (Category-B) | 1 for 1 lakh popn. | 80 beds | **341** |
| iv. | Poly-clinic | 1 for 1 lakh popn. | | **341** |
| v. | Nursing home, child welfare, maternity centre | 1 for 0.45 to 1 lakh popn. | 25-30 beds | **757** |
| vi. | Dispensary | 1 for 0.15 lakh popn. | | **2271** |
| | | | | |
| **C. SOCIO-CULTURAL FACILITIES** | | | | |
| i. | Community room | 1 for 5,000 popn. | | **6814** |
| ii. | Community hall and library | 1 for 15,000 popn. | | **2271** |
| iii. | Recreation club | 1 for 1 lakh popn. | | **341** |
| iv. | Music, dance and drama centre | 1 for 1 lakh popn. | | **341** |
| v. | Meditation and spritual centre | 1 for 1 lakh popn. | | **341** |
| vi. | Socio-cultural centre | 1 for 10 lakh popn. | | **34** |
| | | | | |
| **D. DISTRIBUTION SERVICES** | | | | |
| i. | Milk distribution | 1 for 5,000 popn. | | **6814** |
| ii. | LPG godowns | 1 for 40,000-50,000 popn. | | **681** |
| | | | | |
| **E. POLICE** | | | | |
| i. | Police station | 1 for 90,000 popn. | | **379** |
| ii. | Police post | 1 for 0.4 to 0.5 lakh popn. | | **681** |
| iii. | District office and battalion | 1 for 10 lakh popn. | | **34** |
| iv. | Police line | 1 for 20 lakh popn. | | **17** |
| v. | District jail | 1 for 10 lakh popn. | | **34** |
| vi. | Civil defence and home guards | 1 for 10 lakh popn. | | **34** |
| | | | | |
| **F. FIRE** | | | | |
| i. | Fire station or sub-fire station | 1 for 2 lakh popn. | | **170** |

*Source: Projected by Author based on UDPFI guidelines*

*This chapter deals with recommendations based on the analysis of primary, secondary data, and observations.*

## 8.1 RECOMMENDATIONS

### 8.1.1 Physical aspects

Land use

- A strict land use map should be prepared considering all the factors.

- It should be made open to public for their comments. Public participation will result in better functioning of the plan.

- Check on in migration should be there so that there is no pressure on land.

- Vertical growth should be given priority. It would not or less effect the open areas.

- Percentage of open areas should be fixed.

### 8.1.2 Infrastructural aspects

Provision of infrastructure should be planned in accordance with the requirement so as to reduce the gap in infrastructure provision.

### Transportation

Transport routes are most influential in governing the location of cities, which link regions to external areas. Urban settlements tend to grow on transport routes only at specific places, particularly at junctions and break-of-bulk points, where one form of transport is changed for another. Hence, settlements whose locations are guided by transport routes are found not only at the end of these routes, but also along them. The most important is not the number of routes, which come together at a particular point, but the degree to which passengers and goods are interchanged.

- Public mass transit system should be made effective to reduce traffic/ vehicle load on the road.

- Multistorey parking should be provided in commercial areas to reduce congestion.

- Entrance of motorized as well as non-motorized vehicles should be banned in old part of the city to reduce the problem of congestion and also to reduce accident chances.

- Provision of street lighting should be given in district roads.

- Most of the trips are conducted by private modes of transport, cycle and cycle rickshaws. The poor share of public transport in a State Capital Region of 18.91 million population is a sign of inefficient transport system. In the absence of the adequate and efficient public transport system, this will further lead to increase in the use of private vehicle and decrease in public transport share. To achieve a better public transport share in the Region, the strategic plan should be developed to improve the public transport system and examine the feasibility of introducing mass transit system according to the requirement.

- There should be construction of rural link roads, bridges, fly-over, ring roads, expressways, widening and strengthening of main roads passing through cities, anticipation of private sector in these activities, removal of road-side encroachment, financial arrangement for construction and maintenance of roads and bridges and effective measures for proper operation of works.

- Effective measures should be taken to check time over-run and cost over-run in construction works with the help of computerization and data bank.

## Water supply

- Required amount of water supply should be made for all areas.

- Public should be made aware of the latest technologies on rainwater harvesting. In this regard, Government should take some initiative to launch new technologies for recycling and reuse of water, and rainwater harvesting.

## Drainage and Sewerage system

- All the drains should be made covered to reduce unhygienic conditions spread due to it.

## Housing condition

- Vertical growth should be encouraged as it reduces horizontal spread.

- Government should take necessary steps to provide houses to low-income group people that may reduce slum formation.

## Power supply

- Power tariff rate should be revised. Flat rate method should be removed, as it does not have any control on power consumption.
- Power theft should be checked since it causes heavy account of loss.

## 8.1.3 Social aspects

## Commercial and Recreational facilities

- All facilities (recreation, education, commercial, etc.) should be provided in each Town. Nodal points for major activities like colleges, hospitals, stadiums, etc. can be provided in the big city/ Town.
- Develop water parks
- Develop existing lakes
- There are large number of migratory birds arrive in this region, so develop Bird's sanctuary should be developed.

## Improving status of women

A key factor for high population growth is poor status of women, early marriage ,low literacy and low literacy and low employment.

- 33% reservation for women in government e.g. fair price shops etc. Those marrying below the legal age to be ineligible for jobs in government sector and public enterprises.
- Special emphasis to improve female literacy.
- Special measures to encourage males to adopt family planning there by reducing the burden on the women.

## Private Sector Participation

- Hand and resources of government needed to be strengthened by support from all sections of society.

- Various Co-operative societies such as milk Co-operatives and primary agriculture Co-operatives to be involved in reproductive and child health programme.

  Traditional practitioners of the Indian System of Medicines to be involved in the distribution of contraceptives and other health products like ORS, iron and folic acid etc. in rural areas.

## Improving Access & Quality of reproductive & Child Health Services

- Decentralization of programme design and implementation to the district level by revamping existing structure of the Health & Family Welfare department. To improve health services.

- Clinics to be set up in urban areas on the pattern of primary health centers to provide immunization and family planning services in urban slums.

## 8.1.4 Institutional facilities

- Strengthening of infrastructure facilities in the primary and secondary schools.
- Introduction of vocational-courses.
- Starting of special schools for disabled and handicapped children.
- Providing flexible-educational facilities for working children of both organised and unorganised sectors.
- Starting institutes and colleges imparting professional-courses.
- To bring about qualitative improvement by strengthening libraries & laboratories, provision of Internet facilities, pedagogical interventions, sports and refresher courses.
- Setting of centres of excellence in the Universities by establishing distinguished chairs for research in specific area.
- Strengthening of Health Services. Under the ambitious family planning programme, population growth is expected to be reduced. In order to achieve these targets and thereby improving the health status of people in the country, tremendous efforts are required to be made not only by government but also by the people. It is in this perspective that development of health care assumes significant importance. The concept of health care is emerging from providing

treatment to the disease to the improvement of overall health status and also maintenance of good health.

## 8.1.5 Miscellaneous

- Location for shandy areas should be provided to reduce any kind of nuisance and congestion.
- Qualitative improvement in law and order and crime control.
- Increase in agriculture production.
- Construction and revamping of roads and bridges.
- Qualitative improvement in power supply.
- Availability and qualitative improvement in urban and rural water supply.
- Creation of a conducive industrial climate.
- Creation of more employment opportunities.
- Upliftment of Minorities for Social Harmony.
- Women Upliftment and equal opportunities with dignity.
- Information Technology.
- Clean, Transparent and Effective Administration.
- Though the Industries of Unnao are very small, however this Industrial area if taken care of a little by the Govt. of UP, may attract the industrialists and entrepreneurs of leather as well as other fields increasingly due to the aesthetical and topographical features of this industrial area helping prevention of environmental degradation and enrich up to a great extent being a major issue in present industrial scenario.
- River Gomti passes through Lucknow city from NorthWest to SouthEast direction separating the old city area from the newly developing areas like Gomti Nagar, Indira Nagar, etc. A minimum level of 3 to 4 Mts. of water depth is maintained throughout the year. The stretch between Gaughat Pumping Station and Gomti barrage, which is about 10 Kms touching important places and residential areas on both the banks, could be utilised with a water transport system.
- It is sad that in any urban development plan the word 'garbage' is either missing or is given the least priority. Unless one realizes that garbage is a valuable resource and can be converted into wealth, one will continue to look down upon the rag picker. Garbage can prove to be gold. At individual level, garbage should

be segregated into degradable and non-degradable waste, and it must be processed and either sold or dumped hygienically.

- Optimal growth poles should be identified and strengthened for the development of the system. This region has more potential in terms of connectivity with other State capitals, developed industries, trade, commerce, culture, etc. Besides this, it has tourism potential also. The Investigator gives the following recommendations for strengthen the same:
  - o Special economic zones should be developed.
  - o Tourism should be strengthened.
  - o Multiple linkages should be developed among all the sectors of the economy.
  - o Recreational facilities should be strengthened so that it can also get benefit of the 2010 Commonwealth games.
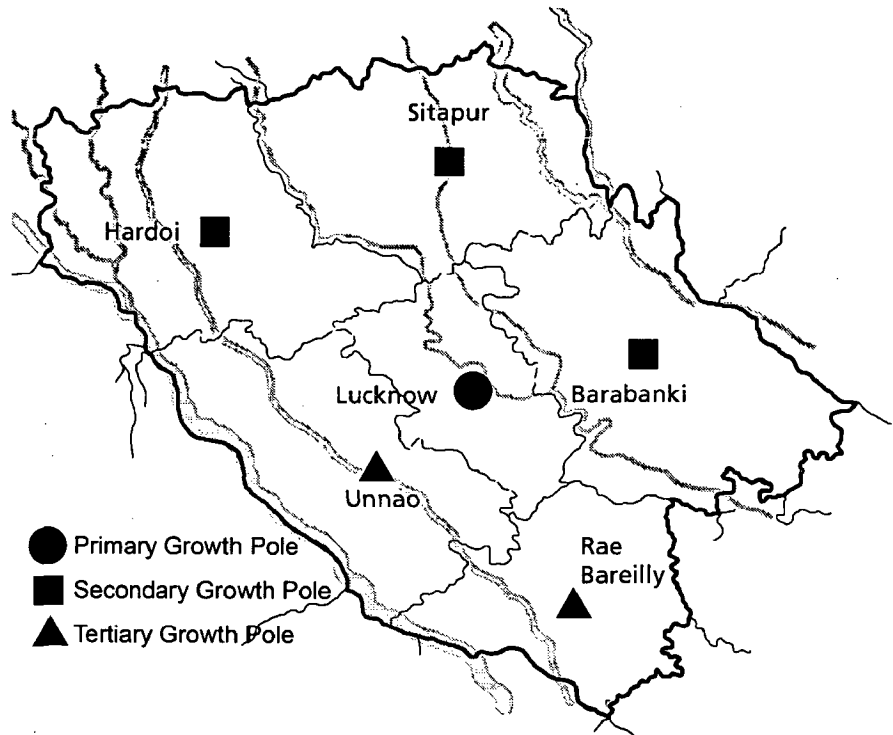


Fig. 8.1 Proposed Growth Poles in the proposed State Capital Region

- Set up hospitals, nursing homes and diagnostic centers. The population per bed at all India level is of the order of 1300. As against this the population per bed of U.P. is in the order of 2000. The infant mortality rate in the State is as high as 84 per thousand birth as against target of 80 per thousand birth set up to be achieved by 2004 A.D., by the Govt. of India. The above statistics indicate the potential for setting up hospitals, nursing homes and diagnostic centres in the region. ✶

- The unparalleled state of Uttar Pradesh is studded with places of tourist attractions across a wide spectrum of interest to people of diverse interests. The combination of culture and nature attract several tourists to the proposed State Capital Region every year. This rich architecture should be well advertised.

- Conservation of natural and grown forests, their planned development and scientific and rational management should be done. There should be massive tree plantation under social and agriculture forestry on private, communion institutional land.

- Strong Emphasis on Monitoring to ensure that implementation is as per plan, an evaluation should be held to track the progress to ensure timely corrective action.

## 8.2 Phased development

Physical and Social infrastructure to be provided are recommended to be distributed in three phases.

| PHASE | PHYSICAL | SOCIAL |
|---|---|---|
| PHASE I<br><br>(2006-2011) | Water Supply | Health Facilities |
| | Sewerage and drainage | Educational Institutions |
| | Rail/ Road connectivity | Financial Institutions |
| | Housing | Training Institutions |
| | Electronic Connectivity | |
| PHASE II<br><br>(2011-2016) | Housing | Educational Institutions |
| | Electricity | Community facilities |
| | Electronic Connectivity | Financial Institutions |
| | Tele communication | |
| | Rail/ Road connectivity | |
| PHASE III<br><br>(2016-2021) | Electronic Connectivity | Training Institutions |
| | Tele communication | Financial Institutions |

Phase I, II, and III are divided into time frame of five years each.

## 8.2.1 Physical Infrastructure will provide the following stated:

Housing: Filling the housing gaps with improved quality.

Road/ Rail connectivity: connectivity with good quality roads, having street light facilities, which is presently unavailable. Reschedule local train timings based on survey of up and down passengers.

Water Supply: adequate supply and distribution

Electricity: adequate supply and distribution

Sewerage/ Drainage: adequate supply and distribution

Electronic connectivity: provision of Internet facilities, e-governance, online training (education, agriculture, health, banking, etc.)

Tele-communication: Telephone and mobile facilities to be provided in the whole region.

**8.2.2 Social Infrastructure would provide the following stated:**

**Health facilities**

- General Hospital          137
- Intermediate Hospital    341
- Nursing Homes            341
- Dispensaries             2272

**Schools/ colleges**

- Primary            81 primary schools.
- Secondary          4543 schools
- Higher education   273 colleges

**Information center (for tourists):** It will give information about region's rich historical background and architecture. Life size models should be placed at various places especially near bus and railway stations.

**Vocational training:** Training in the following areas such as pottery, earthen pots, cloth embroidery, nursery raising, processing of milk/ dairy products, agro processing (dal, papad, spices, etc.), value addition in fruits and vegetables (pickle, sauce, jam, jelly, squash, etc.), coir work (preparation of yarn, door mats, rope, toys), tailoring and embroidery should be strengthened so that rural industries and tourism can also be developed.

This will help in employment generation and increase in income earning opportunities and lead to strengthening the country at the greater level. These trained people can be then employed in Small-scale industries as well as high scale industries.

## 8.3 Organizations/ Schemes/ Methods that can be taken with the help of the following:

1. Pradhan Mantri Gram Sadak Yozna
2. Public-private partnership
3. Swarnjayanti Swayozgar Yozna
4. National Food for Work Program
5. Privatization of Infrastructure like power supply, sewage disposal, telecommunications
6. NGOs, Private funds for funding the projects

Infrastructural improvements would require addressing various facets set out below:

**Infrastructure Improvements**

- **Water Supply** – Quantity, Quality, Coverage, Service

- **Sewerage system** – Quantity, Coverage, Service, Disposal

- **Solid Waste Management** – Quantity, Coverage, Service, Disposal

- **Power** – Quantity, Quality, Service

- **Road Network** – Linkages, Quality, ROW, Transit time, Traffic mgmt.

- **Transportation** – Capacity, Frequency, Quality, Coverage, Service

- **Social Infrastructure** – Quality, Location, Target segment, Service

## 8.4 Integrated Strategy For Development

| STRATEGY | EXISTING SITUATION | ACTION | STAKEHOLDER |
|---|---|---|---|
| Traffic and transportation | National traffic going through the city creates traffic jam | Construction of by-pass roads and other linking new roads | UPTDC, Pvt. Sector. |
| Basic infrastructure and Amenities | Lack of sanitary facility, water supply, sewage collection, drainage system, market complex, multiplexes etc. | Building up of more infrastructure and amenities like multiplex, open air theatre, golf course, garden, etc. | Concerned Nagar Nigam, D.A. |
| Development of traffic junction | Due to heavy traffic inflow and tourist inflow in the State capital, some of the junctions like, Hazratganj, Charbagh, etc. and also create accidents | Widening of road junction, creation of lighting, paving, etc on road junction | Concerned D.A. Transport Deptt. |
| Internal road system | Lack of accessibility to the historical sites, pavement, lightening, signage, etc Narrow road creates problem | Approach roads to the monuments Action plan for widening of roads Pavement, signage, street lighting, etc | Concerned Nagar Nigam, D.A. |
| Location criteria for accommodation | Improper distribution of accommodation facility. | New construction of accommodation facility. Equal distribution of facilities. | Concerned D.A. |
| Shopping activities | Shopping area are not properly maintained New shopping area are coming up, but not in planned way | Equal distribution of shopping activities | Concerned D.A. |
| Other shopping area (exclusively serving for tourists) | No specific area for tourist shopping, Having some shops near the monuments creating congestion | Specific area allotment for tourist shopping and development of these areas. | Concerned D.A. |
| Informal shopping | No specific area for informal shopping, | Development of some informal shopping area, | Concerned D.A., pvt org. |
| Recreations | Lack of recreational facilities like, gardens, parks, clubs, multiplex, etc. | Built up of recreational spaces, maintaining of the existing gardens, construction of new golf course, open air theatre, multiplex | Pvt. Organisations, |

| | | | |
|---|---|---|---|
| River side development | These sides are neither maintained, nor developed | River front development programmes, Creating boating facilities in the river, Creating some programme of viewing the monuments from the river. | Concerned D.A. Pvt.organisations |
| Plantation | Only Cantonment areas have the plantation, Cities do not have it on the road side. | Tree plantation along the road side, and along the river side of Gomti. | Concerned Nagar Nigam, Concerned D.A. |
| Electrification | Lack of street lightening on the roads and near the monuments | Construction of the street lighting on the road side as well as on the bank of the river | Concerned Nagar Nigam |
| Conservation | Conservation of the monument visited by the tourist is not at the satisfaction level. Historical buildings are not well advertised | Conservation and restoration of monument with new materials and new technologies. | ASI, INTACH, Pvt developers. |
| Sanitation | Improper sanitation facilities in the city. Lots of open drain system and overflowing creates bad impression of the city to the tourist. | All open drain system should be covered and should be reconstruct with the consideration of the 20 years master plan of the city, | Concerned Nagar Nigam Concerned D.A. |
| Water supply and drainage | Lack of water supply to the whole city, Drainage system is not maintained and it creates overflowing during monsoon season. | Built up of some new water treatment plant, reconstruct the drainage system. | Concerned Nagar Nigam Concerned D.A. |
| Satellite tourist center around Agra | Lack of information system at the monument and at the city also. Tourist does not know where to go and how to go, | With the main tourist information center, there should be construction of tourist center at the monument like Imambara, Residency, Parijaat tree complex, etc and near bus stands and railway stations | Tourism department |
| Distribution of facilities | Unequal distribution of facilities. Major influx of population is some areas | Redistribute the t facilities equally | Concerned D.A. |
| Amenity complex | Insufficient amenities in the region. | Construction of some more amenities with the fulfillment of the future demand | Concerned D.A. |

Websites:

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2. http://www.upgov.nic.in/
3. http://allahabad.nic.in/
4. http://barabanki.nic.in/
5. http://faizabad.nic.in/
6. http://hardoi.nic.in/
7. http://kanpurnagar.nic.in/
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10. http://sitapur.nic.in/
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# HOUSEHOLD SURVEY FORMAT

**Department of Architecture & Planning, Indian Institute of Technology, Roorkee**

This is a study carried for the fulfillment of thesis work under the supervision of Dr. V. Devadas, Department of Architecture & Planning, IIT Roorkee, Roorkee.

Sl. No.                    Location

Date:

## 1. Demographic characteristics:

1.1 Name of the Family Head:                    1.2 Religion:

1.3 Address:                    1.4 Caste:

1.5 Family Details:

| S.No. | Name of the person | Relation with family head | Age (yrs) | Married Yes/no | Max. education attained | Monthly income | Occupation | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Primary | Secondary |
| 1. | | | | | | | | |
| 2. | | | | | | | | |
| 3. | | | | | | | | |
| 4. | | | | | | | | |
| 5. | | | | | | | | |
| 6. | | | | | | | | |
| 7. | | | | | | | | |
| 8. | | | | | | | | |
| 9. | | | | | | | | |
| 10. | | | | | | | | |

1.6 Monthly expenditure in Rs./month

| | | Energy (Quantity/month) | |
|---|---|---|---|
| a. Food | b. Education | | |
| c. Recreation | d. Drinking | a. LPG | e. Kerosene |
| e. Transportation | f. Loan repayment | b.Petrol | f. Charcoal |
| g. Clothes | h. Health | c. Diesel | g. Fuel wood |
| i. Any other | j. Telephone | d.Electricity | |
| k. Saving | | | |

1.7 Household Appliances:
Refrigertor............, T.V............., Stove........., Mixer/Grinder........., Computer......., Washing Machine......., Cooler......., Geyser......., Microwave......., Tape Recorder......., Any other...................................................................................................

## 2. Physical Characteristics

2.1 Housing

a.    Type of house: Detached/ Semi Detached/ Apartment/ Row
b.    Age of the house (in yrs.).........................

### 3.3 Electricity
  a. Available/ Unavailable
  b. Metered/ Non-metered
  c. Voltage Fluctuations
  d. Overhead poles/ Underground cables
  e. Tariff : Monthly/ Flat rate

### 3.4 Drainage/ Sewerage
  a. Availability of : Septic tank/ Soak Pit/ SEwer/ No facility
  b. Drains: Open/ Covered/ No drains
  c. Problems: Overflow/ Clogging/ Bad Odour/ No Problem
  d. Overflow of drains during rainy season : Yes/No

### 3.5 Waste Disposal

  a. Method of collection at house:
i.) Storage Container    ii)Dustbin/PVC bag    iii)Burning    iv)Throwing out
  b. Frequency of collection from the area:
i) Everyday    ii)Alternate days    iii)3 days    iv) 4 days    v) weekly
  c. Agency for collection
i) Nagar Nigam  ii)Private Agency    iii)NGO

### 4. Migration Characteristics:
4.1 Since how many years you have been staying here? For the last-

(a) 0-5    (b) 6-10    (c) 11-15    (d) 16-20    (e) 21-25    (f) 26-30    (g) 31& above

4.2. Where were you staying before?
  1. If, within city, where? _____
  2. If, within Uttar Pradesh, where? _____
  3. If, outside state, where? _____

4.3. a) When did you come to city? _____
     b) Why?
1) Employment    2) Education    3) Work transfer    4) Relatives & Friends
5) Better environment    6) Marriage    7) Avoid social tensions

### 5. Remarks

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Survey conducted by
Richa Singh

| | 'Total Popn.' | 'Male Popn.' | 'Female Popn.' | 'Total 0-6Years' | 'Male 0-6Years' | 'Female 0-6Years' | 'Total SC' | 'Male SC' | 'Female SC' |
|---|---|---|---|---|---|---|---|---|---|
| Barabanki | 2673581 | 1416921 | 1256660 | 514820 | 265225 | 249595 | 718897 | 380469 | 338428 |
| Lucknow | 3647834 | 1932317 | 1715517 | 547950 | 286063 | 261887 | 776502 | 410227 | 366275 |
| Sitapur | 3619661 | 1941374 | 1678287 | 713356 | 368562 | 344794 | 1153626 | 619501 | 534125 |
| Unnao | 2700324 | 1422509 | 1277815 | 476318 | 247730 | 228588 | 827255 | 432367 | 394888 |
| Hardoi | 3398306 | 1842698 | 1555608 | 660875 | 345245 | 315630 | 1065848 | 581638 | 484210 |
| Rae Bareli | 2872335 | 1472230 | 1400105 | 530789 | 273434 | 257355 | 856749 | 435161 | 421588 |
| Total | 18912041 | 10028049 | 8883992 | 3444108 | 1786259 | 1657849 | 5398877 | 2859363 | 2539514 |

| | Total ST | Male ST | Female ST | Total Literates | Male Literates | Female Literates | Total Illiterates | Male Illiterates | Female Illiterates | Literacy Rate |
|---|---|---|---|---|---|---|---|---|---|---|
| Barabanki | 456 | 235 | 221 | 1023004 | 677728 | 345276 | 1650577 | 739193 | 911384 | 47.4 |
| Lucknow | 2868 | 1527 | 1341 | 2129942 | 1250877 | 879065 | 1517892 | 681440 | 836452 | 68.7 |
| Sitapur | 367 | 191 | 176 | 1404443 | 943222 | 461221 | 2215218 | 998152 | 1217066 | 48.3 |
| Unnao | 957 | 521 | 436 | 1215090 | 778699 | 436391 | 1485234 | 643810 | 841424 | 54.6 |
| Hardoi | 203 | 106 | 97 | 1420161 | 964239 | 455922 | 1978145 | 878459 | 1099686 | 51.9 |
| Rae Bareli | 1802 | 927 | 875 | 1259547 | 810498 | 449049 | 1612788 | 661732 | 951056 | 53.8 |
| Total | 6653 | 3507 | 3146 | 8452187 | 5425263 | 3026924 | 10459854 | 4602786 | 5857068 | 324.7 |

| | Sexratio | Sexratio 06Years | Sexratio SC | Sexratio ST | Percentage SC | Percentage ST | No. of Household |
|---|---|---|---|---|---|---|---|
| Barabanki | 887 | 941 | 890 | 940 | 26.9 | 0 | 459077 |
| Lucknow | 888 | 915 | 893 | 878 | 21.3 | 0.1 | 644269 |
| Sitapur | 864 | 936 | 862 | 921 | 31.9 | 0 | 596177 |
| Unnao | 898 | 923 | 913 | 837 | 30.6 | 0 | 465061 |
| Hardoi | 844 | 914 | 832 | 915 | 31.4 | 0 | 560319 |
| Rae Bareli | 951 | 941 | 969 | 944 | 29.8 | 0.1 | 499185 |
| Total | 5332 | 5570 | 5359 | 5435 | 171.9 | 0.2 | 3224088 |

| | Total Working Popn | Male Working | Female Working | Total Main Worker | Male Main Worker | Female Main Workers |
|---|---|---|---|---|---|---|
| Barabanki | 983751 | 732886 | 250865 | 724352 | 625850 | 98502 |
| Lucknow | 1086400 | 907221 | 179179 | 900181 | 796826 | 103355 |
| Sitapur | 1125509 | 982619 | 142890 | 923925 | 862588 | 61337 |
| Unnao | 926335 | 711807 | 214528 | 685498 | 613312 | 72186 |
| Hardoi | 1097661 | 941954 | 155707 | 904115 | 850662 | 53453 |
| Rae Bareli | 1023506 | 705571 | 317935 | 660527 | 553197 | 107330 |
| Total | 6243162 | 4982058 | 1261104 | 4798598 | 4302435 | 496163 |

| | Total Marginal Worker | Male Marginal Worker | Female Marginal Workers | Total Non Workers | Male Non Workers |
|---|---|---|---|---|---|
| Barabanki | 259399 | 107036 | 152363 | 1689830 | 684035 |
| Lucknow | 186219 | 110395 | 75824 | 2561434 | 1025096 |
| Sitapur | 201584 | 120031 | 81553 | 2494152 | 958755 |
| Unnao | 240837 | 98495 | 142342 | 1773989 | 710702 |
| Hardoi | 193546 | 91292 | 102254 | 2300645 | 900744 |
| Rae Bareli | 362979 | 152374 | 210605 | 1848829 | 766659 |
| Total | 1444564 | 679623 | 764941 | 12668879 | 5045991 |

| | Female Non Workers | OW Main and Marginal | Male OW(Main+Marginal) | Female OW(Main+Marginal) |
|---|---|---|---|---|
| Barabanki | 1005795 | 151979 | 130764 | 21215 |
| Lucknow | 15536338 | 689573 | 605399 | 84174 |
| Sitapur | 1535397 | 196337 | 172764 | 23573 |
| Unnao | 1063287 | 190762 | 168624 | 22138 |
| Hardoi | 1399901 | 185961 | 160457 | 25504 |
| Rae Bareli | 1082170 | 188732 | 162088 | 26644 |
| Total | 7622888 | 1603344 | 1400096 | 203248 |

| | 'CL_Main and Marginal' | 'Male CL(Main+Marginal)' | 'Female CL(Main+Marginal)' |
|---|---|---|---|
| Barabanki | 504892 | 407550 | 97342 |
| Lucknow | 213689 | 178063 | 35626 |
| Sitapur | 631321 | 577663 | 53658 |
| Unnao | 495569 | 399532 | 96037 |
| Hardoi | 650465 | 584902 | 65563 |
| Rae Bareli | 439967 | 335102 | 104865 |
| Total | 2935903 | 2482812 | 453091 |

| | 'AL Main and Marginal' | 'Male AL(Main+Marginal)' | 'Female AL(Main+Marginal)' |
|---|---|---|---|
| Barabanki | 29480 | 15888 | 10882 |
| Lucknow | 12191 | 8688 | 4598 |
| Sitapur | 24180 | 19862 | 4818 |
| Unnao | 20037 | 11831 | 8806 |
| Hardoi | 20925 | 18888 | 4867 |
| Rae Bareli | 35044 | 18986 | 17088 |
| Total | 140857 | 90808 | 49464 |

| | 'HH Main and Marginal' | 'Male HH(Main+Marginal)' | 'Female HH(Main+Marginal)' |
|---|---|---|---|
| Barabanki | 6200 | 3684 | 2416 |
| Lucknow | 5947 | 4061 | 1886 |
| Sitapur | 5671 | 3530 | 1741 |
| Unnao | 3967 | 2420 | 1547 |
| Hardoi | 5000 | 2827 | 2373 |
| Rae Bareli | 4173 | 2425 | 1438 |
| Total | 30848 | 19047 | 10701 |

| | 'Percentage Main Worker' | 'Percentage(Male Worker)' | 'Percentage Female(Main Worker)' |
|---|---|---|---|
| Barabanki | 27.1 | 44.2 | 7.8 |
| Lucknow | 24.7 | 41.2 | 6 |
| Sitapur | 25.5 | 44.4 | 37 |
| Unnao | 25.4 | 43.1 | 56 |
| Hardoi | 26.6 | 46.2 | 34 |
| Rae Bareli | 23 | 37.6 | 7.7 |
| Total | 18.23 | 28.67 | 34.2 |

| | 'CL_Main and Marginal' | 'Male CL(Main+Marginal)' | 'Female CL(Main+Marginal)' |
|---|---|---|---|
| Barabanki | 504892 | 407550 | 97342 |
| Lucknow | 213689 | 178063 | 35626 |
| Sitapur | 631321 | 577663 | 53658 |
| Unnao | 495569 | 399532 | 96037 |
| Hardoi | 650465 | 584902 | 65563 |
| Rae Bareli | 439967 | 335102 | 104865 |
| Total | 2935903 | 2482812 | 453091 |

| | 'HH Main and Marginal' | 'Male HH(Main+Marginal)' | 'Female HH(Main+Marginal)' |
|---|---|---|---|
| Barabanki | 62100 | 39684 | 22416 |
| Lucknow | 53947 | 40061 | 13886 |
| Sitapur | 53671 | 36530 | 17141 |
| Unnao | 39867 | 24320 | 15547 |
| Hardoi | 52000 | 28027 | 23973 |
| Rae Bareli | 41763 | 27425 | 14338 |
| **Total** | 303348 | 196047 | 107301 |

| | 'Percentage Main Worker' | 'Percentage(Male Worker)' | 'Percentage Female(Main Worker)' |
|---|---|---|---|
| Barabanki | 27.1 | 44.2 | 7.8 |
| Lucknow | 24.7 | 41.2 | 6 |
| Sitapur | 25.5 | 44.4 | 3.7 |
| Unnao | 25.4 | 43.1 | 5.6 |
| Hardoi | 26.6 | 46.2 | 3.4 |
| Rae Bareli | 23 | 37.6 | 7.7 |
| **Total** | 152.3 | 256.7 | 34.2 |

| | 'AL Main and Marginal' | 'Male AL(Main+Marginal)' | 'Female AL(Main+Marginal)' |
|---|---|---|---|
| Barabanki | 264780 | 154888 | 109892 |
| Lucknow | 129191 | 83698 | 45493 |
| Sitapur | 244180 | 195662 | 48518 |
| Unnao | 200137 | 119331 | 80806 |
| Hardoi | 209235 | 168568 | 40667 |
| Rae Bareli | 353044 | 180956 | 172088 |
| **Total** | 1400567 | 903103 | 497464 |

| | 'Percentage Marginal Worker' | 'Percentage(Male Marginal Worker)' | 'Percentage Female(Marginal Worker)' |
|---|---|---|---|
| Barabanki | 97 | 76 | 121 |
| Lucknow | 51 | 57 | 44 |
| Sitapur | 56 | 62 | 49 |
| Unnao | 89 | 69 | 111 |
| Hardoi | 57 | 5 | 66 |
| Rae Bareli | 126 | 103 | 15 |
| **Total** | 476 | 417 | 541 |

| | 'Percentage Household Industries' | 'Percentage(Male Household Industries)' |
|---|---|---|
| Barabanki | 6.3 | 54 |
| Lucknow | 5 | 44 |
| Sitapur | 48 | 37 |
| Unnao | 43 | 34 |
| Hardoi | 47 | 3 |
| Rae Bareli | 41 | 39 |
| **Total** | 29.2 | 23.8 |

| | 'Percentage of Cultivators' | 'Percentage(Male Cultivators)' | 'Percentage Female Cultivators' |
|---|---|---|---|
| Barabanki | 51.3 | 55.6 | 38.8 |
| Lucknow | 19.7 | 19.6 | 19.9 |
| Sitapur | 56.1 | 58.8 | 37.6 |
| Unnao | 44.8 | 56.1 | 44.8 |
| Hardoi | 42.1 | 62.1 | 42.1 |
| Rae Bareli | 33 | 47.5 | 33 |
| **Total** | 247 | 299.7 | 216.2 |

| | 'Percentage Agriculturals' | 'Percentage(Male Agriculturals)' | 'Percentage Female Agriculturals' |
|---|---|---|---|
| Barabanki | 26.9 | 21.1 | 43.8 |
| Lucknow | 11.9 | 9.2 | 25.4 |
| Sitapur | 21.7 | 19.9 | 34 |
| Unnao | 21.6 | 16.8 | 37.7 |
| Hardoi | 19.1 | 17.9 | 26.1 |
| Rae Bareli | 34.5 | 25.6 | 54.1 |
| **Total** | 135.7 | 110.5 | 221.1 |

| | 'Percentage Other workers' | 'Percentage(Male Other workers)' | 'Percentage Female(Other workers)' |
|---|---|---|---|
| Barabanki | 154 | 178 | 85 |
| Lucknow | 685 | 667 | 47 |
| Sitapur | 174 | 176 | 165 |
| Unnao | 206 | 237 | 103 |
| Hardoi | 169 | 17 | 164 |
| Rae Bareli | 184 | 23 | 84 |
| **Total** | 1522 | 1558 | 1071 |

| | 'Percentage Non Worker' | 'Percentage(Male Non Worker)' | 'Percentage Female(Non Worker)' | 'Work Participation Rate' |
|---|---|---|---|---|
| Barabanki | 632 | 483 | 80 | 368 |
| Lucknow | 702 | 531 | 896 | 298 |
| Sitapur | 689 | 494 | 915 | 31.1 |
| Unnao | 832 | 50 | 832 | 343 |
| Hardoi | 90 | 489 | 90 | 323 |
| Rae Bareli | 77.3 | 521 | 77.3 | 356 |
| **Total** | 4528 | 301.8 | 5116 | 1999 |

## 01. Rural-Urban Areas

The data in the table on Final Population Totals are presented separately for rural and urban areas. The unit of classification in this regard is 'town' for urban areas and 'village' for rural areas. In the Census of India 2001, the definition of urban area adopted is as follows:

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

    i)     a minimum population of 5,000;

    ii)    at least 75 per cent of male working population engaged in non-agricultural pursuits; and

    iii)   a density of population of at least 400 per sq. km. (1,000 per sq. mile).

For identification of places which would qualify to be classified as 'urban' all villages, which, as per the 1991 Census had a population of 4,000 and above, a population density of 400 persons per sq. km. and having at least 75 per cent of male working population engaged in non-agricultural activity were considered. To work out the proportion of male working population referred to above against b) (ii), the data relating to main workers were taken into account

Apart from these, the outgrowths (OGs) of cities and towns have also been treated as urban under 'Urban Agglomerations': Examples of out-growths are railway colonies, university campuses, port areas, military camps, etc. that may have come up near a statutory town or city but within the revenue limits of a villages or villages contiguous to the town or city. Each such individual area by itself may not satisfy the demographic criteria laid down at (b) above to qualify it to be treated as an independent urban unit but may deserve to be clubbed with the towns as a continuous urban spread. Thus, the town level data, wherever presented, also includes the data for outgrowths of such towns.

## 02. City

Towns with population of 1,00,000 and above are called cities

## 03. Household

A 'household' is usually a group of persons who normally live together and take their meals from a common kitchen unless the exigencies of work prevent any of them from doing so. Persons in a household may be related or unrelated or a mix of both. How a group of unrelated persons live in a census house but do not take their meals from the common kitchen, then they are not constituent of a common household. Each such person was to be treated as a separate household. The important link in finding out whether it was a household or not was a common kitchen. There may be one member households, two member households or multi-member households.

## 04. Institutional Household

A group of unrelated persons who live in an institution and take their meals from a common kitchen is called an Institutional Household. Examples of Institutional Households are boarding houses, messes, hostels, hotels, rescue homes, jails, ashrams, orphanages, etc. To make the definition more clearly perceptible to the enumerators at the Census 2001, it was specifically mentioned that this category of households would cover only those households where a group of unrelated persons live in an institution and share a common kitchen.

## 05. Houseless Households

Households who do not live in buildings or census houses but live in the open on roadside, pavements, in hume pipes, under fly-overs and staircases, or in the open in places of worship, mandaps, railway platforms, etc. are treated as Houseless households.

## 06. Head of the Household

The head of household for census purposes is a person who is recognised as such by the household. She or he is generally the person who bears the chief responsibility for managing the affairs of the household and takes decision on behalf of the household. The head of household need not necessarily be the oldest male member or an earning member, but may be a female or a younger member of either sex. In case of an absentee de jure 'Head' who is not eligible to be enumerated in the household, the person on whom the responsibility of managing the affairs of

household rests was to be regarded as the head irrespective whether the person is male or female.

## 07. Scheduled Castes & Scheduled Tribes

Article 341 of the Constitution provides that the President may, with respect to any State or Union territory, specify the castes, races or tribes or parts of or groups within castes, races or tribes which shall for the purposes of the Constitution be deemed to be Scheduled Castes in relation to that State or Union territory. Similarly, Article 342 provides for specification of tribes or tribal communities or parts of or groups within tribes or tribal communities which are deemed to be for the purposes of the Constitution the Scheduled Tribes in relation to that State or Union territory. In pursuance of these provisions, the list of Scheduled Castes and / or Scheduled Tribes are notified for each State and Union territory and are valid only within the jurisdiction of that State or Union territory and not outside.

It is important to mention here that under the Constitution (Scheduled Castes) Order, 1950, no person who professed a religion different from Hinduism was deemed to be a member of a Scheduled Caste in addition to every member of the Ramdasi, Kabirpanthi, Majhabi or Sikligar caste resident in Punjab or Patiala and East Punjab States Union were in relation to that State whether they professed the Hindu or the Sikh religion. Subsequently, in September, 1956, by an amendment, the Presidential Order of 1950 and in all subsequent Presidential Orders relating to Scheduled Castes, the population professing the Hindu and the Sikh religions were placed on the same footing with regard to the specification of Scheduled Castes. Later on, as per the amendment made in the Constitution (Scheduled Castes) Order 1990, the Hindu, the Sikh and the Buddhist professing population were placed on the same footing with regard to the recognition of the Scheduled Castes.

For finalizing the list of Schedule Castes/Scheduled Tribes notified in each state/union territory, all the constitutional amendments that have taken place prior to the conduct of 2001 census were taken into account. Since there is no Scheduled Castes list for the state of Nagaland and the Union territories of Andaman & Nicobar Islands and Lakshadweep; and no Scheduled Tribes list for the States of Delhi,

Haryana and Punjab and the Union territories of Chandigarh and Pondicherry, the Scheduled Castes and Scheduled Tribes population figures are furnished for only the relevant category in respect of these States and Union territories.

The instructions to the enumerators for recording the individual responses on religion and the Scheduled Castes and the Scheduled tribes were more or less the same as in the past censuses. Each enumerator was provided with a notified list of Scheduled Castes and Scheduled Tribes in respect of his/her state/union territory. The religion of each individual was first of all determined. Then it was ascertained from the respondent for each individual whether she or he belonged to a Scheduled caste or a Scheduled Tribe through Question No.8 & 9 of the Household Schedule. If in reply to this question, the answer was in the affirmative, the name of caste / tribe to which the individual belonged was ascertained. If the name of caste / tribe returned by the respondent appeared in the approved list for the state the enumerator was expected to treat the individual, as belonging to Scheduled Caste or Scheduled Tribe and record an appropriate entry.

## 08. Literates

A person aged 7 years and above who can both read and write with understanding in any language has been taken as literate. It is not necessary for a person to have received any formal education or passed any minimum educational standard for being treated as literate. People who were blind and could read in Braille are treated to be literates.

A person, who can only read but cannot write, is treated as illiterate. All children of age 6 years or less, even if going to school and have picked up reading and writing, are treated as illiterate.

## 09. Work

Work is defined as participation in any economically productive activity with or without compensation, wages or profit. Such participation may be physical and/or mental in nature. Work involves not only actual work but also includes effective supervision and direction of work. It even includes part time help or unpaid work on farm, family enterprise or in any other economic activity. All persons engaged in

'work' as defined above are workers. Persons who are engaged in cultivation or milk production even solely for domestic consumption are also treated as workers.

- Reference period for determining a person as worker and non-worker is one year preceding the date of enumeration.

## 10. Main Workers

Those workers who had worked for the major part of the reference period (i.e. 6 months or more) are termed as Main Workers.

## 11. Marginal Workers

Those workers who had not worked for the major point of the reference period (i.e. less than 6 months) are termed as Marginal Workers.

## 12. Cultivator

For purposes of the census a person is classified as cultivator if he or she is engaged in cultivation of land owned or held from Government or held from private persons or institutions for payment in money, kind or share. Cultivation includes effective supervision or direction in cultivation.

A person who has given out her/his land to another person or persons or institution(s) for cultivation for money, kind or share of crop and who does not even supervise or direct cultivation in exchange of land, is not treated as cultivator. Similarly, a person working on another person's land for wages in cash or kind or a combination of both (agricultural labourer) are not treated as cultivator.

Cultivation involves ploughing, sowing, harvesting and production of cereals and millet crops such as wheat, paddy, jowar, bajra, ragi, etc., and other crops such as sugarcane, tobacco, ground-nuts, tapioca, etc., and pulses, raw jute and kindred fibre crop, cotton, cinchona and other medicinal plants, fruit growing, vegetable growing or keeping orchards or groves, etc. Cultivation does not include the following plantation crops - tea, coffee, rubber, coconut and betel-nuts (areca).

## 13. Agricultural Labourers

A person who works on another person's land for wages in money or kind or share is regarded as an agricultural labourer. (S)he has no risk in the cultivation, but merely works on another person's land for wages. An agricultural labourer has no right of lease or contract on land on which (s)he works.

## 14. Household Industry Workers

Household Industry is defined as an industry conducted by one or more members of the household at home or within the village in rural areas and only within the precincts of the house where the household lives in urban areas. The larger proportion of workers in the household industry consists of members of the household. The industry is not run on the scale of a registered factory which would qualify or has to be registered under the Indian Factories Act.

The main criterion of a Household industry even in urban areas is the participation of one or more members of a household. Even if the industry is not actually located at home in rural areas there is a greater possibility of the members of the household participating even if it is located anywhere within the village limits. In the urban areas where organized industry takes greater prominence, the Household Industry is confined to the precincts of the house where the participants live. In urban areas, even if the members of the household run an industry by themselves but at a place away from the precincts of their home, it is not considered as a Household Industry. It should be located within the precincts of the house where the members live in the case of urban areas.

Household Industry relates to production, processing, servicing, repairing or making and selling (but not merely selling) of goods. It does not include professions such as a Pleader, Doctor, Musician, Dancer, Waterman, Astrologer, Dhobi, Barber, etc., or merely trade or business, even if such professions, trade or services are run at home by members of the household.

## 15. Other Workers

All workers, i.e., those who have been engaged in some economic activity during the last one year, but are not cultivators or agricultural labourers or in Household Industry, are 'Other Workers(OW)'. The type of workers that come under this category of 'OW' include all government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade, commerce, business, transport banking, mining, construction, political or social work, priests, entertainment artists, etc. In effect, all those workers other than cultivators or agricultural labourers or household industry workers, are 'Other Workers'.

## 16. Sex Ratio

$$\text{Sex-ratio} = \frac{\text{Number of females}}{\text{Number of males}} \times 1000$$

## 17. Sex Ratio (0-6 years)

Sex-ratio (0-6 tears) has been defined as the number of females in age-group 0-6 years per 1000 males in the same age-group in the population. It is expressed as 'number of females per 1000 males'.

$$\text{Sex-ratio (0-6 years)} = \frac{\text{Number of females (0-6)}}{\text{Number of males (0-6)}} \times 1000$$

## 18. Literacy Rate

Literacy rate of population is defined as the percentage of literates to the total population aged 7 years and above.

$$\text{Literacy rate} = \frac{\text{Number of Literates}}{\text{Population aged 7+}} \times 100$$

## 19. Work Participation Rate

Work participation rate is defined as the percentage of total workers (main and marginal) to total population.

$$\text{Work participation rate} = \frac{\text{Total Workers (Main+Marginal)}}{\text{Total Population}} \times 100$$

## 22. Abbreviations Used

The following abbreviations of civic status of cities or towns are used while presenting the data in the Table on Final Population Totals:

C.B.  - Cantonment Board/Cantonment
C.M.C- City Municipal Council
E.O   - Estate Office
G.P.  - Gram Panchayat
I.N.A. - Industrial Notified Area
I.T.S. - Industrial Township
M    - Municipality
M.B.  - Municipal Board
M.C.  - Municipal Committee
M.Cl. - Municipal Council
M.Cor- Municipal Corporation/Corporation
N.A.  - Notified Area
N.A.C - Notified Area Committee/Notified Council
N.P.  - Nagar Panchayat
N.T.  - Notified Town
N.T.A.- Notified Town Area
S.T.C.- Small Town Committee
T.C.  - Town Committee/Town Area Committee
T.M.C- Town Municipal Council
T.P.  - Town Panchayat
T.S.  - Township
C.T.  - Census Town
O.T.  - Out Growth

## LIST OF TABLES

NORTH

Sitapur

Hardoi

Barabanki

Lucknow

Unnao

Rae Bareli

PLANNING FOR UTTAR PRADESH STATE CAPITAL REGIONAL DEVELOPMENT

NORTH

LEGEND
Hardoi
Barabanki
Lucknow
Sitapur
Rae Bareilly
Unnao

ROAD NETWORK OF
PROPOSED
STATE CAPITAL REGION

Planning for Uttar Pradesh
State Capital Regional
Development

Richa Singh
M.U.R.P – II Yr.

Deptt. Of Architecture & Planning,
I.I.T, Roorkee

NORTH

DRAWING NO. 2

SCALE: NOT TO SCALE

*This chapter deals with illustration followed by discussion of the secondary and primary collected from various sources and surveys conducted. Chapter has been divided into three sections, A, B and C for Comparative analysis of Secondary data, and Primary data respectively. Chapter concludes with Section C stating findings and Strengths, Weaknesses, Opportunities, and Threats of the region.*

## 6.A Comparative analysis of Secondary Data

Secondary data has been collected from the various Government Institutions like Development Authority, Municipal Corporation, Nagar Nigam, Nagar Maha Palika, Electricity office, Water Boards, Public Works Department, Regional Transport Office, etc. Financial report of State Capital, Lucknow, prepared by RITES, New Delhi has also been studied thoroughly for the analysis.

Secondary data provides the total figures of the whole area and hence can be utilized for understanding the true picture of the study area. Having this knowledge in mind, the Investigator collected the secondary data on number of households, household size, total population, 0-6 years population, SC/ST population, sex ratio, literate/ illiterate population, literacy rate, total working population, main and marginal workers, and, presented in figures below.

### 6.A.1 Total No. of Households



*Fig. 6.A.1 Total No. of Households*

- As seen in the Fig. 6.A.1 Maximum number of households (6.44 lakhs) are in State capital, Lucknow. Amongst all the regions proposed in State Capital Region, minimum number of households are in Barabanki (4.59 lakhs).

## 6.A.2 Comparative Household size



*Fig.6.A.2 Comparative Household size*

- Household size of the region varies from 5.7 to 6.1, which is less than the State's household size (6.5).

- Housing need in 2021 is calculated based on projected population and projected household size by using the formulae

$$P_n = P_0 (1+r)^t \quad \text{----------------- Eq. 1}$$

$$HH = P_n / hs \quad \text{----------------- Eq. 2}$$

Where,

| | | |
|---|---|---|
| $P_n$ | = | Projected population |
| $P_0$ | = | Present population |
| r | = | Growth Rate |
| t | = | Time period |
| HH | = | Number of households |
| hs | = | Household size |

Using the equations 1 and 2, household requirement in 2021 is 57,94,217 in comparison to 32.23 lakhs households in 2001.

- Steps should be taken beforehand in order to meet the housing requirement in the future.

## 6B.6 Expenditure

Income and expenditure are directly proportional variables. If income level of a household increases, expenditure also increases and if income decreases, expenditure also decreases. Expenditure, on few parameters like food, health, etc. shows a very slight change with change in income, but, parameters like clothes, recreation, education, etc. are remarkably affected by change in income. Expenditure depends upon the need as well as affordability of the individual. Few necessary variables like fridge, cooler, radio, etc. can be observed in most of the household irrespective of their affordability. Having this knowledge in mind, the investigator made an attempt to study the expenditure pattern of the surveyed households, and presented in Table No. 6B.6 and Fig. 6B.6a.

Table No. 6B.6: Income Vs. Monthly Expenditure

| | Monthly Expenditure | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Food | Education | Recreation | Water | Transport | Loan Repayment | Clothes | Health | Telephone | Total | % |
| <10000 | 2242.11 | 2142.11 | 189.47 | 11.58 | 326.32 | 547.53 | 321.05 | 236.84 | 328.95 | 6345.96 | 7.87 |
| 10000-20000 | 3687.5 | 3325 | 325 | 78.75 | 743.75 | 893.75 | 693.75 | 378.13 | 921.88 | 11047.51 | 13.70 |
| 20000-30000 | 3333.33 | 45000 | 233.33 | 100 | 1200 | 0 | 566.67 | 100 | 5583.33 | 56116.66 | 69.57 |
| >30000 | 3250 | 0 | 600 | 0 | 350 | 0 | 2600 | 0 | 350 | 7150 | 8.86 |
| Total | 12512.94 | 50467.11 | 1347.8 | 190.33 | 2620.07 | 1441.28 | 4181.47 | 714.97 | 7184.16 | 80660.13 | 100 |
| % | 15.51 | 62.57 | 1.67 | 0.24 | 3.25 | 1.79 | 5.18 | 0.89 | 8.91 | 100 | |

This table elucidates that maximum share of about more than three fifth (62.57 per cent) of the income is spend in education. After this, less than one sixth (15.51 per cent) of the income is spend for food. A large amount of one-twelfth (8.91 per cent) is consumed in telephone. Clothes accounts for one-twentieth (5.18 per cent) and transportation accounts for 3.35 per cent. About one-sixtieth (1.67 per cent) of the income is spend for recreation and rest minimal shares goes for drinking water, loan repayment and health.



| | |
|---|---|
| ▨ Food | ■ Education |
| ☐ Recreation | ☐ Drinking Water |
| ■ Transportation | ▨ Loan Repayment |
| ■ Clothes | ☐ Health |
| ■ Telephone | |

*Fig No. 6B.6a Expenditure break-up*

It is observed from the following figures that households in Income Category Rs. <10,000 spend more on food, education, loan repayment and health and less on

telephone, clothes, transportation and drinking water in comparison from households coming in Income category Rs. 10,000-20,000. Income category 3 and 4 are well to do, as there is no loan repayment. Income category 3 households spend the maximum four fifth share (81 per cent) in education. Telephone accounts for one-tenth (10 per cent) of the income. Food accounts for only about one-fifteenth (6 per cent), this is due to low family size. Income category 4 spends about 46 per cent of the income for food, due to high family size. Having high income, they spend a lot (36 per cent) on clothes and recreation (8 per cent) as shown in Fig B.6 b,c,d, and e.



Expenditure for Income Category Rs.<10000

Expenditure for Income Category Rs.10,000-20,000

Expenditure for Income Category Rs.20,000-30,000

Expenditure for Income Category Rs.>30000

□ Food ■ Education □ Recreation □ Drinking Water ■ Transportation ▨ Loan Repayment ■ Clothes □ Health ■ Telephone
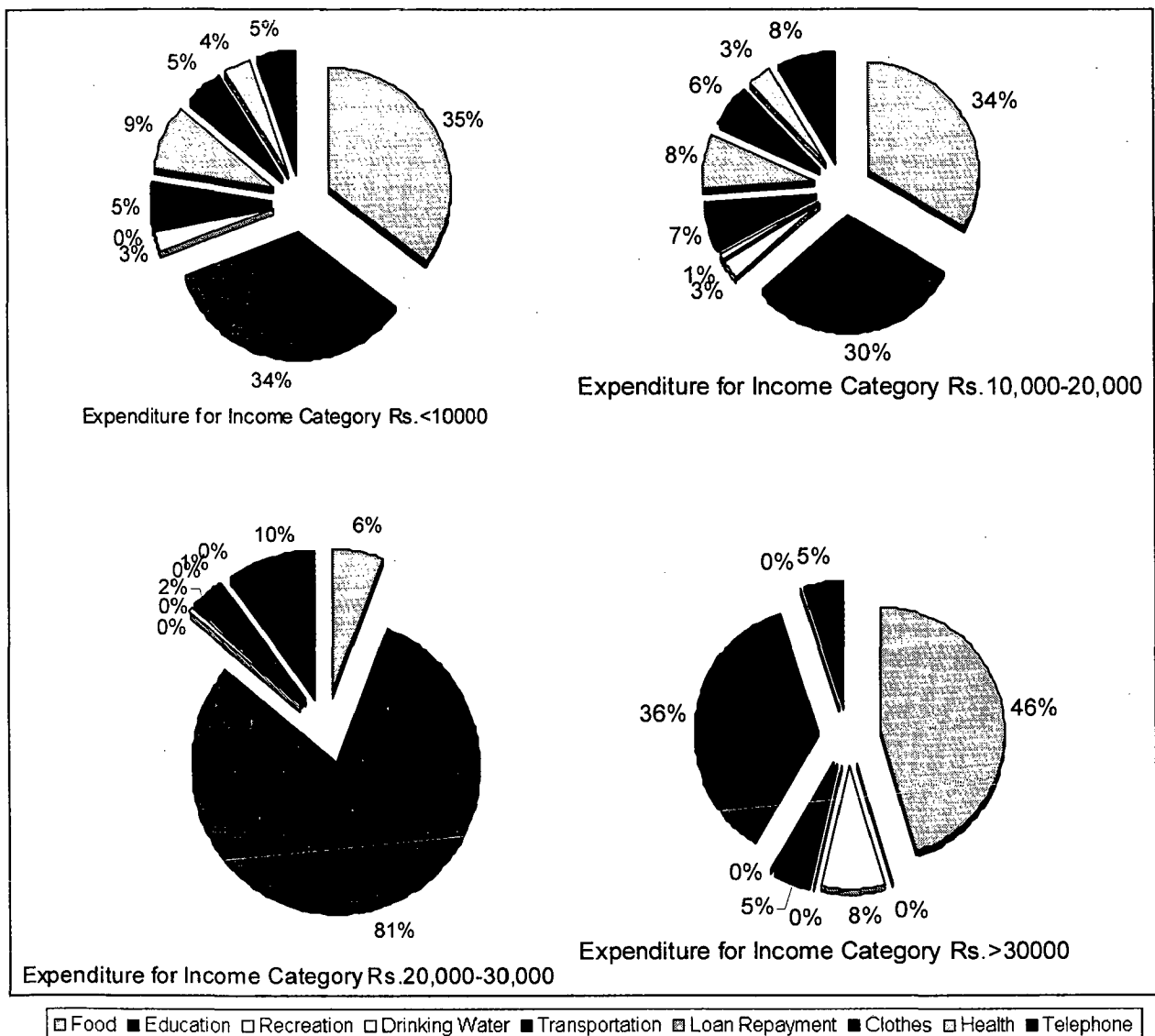
*Fig. No. 6B.6 a,b,c,d: Income Vs. Expenditure of various Income categories*

Households having income Rs.<20,000, have taken loan to fulfill their requirements. A major share of income goes in transportation also. On average, the surveyed households of the system have good economic status as all of them are spending on recreation and telephone.

## 8.3 Organizations/ Schemes/ Methods that can be taken with the help of the following:

1. Pradhan Mantri Gram Sadak Yozna
2. Public-private partnership
3. Swarnjayanti Swayozgar Yozna
4. National Food for Work Program
5. Privatization of Infrastructure like power supply, sewage disposal, telecommunications
6. NGOs, Private funds for funding the projects

Infrastructural improvements would require addressing various facets set out below:

**Infrastructure Improvements**

- **Water Supply** – Quantity, Quality, Coverage, Service
- **Sewerage system** – Quantity, Coverage, Service, Disposal
- **Solid Waste Management** – Quantity, Coverage, Service, Disposal
- **Power** – Quantity, Quality, Service
- **Road Network** – Linkages, Quality, ROW, Transit time, Traffic mgmt.
- **Transportation** – Capacity, Frequency, Quality, Coverage, Service
- **Social Infrastructure** – Quality, Location, Target segment, Service

Similarly, local administration would require addressing various facets set out below:

```
┌─────────────────────────────┐
│   Local Administration      │
└──┬──────────────────────────┘
   │
   ├──── Citizen Improvement
   │
   ├──── Industry Involvement
   │
   ├──── Private Sector Partnership
   │
   ├──── Public awareness
   │
   ├──── Transparent, time bound processes
   │
   ├──── Facilitating role
   │
   └──── Law and Order
```
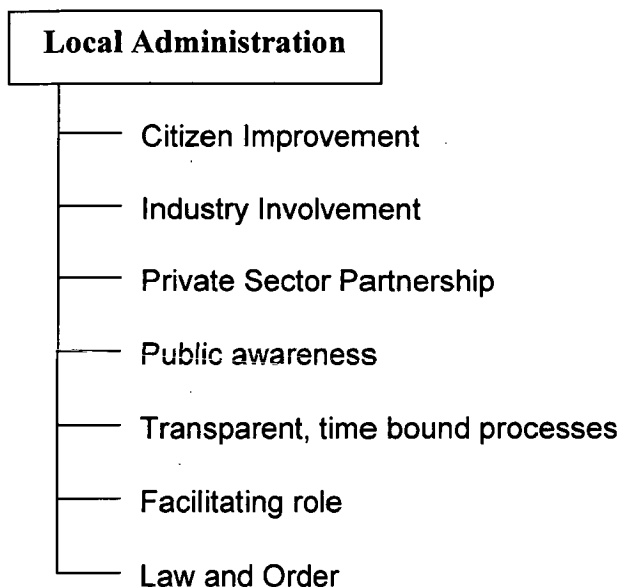
Similarly, state level policy issues that need attention are as follows:

```
┌─────────────────────────────┐
│    State level/ Policy      │
└──┬──────────────────────────┘
   │
   ├──── Encouraging people oriented governance
   │
   ├──── Sector reforms- sector structure,
   │     regulatory, tariffs, laws
   ├──── Institutional reforms- organization
   │     structure, accounting system, processes
   ├──── Capacity building of ULBs
   │
   ├──── City challenge fund
   │
   ├──── Transparency
   │
   └──── Effective monitoring and control
```
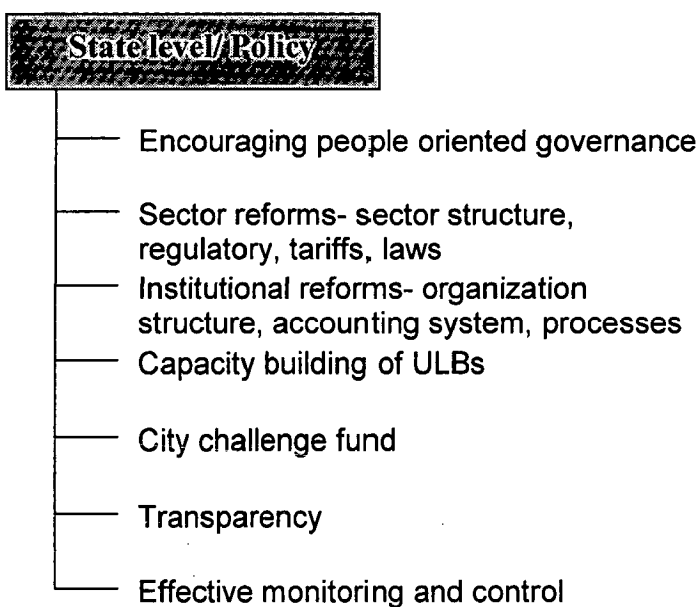
## CONCLUSION

There should be proper data collection, analysis, goals to achieve target within fixed time frame. The project should be implemented and monitored properly for efficient working.

## 8.4 Integrated Strategy For Development

| STRATEGY | EXISTING SITUATION | ACTION | STAKEHOLDER |
|---|---|---|---|
| Traffic and transportation | National traffic going through the city creates traffic jam | Construction of by-pass roads and other linking new roads | UPTDC, Pvt. Sector. |
| Basic infrastructure and Amenities | Lack of sanitary facility, water supply, sewage collection, drainage system, market complex, multiplexes etc. | Building up of more infrastructure and amenities like multiplex, open air theatre, golf course, garden, etc. | Concerned Nagar Nigam, D.A. |
| Development of traffic junction | Due to heavy traffic inflow and tourist inflow in the State capital, some of the junctions like, Hazratganj, Charbagh, etc. and also create accidents | Widening of road junction, creation of lighting, paving, etc on road junction | Concerned D.A. Transport Deptt. |
| Internal road system | Lack of accessibility to the historical sites, pavement, lightening, signage, etc Narrow road creates problem | Approach roads to the monuments Action plan for widening of roads Pavement, signage, street lighting, etc | Concerned Nagar Nigam, D.A. |
| Location criteria for accommodation | Improper distribution of accommodation facility. | New construction of accommodation facility. Equal distribution of facilities. | Concerned D.A. |
| Shopping activities | Shopping area are not properly maintained New shopping area are coming up, but not in planned way | Equal distribution of shopping activities | Concerned D.A. |
| Other shopping area (exclusively serving for tourists) | No specific area for tourist shopping, Having some shops near the monuments creating congestion | Specific area allotment for tourist shopping and development of these areas. | Concerned D.A. |
| Informal shopping | No specific area for informal shopping, | Development of some informal shopping area, | Concerned D.A., pvt org. |
| Recreations | Lack of recreational facilities like, gardens, parks, clubs, multiplex, etc. | Built up of recreational spaces, maintaining of the existing gardens, construction of new golf course, open air theatre, multiplex | Pvt. Organisations, |

| | | | |
|---|---|---|---|
| River side development | These sides are neither maintained, nor developed | River front development programmes, Creating boating facilities in the river, Creating some programme of viewing the monuments from the river. | Concerned D.A. Pvt.organisations |
| Plantation | Only Cantonment areas have the plantation, Cities do not have it on the road side. | Tree plantation along the road side, and along the river side of Gomti. | Concerned Nagar Nigam, Concerned D.A. |
| Electrification | Lack of street lightening on the roads and near the monuments | Construction of the street lighting on the road side as well as on the bank of the river | Concerned Nagar Nigam |
| Conservation | Conservation of the monument visited by the tourist is not at the satisfaction level. Historical buildings are not well advertised | Conservation and restoration of monument with new materials and new technologies. | ASI, INTACH, Pvt developers. |
| Sanitation | Improper sanitation facilities in the city. Lots of open drain system and overflowing creates bad impression of the city to the tourist. | All open drain system should be covered and should be reconstruct with the consideration of the 20 years master plan of the city, | Concerned Nagar Nigam Concerned D.A. |
| Water supply and drainage | Lack of water supply to the whole city, Drainage system is not maintained and it creates overflowing during monsoon season. | Built up of some new water treatment plant, reconstruct the drainage system. | Concerned Nagar Nigam Concerned D.A. |
| Satellite tourist center around Agra | Lack of information system at the monument and at the city also. Tourist does not know where to go and how to go, | With the main tourist information center, there should be construction of tourist center at the monument like Imambara, Residency, Parijaat tree complex, etc and near bus stands and railway stations | Tourism department |
| Distribution of facilities | Unequal distribution of facilities. Major influx of population is some areas | Redistribute the t facilities equally | Concerned D.A. |
| Amenity complex | Insufficient amenities in the region. | Construction of some more amenities with the fulfillment of the future demand | Concerned D.A. |

## 9.1 CONCLUSIONS

An unchecked and uncontrolled process of growth leads to regional disparities, resulting in numerous economic, social and cultural problems. These problems take a serious shape, and subsequently become hard to eliminate. Regional imbalances lead to under-utilization or even non-utilization of economic resource both natural and human and in that process individuals are discriminated. There should be focus on small and medium towns in the Region because such centers can play a role in supporting social and economic development in the rural areas by providing the rural population with access to education and health facilities, agricultural extension services, service industries and agro-industries linked to local products.

Development of small and medium towns will also lead to urban expansion within the Region. In this case, the developmental roles of small and medium towns cannot be considered in isolation from those of the large urban centers or those of the rural economy.

An integrated regional development plan should be prepared, with reference to all activities including agriculture, industrial development, development of tourism etc.

The location of development involves careful consideration of economic, infrastructural and environmental factors, while due regard to be paid to the importance of agriculture and tourism and the contribution which they can make to the regional and State economy.

Therefore, social development through the provision of socio-economic infrastructure and services should also be provided high priority. Hierarchy and location choice in relation to the human settlement pattern are crucial while formulating the socio-economic infrastructure development strategy. This calls for a well conceived spatial development strategy to serve the largest segment of population with the required social and economic infrastructure and facilities. The spatial development strategy will evolve in consonance with the economic strategy as well as socio-economic infrastructure development strategy for the Region.

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