

# Demographic and Socio-Economic Analysis

*in Middle Ganga Basin*

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**GRBMP : Ganga River Basin Management Plan**

*by*

**Indian Institutes of Technology**



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## Preface

In exercise of the powers conferred by sub-sections (1) and (3) of Section 3 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government has constituted National Ganga River Basin Authority (NGRBA) as a planning, financing, monitoring and coordinating authority for strengthening the collective efforts of the Central and State Government for effective abatement of pollution and conservation of the river Ganga. One of the important functions of the NGRBA is to prepare and implement a Ganga River Basin Management Plan (GRBMP).

A Consortium of 7 Indian Institute of Technology (IIT) has been given the responsibility of preparing Ganga River Basin Management Plan (GRBMP) by the Ministry of Environment and Forests (MoEF), GOI, New Delhi. Memorandum of Agreement (MoA) has been signed between 7 IITs (Bombay, Delhi, Guwahati, Kanpur, Kharagpur, Madras and Roorkee) and MoEF for this purpose on July 6, 2010.

This report is one of the many reports prepared by IITs to describe the strategy, information, methodology, analysis and suggestions and recommendations in developing Ganga River Basin Management Plan (GRBMP). The overall Framework for documentation of GRBMP and Indexing of Reports is presented on the inside cover page.

There are two aspects to the development of GRBMP. Dedicated people spent hours discussing concerns, issues and potential solutions to problems. This dedication leads to the preparation of reports that hope to articulate the outcome of the dialogue in a way that is useful. Many people contributed to the preparation of this report directly or indirectly. This report is therefore truly a collective effort that reflects the cooperation of many, particularly those who are members of the IIT Team. A list of persons who have contributed directly and names of those who have taken lead in preparing this report is given on the reverse side.

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## 1. Introduction

Water is vital for all living organisms and major ecosystems, as well as for human health, food production, and economic development. Population growth and distribution have been intimately linked to the availability of freshwater. The 20<sup>th</sup> century has witnessed unprecedented rises in human population. Consequently, human demands for water, for domestic, industrial and agricultural purposes are also increasing rapidly.

The Ganga Basin constitutes 26 percent of the country's land mass and supports about 43 percent of population (448.3 million as per 2001 census). Livelihoods of a large number of people directly or indirectly depend on the resources of the river Ganga. In the backdrop of a very intense and perennial interrelationship between the river Ganga and its population base, it is important to dissect the components of population living in Ganga basin, their patterns of growth, composition, concentration, level of knowledge, economic activities, health constraints, etc. in order to prepare a holistic Gang River Basin Management Plan (GRBMP).

There are many links between population growth and environmental degradation, in part, because an ever-increasing number of people depend on a fixed natural resource base for their livelihood. However, it would be too simplistic to suggest that the classical Malthusian view be followed with its implied solution of simply controlling the number of people.

Demographic influences are one of many factors that affect water resource management and increase pressure on the water resource base. The relationship between human population and water resources is viewed as a two-way process, i.e. , instead of regarding population growth as the only cause of water shortages, water availability will also be considered as a possible push or pull factor in explaining migratory change and other socio-demographic outcomes<sup>1</sup>.

For the effective and sustainable management of the basin, an understanding of growth and composition of population, sectoral composition of workforce, change in land and water use patterns, settlement patterns, livelihood patterns and their possible impact on the river water resources, inter alia, is imperative. Management of the basin is required to be viewed as a part of the broader environment and in relation to socio-economic demands and potentials, acknowledging the political and cultural context, as water is not only an economic resource but also a socio-cultural and environmental resource. Keeping these aspects in view, this report concentrates on the pattern of demographic and socio-economic status of people in the basin area<sup>1\*</sup> and its implications for the river basin management. A comprehensive report based on the demographic and socio-economic status of population in the basin area is divided into four parts as per the location of the river Ganga and the administrative setup. These are namely, Upper Ganga Basin comprising Uttarakhand, Middle Ganga Basin comprising Uttar Pradesh, Lower Ganga

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<sup>1</sup> \*The Ganga river basin area (as the term used in the report) is limited to four states i.e. Uttarakhand, Uttar Pradesh, Bihar, and West Bengal for the study purpose, as most of the activities related to the river Ganga are performed widely in these states.

Basin comprising part A Bihar), and (B. West Bengal). This part of the report discusses the Pattern of Demographic and Socio-economic Status of People in the Middle Ganga Basin (Uttar Pradesh).

Figures and facts documented and analyzed in the present report are based on secondary data drawn from various sources, which include Uttar Pradesh Govt. website (<http://www.up.gov.in>) as well as Statistical Diaries and Statistical Abstracts published by the State Planning Institute, Uttar Pradesh. Census of India has been the important source for population-based data. The Census data have widely been used in this report including the recent (2011 Census) one. For some economic indicators, data from the Department of Economics and Statistics, Government of Uttar Pradesh and official website of the Reserve Bank of India have been obtained. The data from the SRS (Sample Registration System) Bulletin and Reports as well as the recently concluded Reproductive and Child Health Survey (DLHS- RCH-3)<sup>6</sup>, 2007-08 have been used for getting a few important health indicators for the State. Specific methodology used for the analysis of the data is described in the corresponding sections of the report.

## 2. Middle Ganga Basin: State of Uttar Pradesh

In this report the analysis of the Middle Ganga Basin, is largely based on the statistical data compiled by the State of Uttar Pradesh. With a population of around 200 million (199,581,477 as per Census 2011), it is India's most populous state, as well as the world's most populous sub-national entity. Were it a nation in its own right, Uttar Pradesh would be the world's fifth most populous country ahead of Brazil, a country thirty-five times larger in territorial area. With an area of 236,286sq. kms., lying between latitude 24° to 31°N and longitude 77° to 84° E, Uttar Pradesh covers a large part of the highly fertile and densely populated upper and middle Gangetic plains. It shares part of the international border with Nepal to the north along with the Indian State of Uttarakhand, Himachal Pradesh to the north-west, Haryana, Delhi and Rajasthan on the west, Madhya Pradesh on the south, Chhattisgarh and Jharkhand on the south-east and Bihar on the east<sup>2</sup>. In sheer magnitude it is half of the area of France, three times of Portugal, four times of Ireland, seven times of Switzerland, ten times of Belgium and a little bigger than England<sup>3</sup>. Uttar Pradesh has more than 31 larger and smaller rivers among them holy Ganga, Yamuna, Sarayu and Ghaghara are larger and of very much religious importance.

The state of Uttar Pradesh consists of 75 districts, which are grouped into eighteen divisions. According to the latest data released by the Government of India (<http://censusindia.gov.>), there are 7 cities in the state having population more than 1 million, while the number of cities with more than half-a-million population stands at 16<sup>4</sup>. The State has 312 tehsils, 820 development blocks, 8,135 Nyaya Panchayats, 51,976 Gram Panchayats and 97,941 inhabited villages<sup>5</sup>.

The report captures a comprehensive picture of the district-wise and state level demographic, socio-economic and health indicators. For the documentation and analysis, only 70 districts of Uttar Pradesh are discussed, since the statistics for the five newly constructed districts was difficult to obtain. However, these 70 districts comprise the whole area of the state. For better illustration of the information, these 70 districts are condensed in 5 major regions. These are namely, Northern Upper Ganga Plains (comprising 10 districts of northern Uttar Pradesh),



Southern Upper Ganga Plains (consisting of 17 districts), Central Region (embracing 9 districts including the capital of the state (Lucknow), Southern Region (basically the Bundelkhand comprising 7 districts), and the Eastern Region (enveloping 27 districts of the state). Figure 1 depicts the location of Uttar Pradesh in the Ganga Basin, and all five regions discussed above.

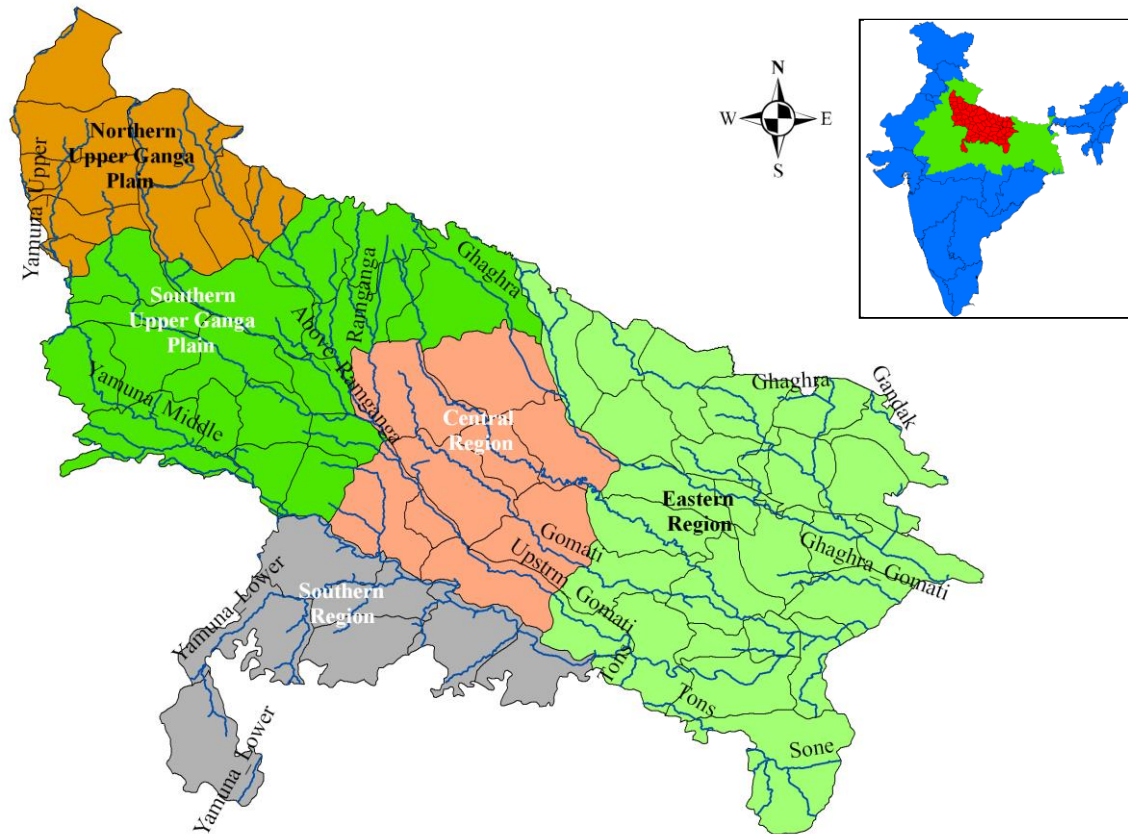
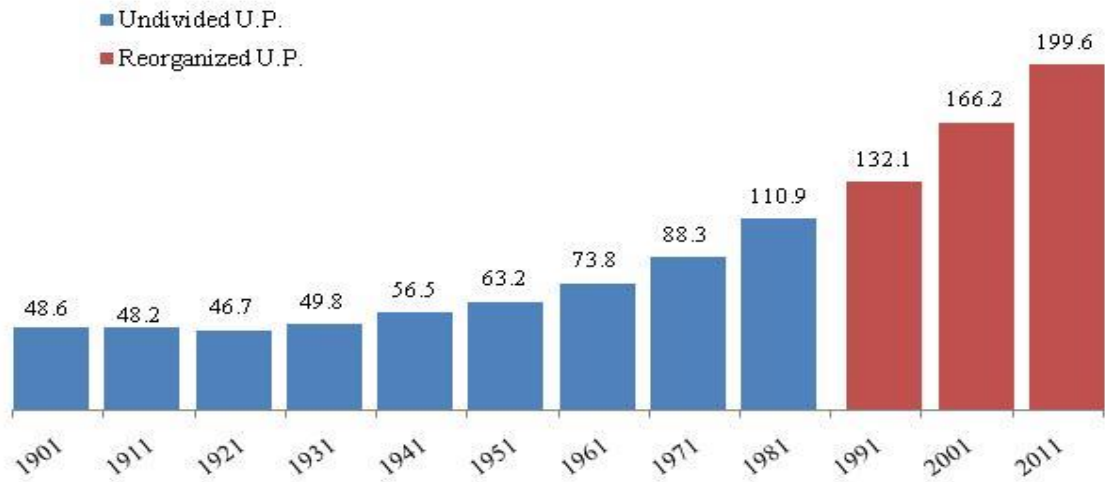


Figure 1: Location of Uttar Pradesh (with regions) in the Ganga Basin and in India

### 3. Demographic Characteristics

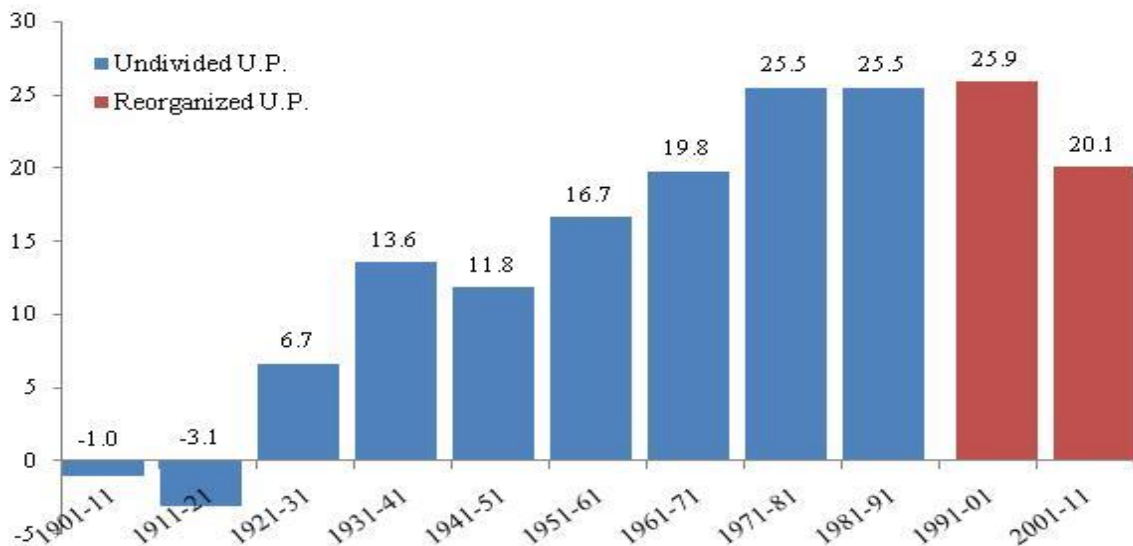
#### 3.1. Trends in Population Growth

Uttar Pradesh continues to be the most populous state in the country with almost 200 million people living here. The state holds about one-sixth or 16.5 percent population of the nation as per Census 2011. The growth in the absolute population of Uttar Pradesh (in millions) from 1901-2011 is shown in Figure 2. The undivided Uttar Pradesh represents the area of the state before bifurcation of Uttarakhand. The state added about 14.6 million people during 1901-1951, which also includes the decade (1911-21) of historical low in Indian population. Post-independence, since 1951, the proportionate addition in population rose multifold in successive decades. There was a net addition of 47.7 million persons during 1951-1981. Figure 2 suggests that the state population sharply increased during 1991-2011. The Population of Uttar Pradesh enumerated during Census 2011 was 199,581,477 persons which corresponds to a compounded annual growth rate of 1.85% over the Census 2001 population of 166,197,921.

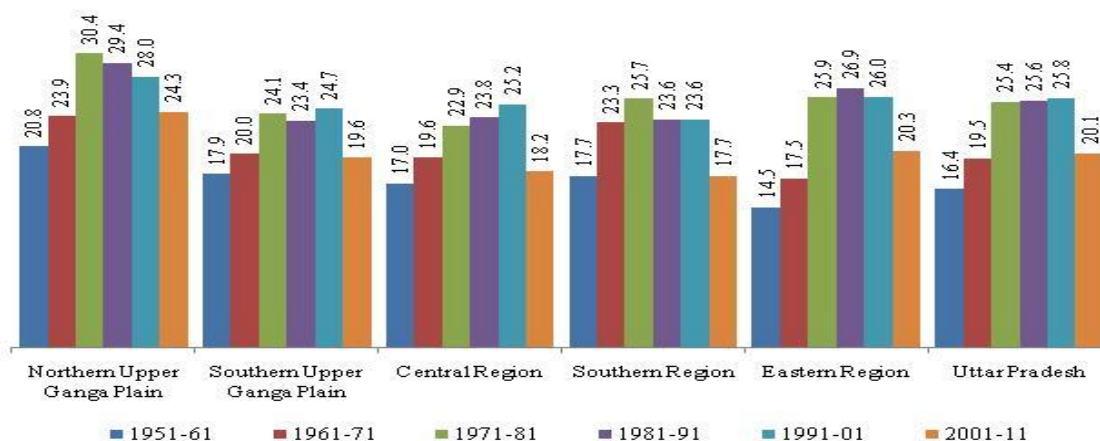


**Figure 2: Trends in Absolute Population (in Million), Uttar Pradesh, 1901- 2011**

Before bifurcation, during the initial decades of the Twentieth century, the state has also experienced a negative growth in population (during the decades 1901-11 and 1911-21). Consequently, the growth has been constantly progressive through decades with an exceptional high during the decade 1931-41 compared to the previous decadal growth (Figure 3). After reaching the highest decadal growth rate of almost 26 percent during 1991-01, the state’s population growth rate declined sharply by 5.76 percentage point during the decade 2001-11.

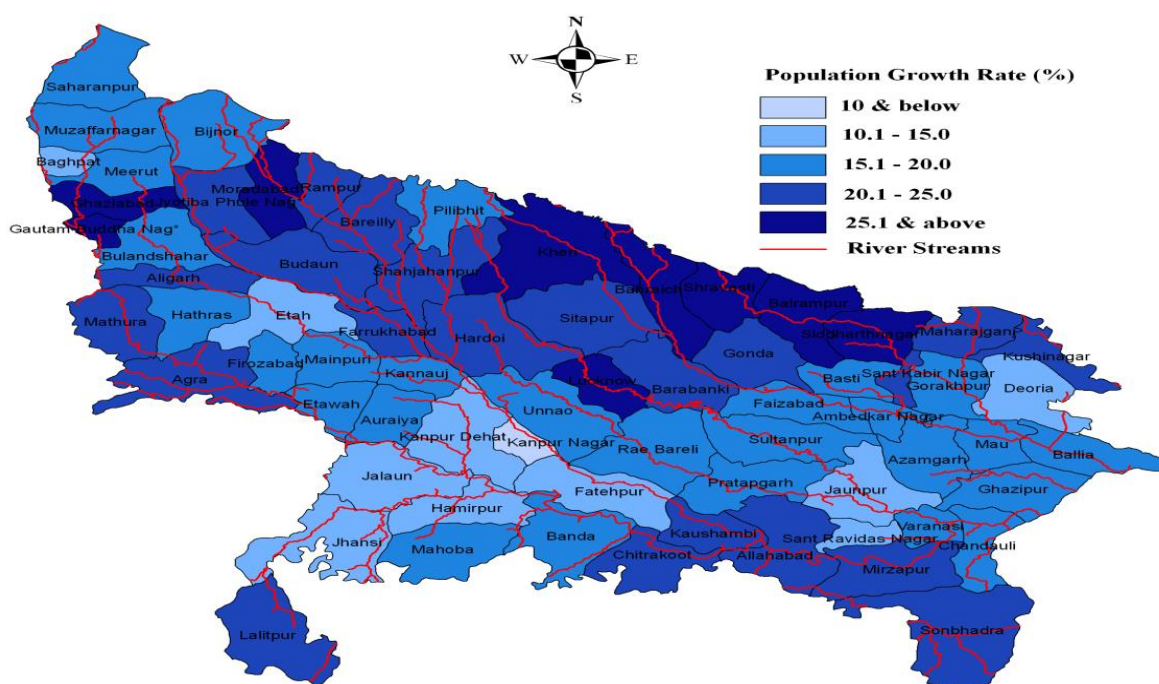


**Figure 3: Trends in Population Decadal Growth Rate (%), Uttar Pradesh, 1901-11 to 2001-11**



**Figure 4: Regional Trends in Decadal Growth Rates in Population (%) of Uttar Pradesh, 1951-61 to 2001-11**

However, the population growth rate has not been uniform throughout the state. Figure 4 shows an apparent regional variation in the population growth rate over the period. The Northern Upper Ganga Plain (NUGP) region accounts for the highest population growth rate since 1951-61 (20.8%) to 2001-2011(24.3%). Also, only this region has shown a constant decline in population growth since 1971-81 (30.4%) to 2001-11 (24.3%). Almost all the regions experienced a considerable upward trend in population growth during 1951-61 to 1971-81, and a sharp decline during 1991-2001 to 2001-11. During the recent decade 2001-11, the maximum decline in decadal growth rate was reported by the Central Region (7 percentage point), followed by the Southern Region (5.9 percentage point), the Eastern Region (5.7 percentage point), and the Southern Upper Ganga Plain (5.1 percentage point), while the NUGP (3.7 percentage point) reported the lowest decline.

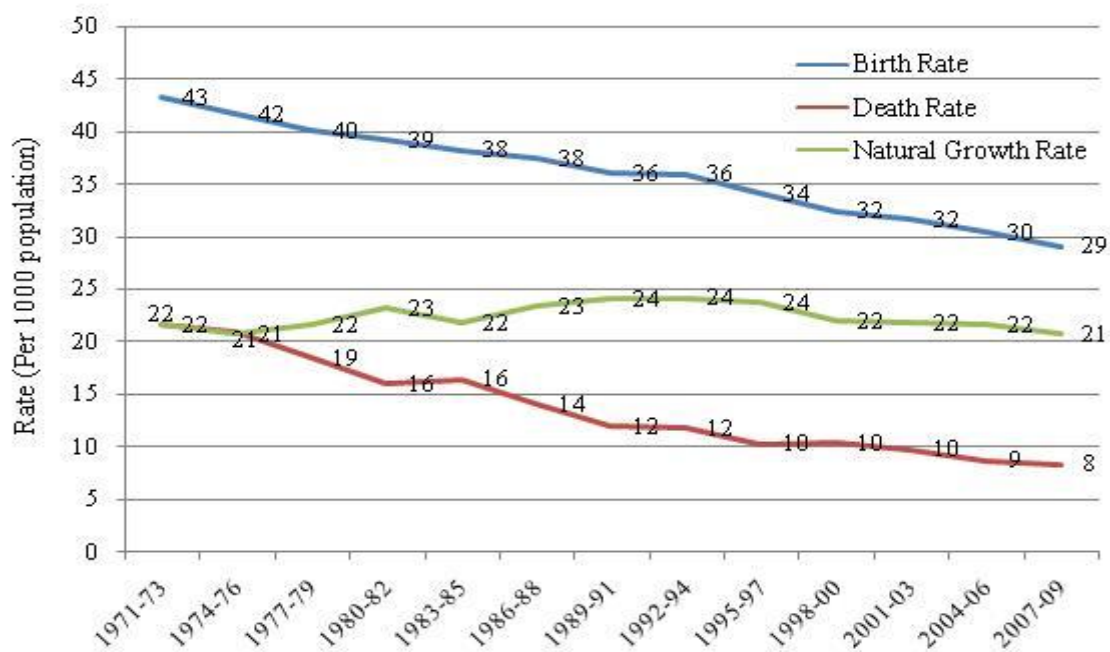


**Figure 5: Decadal Population Growth Rate (%) across Districts of Uttar Pradesh, 2001-11**

Moreover, there are thirty-one districts indicating higher population growth rate than the state average (20.09%) during 2001-11 (Figure 5). Gautam Buddha Nagar (51.5%) registered the highest growth rate, while Kanpur Nagar (9.72%) had the least population growth during 2001–2011. The districts along main Ganga River, which registered a decadal growth rate of more than 20 percent, are Jyotiba Phule Nagar, Budaun, Farrukhabad, Shahjahanpur, Hardoi, Kaushambi, Allahabad, and Mirzapur.

### 3.2. Trends in Natural Growth Rate

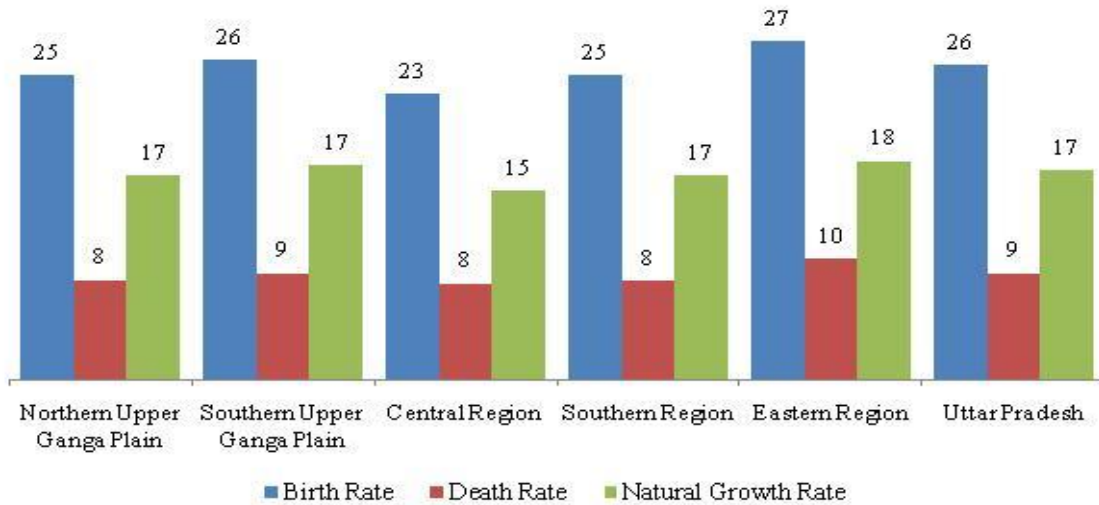
Birth rate indicates the number of live births per 1,000 population in a reference period. Subtracting the death rate from the birth rate provides the rate of natural increase, which is equal to the rate of population change in the absence of migration. It is interesting to note, as also displayed in Figure 6, that both the birth and death rates in the state are declining apparently with the same pace allowing the natural growth rate ranging between 21 and 24 per 1000 population during 1971-73 to 2007-09. Since 1998-2000 to 2004-06, natural growth rate of population in the state remains stable at 22 per 1000 population. It indicates that the consequent decline in natural growth rate since 2007-09 must be manifested into a sharp decline in the decadal growth rate during 2001-11.



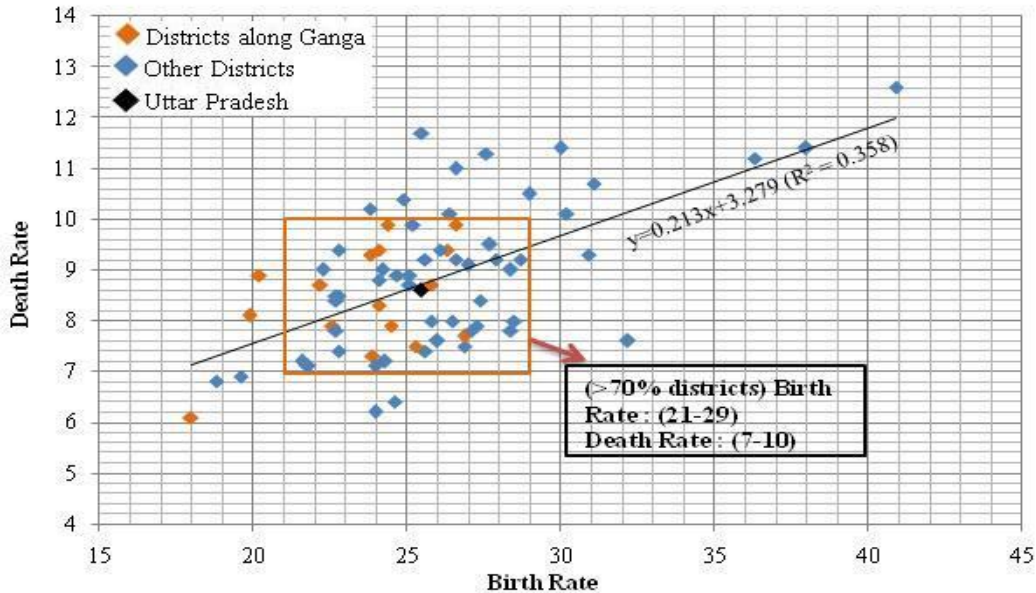
**Figure 6: Birth, Death, and Natural Growth Rate (per 1000 population), Uttar Pradesh, 1971-73 to 2007-09**

Information on district-wise birth and death rates (along with other mortality indicators) made available by the recently concluded Annual Health Survey (2011)<sup>6</sup> under the aegis of the Registrar General of India provides an opportunity to assess the natural growth rate across different regions and districts of Uttar Pradesh. Figure 7 presents the birth, death, and the natural growth rate across regions of the state. During 2010-11, there was hardly any remarkable difference in

indicators across regions. However, the Eastern Region (ER) accounted for the highest birth and the death rates (27 and 10 per 1000 population respectively) in the state, while the Central Region (CR) reported the lowest birth rate of 23 per 1000 population with the death rate of 8 per 1000 population.



**Figure 7: Birth, Death, and Natural Growth Rate (per 1000 population) across Regions of Uttar Pradesh, 2010-11**



**Figure 8: Birth and Death Rate (per 1000 population) across Districts of Uttar Pradesh, 2010-11**

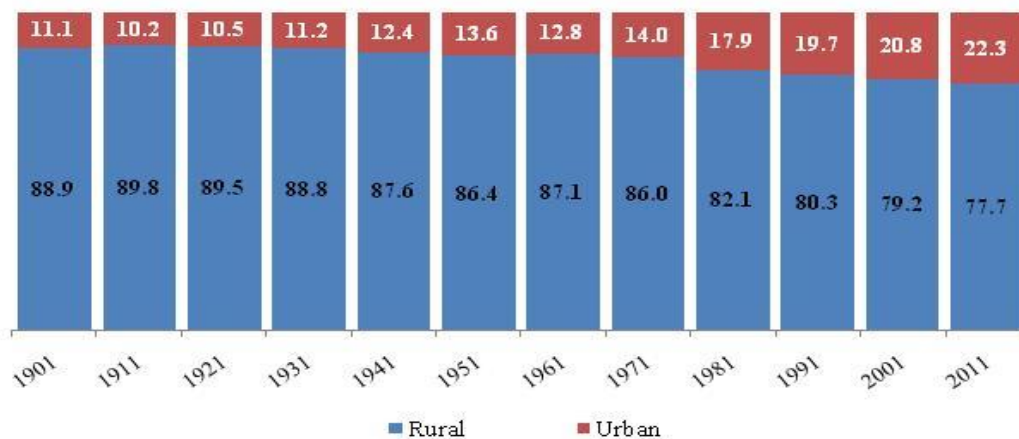
Disaggregating further, in more than 70 percent of the districts of the state birth rate was in the range of 21 and 29 per 1000 population, while the death rate ranged between 7 and 10 per 1000 population during 2010-11 (Figure 8). The districts which recorded birth rate more than 30 per 1000 population were Kaushambi, Kushinagar, Budaun, Sant Kabir Nagar, Bahraich, Balrampur,

Siddharth Nagar, and Shrawasti. As regards death rate, Deoria, Balrampur, Basti, Kaushambi, Siddharth Nagar, Faizabad, and Shrawasti recorded as high as 11 per 1000 population and more.

### 3.3. Distribution of Population

Distribution of population here refers to the allocation of state's total population by area of residence i.e. rural and urban, and the proportional distribution across regions and districts of Uttar Pradesh. Simultaneously, this section also deals with the level of urbanization across districts and regions of Uttar Pradesh, that is nothing but the proportion of districts or regions' total population residing in urban areas.

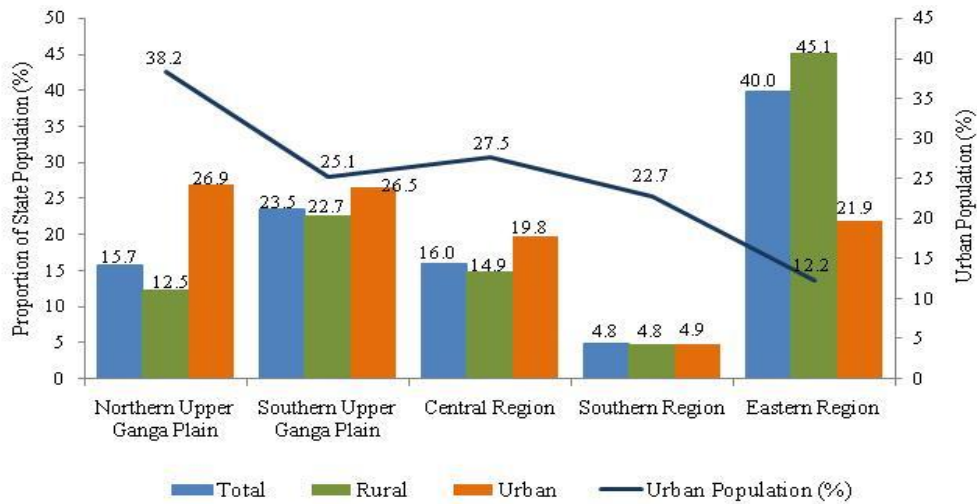
Figure 9 explicitly demonstrates that the majority of population in the state lives in rural areas, although, the share of population living in urban areas has continuously been increasing. As per the Census 2011, about 22 percent population in the state resides in urban areas compared to 78 percent in rural areas. In terms of absolute population Uttar Pradesh ranks first in the country for rural population (155.11 million or 18.6% of country's total rural), and second for urban population (44.4 million or 11.8% of country's total urban).



**Figure 9: Distribution of Population by Place of Residence, Uttar Pradesh, 1901-2011**

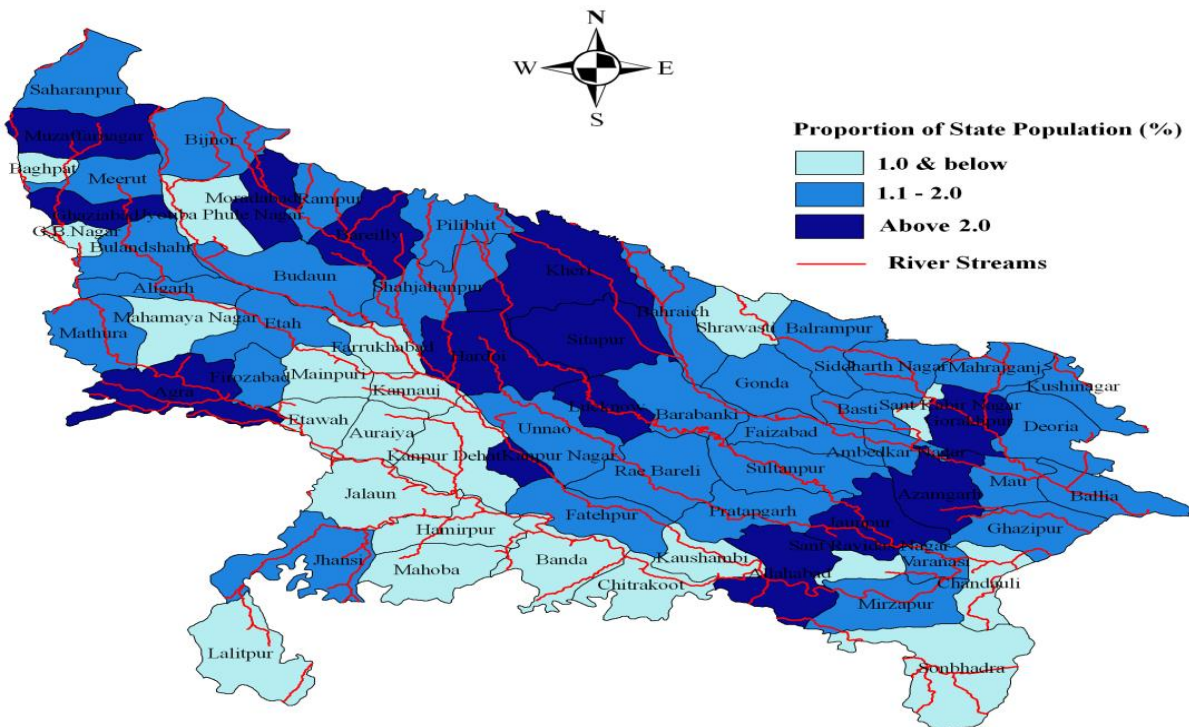
There has been a spurt in growth of population in urban areas, even in small towns in the country during the last two decades, more specifically due to migration compared to the natural increase, and also due to the inclusion of new areas under 'Urban' category. These could also be the reasons of increase in urban population in the state.

At regional level, the ER (comprising the largest number of districts in the state), accounts for 45 percent rural and 22 percent urban population of the state and corresponds to lowest level of urbanization at 12.2 percent (Figure 10). On the other hand NUGP region with only 16 percent of total state population and 27% of total state urban population corresponds to the highest level of urbanization (38%) in the state. The Southern Region (SR) of the state is sparsely populated, but the level of urbanization is considerably higher (23%).

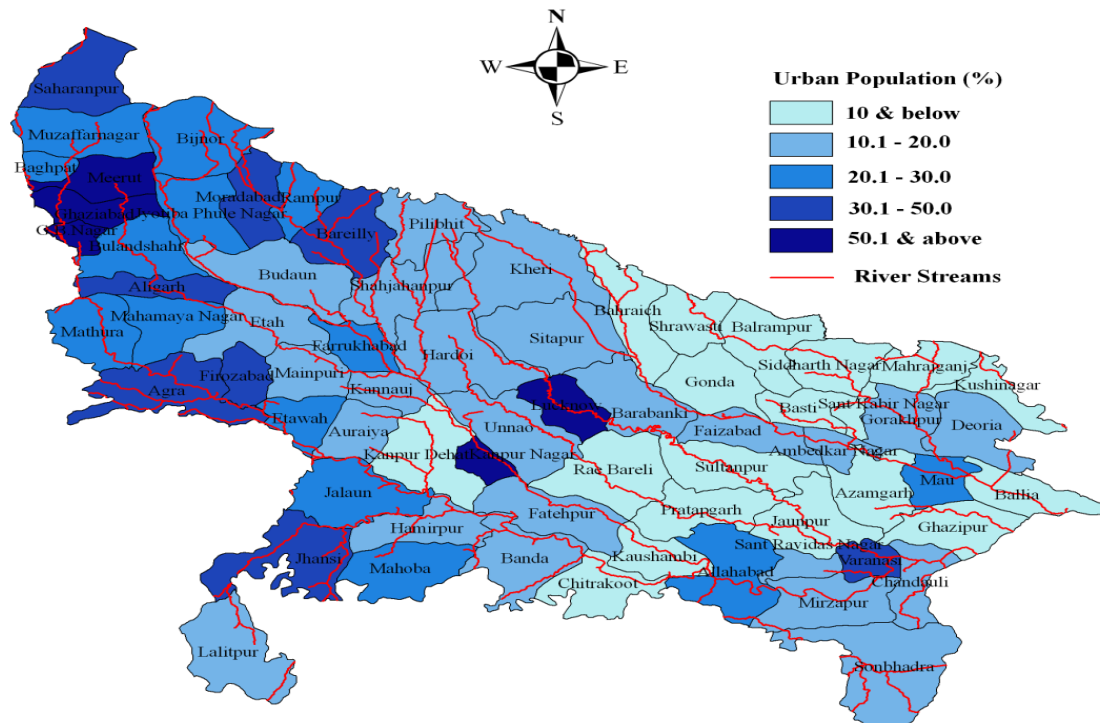


**Figure 10: Proportion of State Population (%) and level of Urbanization across Regions of Uttar Pradesh, 2011**

There were fourteen districts in the state individually having more than 2 percent of the state population (Figure 11). If they are arranged according to their ranking order, they are Allahabad, Moradabad, Ghaziabad, Azamgarh, Lucknow, Kanpur Nagar, Jaunpur, Sitapur, Bareilly, Gorakhpur, Agra, Muzaffarnagar, Hardoi, and Kheri. In the case of Ghaziabad district a significantly remarkable increase is noticed in its rank as compared to 2001.



**Figure 11: Proportion of State Population (%) across Districts of Uttar Pradesh, 2011**



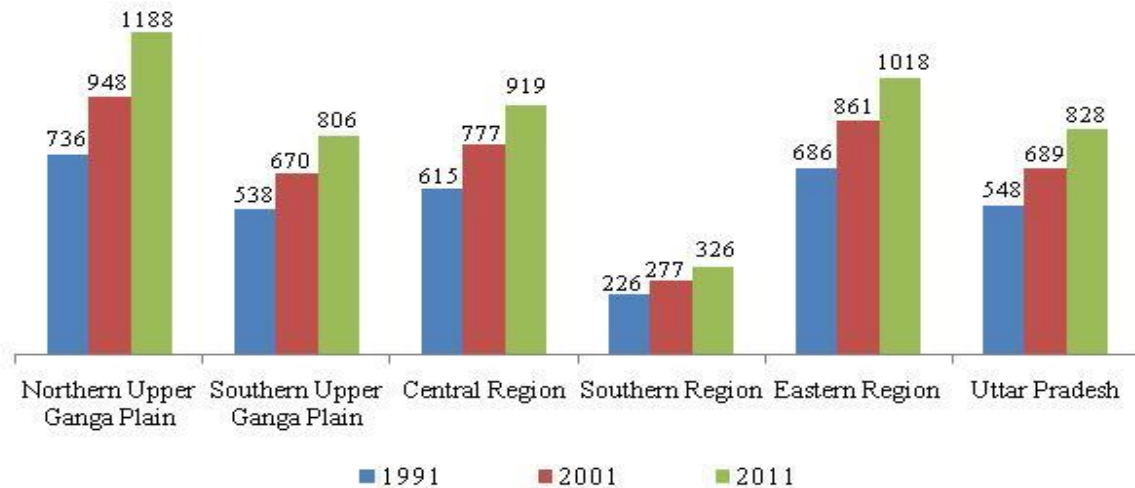
**Figure 12: Level of Urbanization (%) across Districts of Uttar Pradesh, 2011**

Figure 12 presents the level of urbanization across districts of Uttar Pradesh. There are two prominent and distinct groups, which can be manifested in the above map. Towards the east of Lucknow, there is lighter shade compared to its west. Lucknow, Kanpur Nagar, Meerut, Ghaziabad and Gautam Budha Nagar are five districts, which distinctly appear on the map with more than half of their population living in urban areas. There are eight districts with urban population ranging between 30.1 to 50 percent, out of which three are located in the NUGP region (Saharanpur, Moradabad and Bareilly), three in the SUGP region (Agra, Firozabad and Aligarh), one each in the SR (Jhansi) and the ER (Varanasi) of the state. In fifteen districts urban population was in the range of 20 to 30 percent, in 24 districts it was between 10 to 20 percent, and in 19 districts it was 10 percent or less.

### 3.4. Population Concentration

Population concentration characterizes the pattern of population distribution in an area. This is represented by the density of population in particular region, and is calculated in terms of persons per unit area. Density of population suggests clustering, scattering, randomness or uniformity in the distribution of population, which further helps to assess the population pressure on particular area or resources.

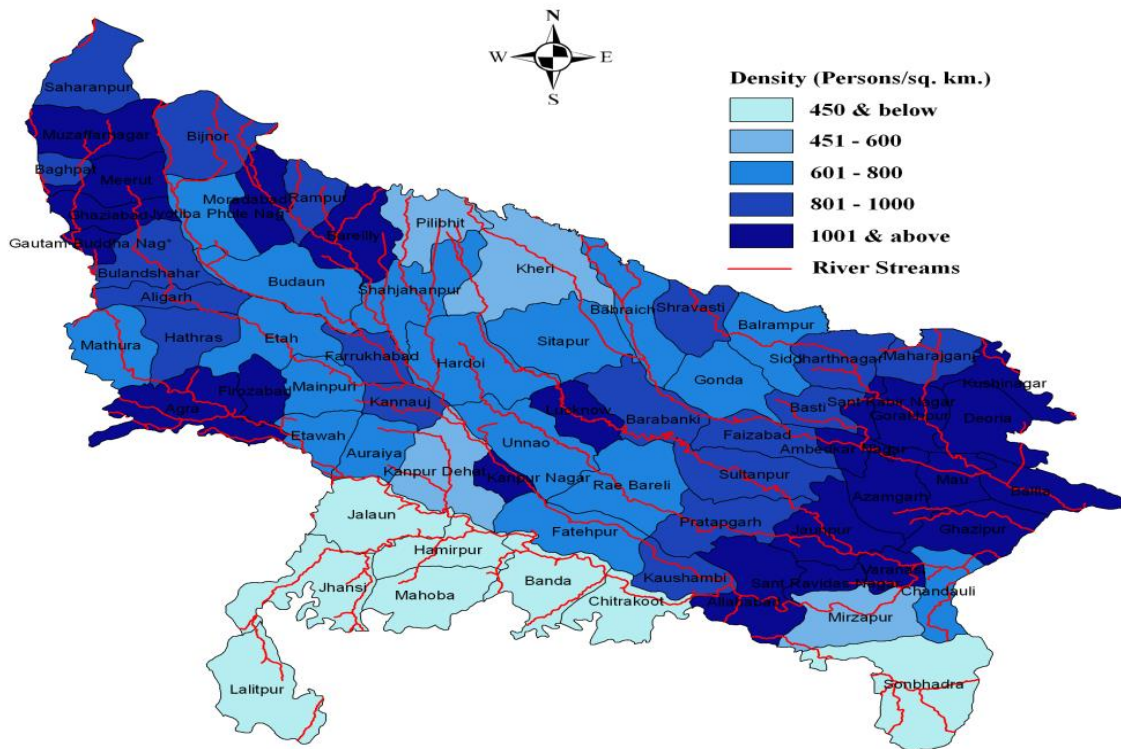




**Figure 13: Population Density (persons/sq. km.) across Regions of Uttar Pradesh, 1991-2011**

Figure 13 presents the density of population across regions of Uttar Pradesh during 1991-2011. It is noted that there has been a consistent increase in population density in the state and each of its regions over the period. The population density of Uttar Pradesh during 2011 was reported to be 828 persons/sq. km and which corresponds to an increase of 139 persons/sq.km over and above the 2001 situation.

NUGP region has reported the highest population density in the state since 1991 (736 persons/sq. km.) to 2011 (1188 persons/sq. km.), while the SR has always been sparsely populated (226 in 1991 and 326 in 2011). Similar trends are shown in the growth rate of the population density. The population density in the NUGP increased by more than 200 persons/sq. km./decade, followed by the ER, CR and the SUGP region. The population density in the SR matured with a minimal growth of 50 persons/sq. km/decade approximately.

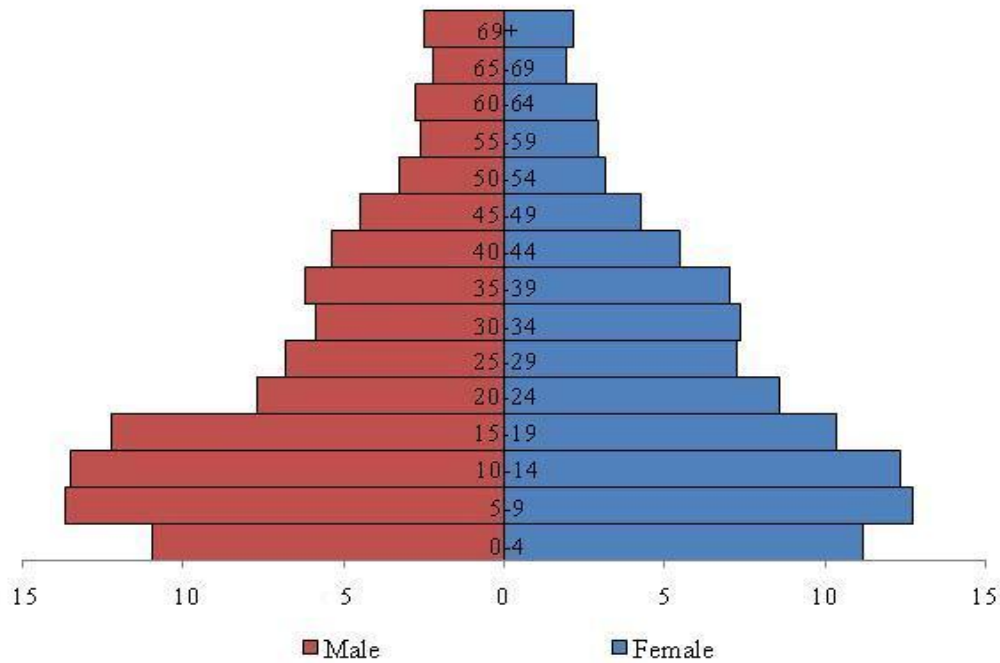


**Figure 14: Population Density (Persons/sq. km.) across Districts of Uttar Pradesh, 2011**

There are 5 districts in the NUGP namely Muzaffarnagar, Meerut, Ghaziabad, Gautam Budha Nagar, and Moradabad; 3 districts in the SUGP, namely Agra, Bareilly, and Firozabad; 2 districts in the CR (i.e. Lucknow, and Kanpur Nagar); and 13 districts in the ER having the highest population density of 1001 persons/sq. km. & above (Figure 14). These districts also happen to have either River Ganga or its major tributaries flowing through them. On the other hand, the districts in the SR and even in the southern part of the ER have reported lowest population density in the state.

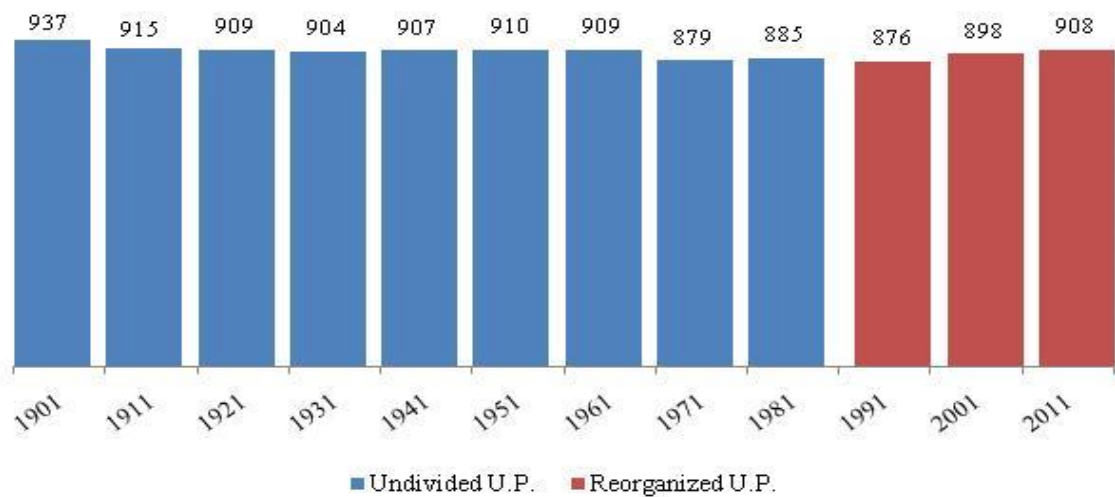
### 3.5. Population Composition

Population composition here refers to the demographic and the social attributes, which includes population in different age-groups, sex-groups, social groups, and the religious groups. Figure 15 presents the age-sex pyramid of population in the state during 2009-10. The figures are estimated from the 66<sup>th</sup> round of National Sample Survey (NSS) data. The pyramid presents a typical view of the structure of a developing economy, with broad base and narrow top. During 2009-10, Uttar Pradesh reported almost 37 percent of its population below the age of 15 years, 58 percent between 15-64 years and 5 percent above 64 years. Male dominates (marginally) in the population group up to 19 years of age, while during age 20-64 years the proportion of female population is higher.



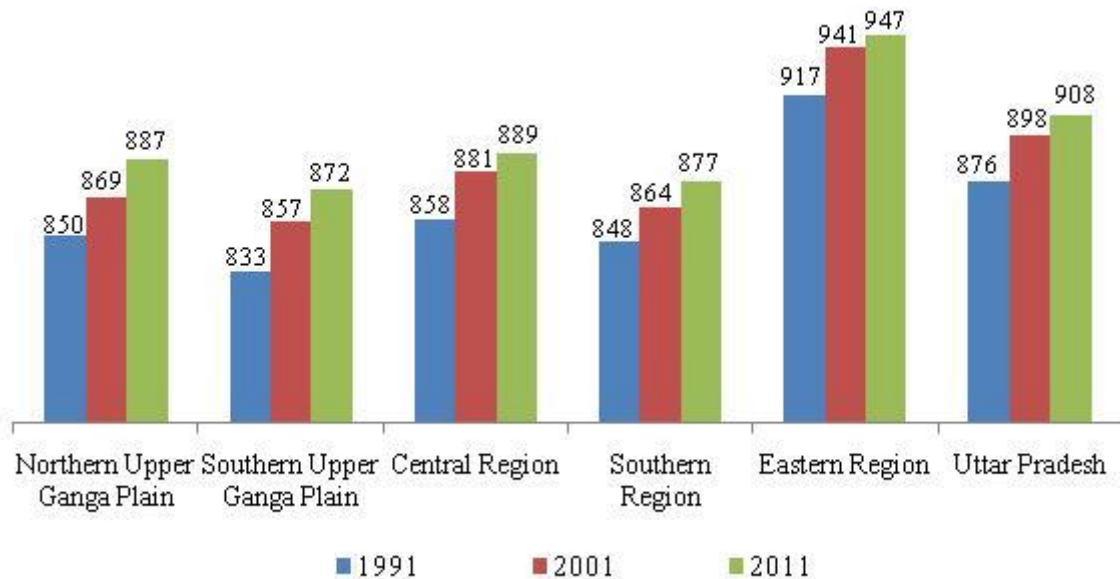
**Figure 15: Age-Sex Population Pyramid, Uttar Pradesh, 2009-10**

Sex ratio compares the composition of female and male population and is denoted by the number of females per 1000 males. Figure 16 presents sex ratio in Uttar Pradesh since 1901 to 2011; however the figures since 1991 onwards are comparable in the context of bifurcated Uttar Pradesh. Although the level of sex ratio in the state was not appreciable enough, figures seem approaching the satisfactory level during the most recent decade – rising from 898 females per 1000 males in 2001, to 908 by 2011.



**Figure 16: Trends in Sex Ratio (Female/1000 Male), Uttar Pradesh, 1901-2011**

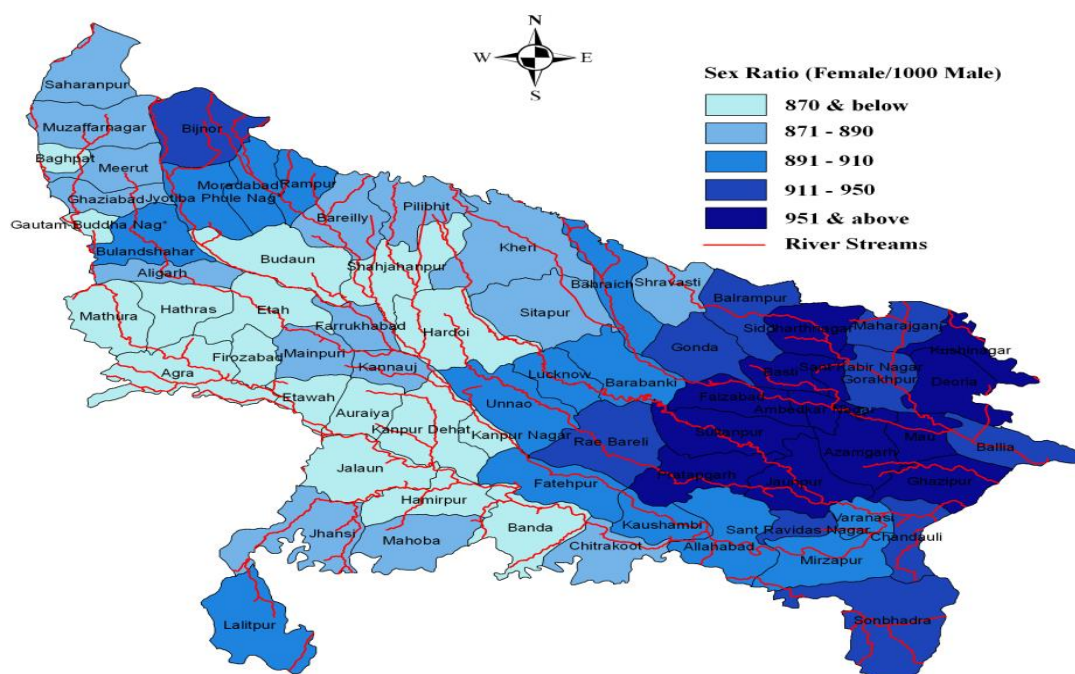
Figure 17 presents growth in sex ratio across regions during 1991-2011 where a consistent improvement is noted. However, a comparison of the two decades suggests that there was a sharper increase during the decade 1991-2001 as compared to 2001-2011.



**Figure 17: Sex Ratio (Female/1000 Male) across Regions of Uttar Pradesh, 1991-2011**

As is evident from Figure 17, during 1991-2001, the SUGP and the ER recorded an increase of 24 females per 1000 males and CR by 23 per 1000 males; whereas during 2001-2011, the SUGP region reported an increase of 15, the ER of 6, and the CR of 8 females per 1000 males.

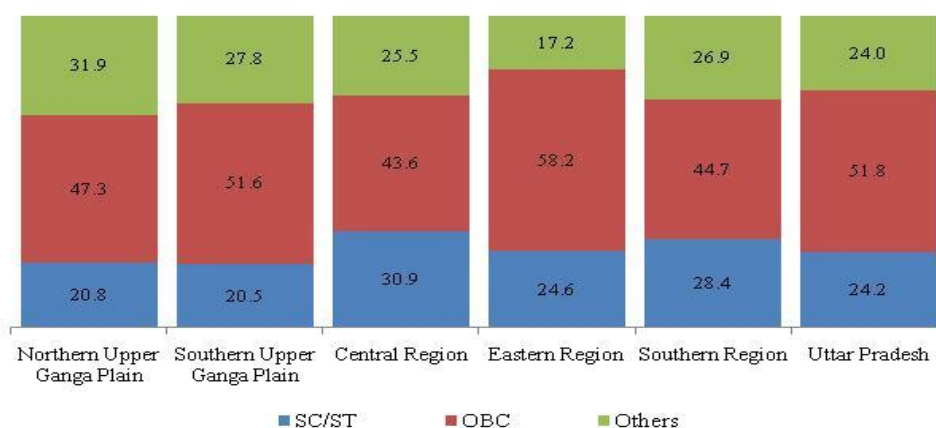
Figure 18 provides an idea of the sex ratio across districts of Uttar Pradesh in 2011. It also suggests a higher level of sex ratio in districts of the ER. It may be further pointed out that 13 districts in the state have a sex ratio of 951 females per 1000 males or more as per census 2011, followed by 10 districts with sex ratio ranging between 911 and 950, 14 districts in the range 891 to 910, 17 districts in the range 871 to 890, and 17 districts in the range 870 females per 1000 males and below.



**Figure 18: Sex Ratio (Female/1000 Male) across Districts of Uttar Pradesh, 2011**

As highlighted in Figure 18, as per Census 2011 highest sex ratio was reported in Jaunpur (1018), followed by Azamgarh (1017), and Deoria (1013), while the lowest sex ratio was found to be in Gautam Buddha Nagar (852). Skewed ratio in GB Nagar (Noida) can be attributed to, among others, higher level of industrialization leading to male dominated occupations.

Comparing with figures of Census 2001, an increase was recorded in number of females per 1000 males although with a variation across districts. Nevertheless, the highest increase was noticed in Sant Ravidas Nagar (33), Sidharthanagar and Faizabad (22 each) and Basti (21). Shrawasti was the only district maintaining the same sex ratio in both the decades.

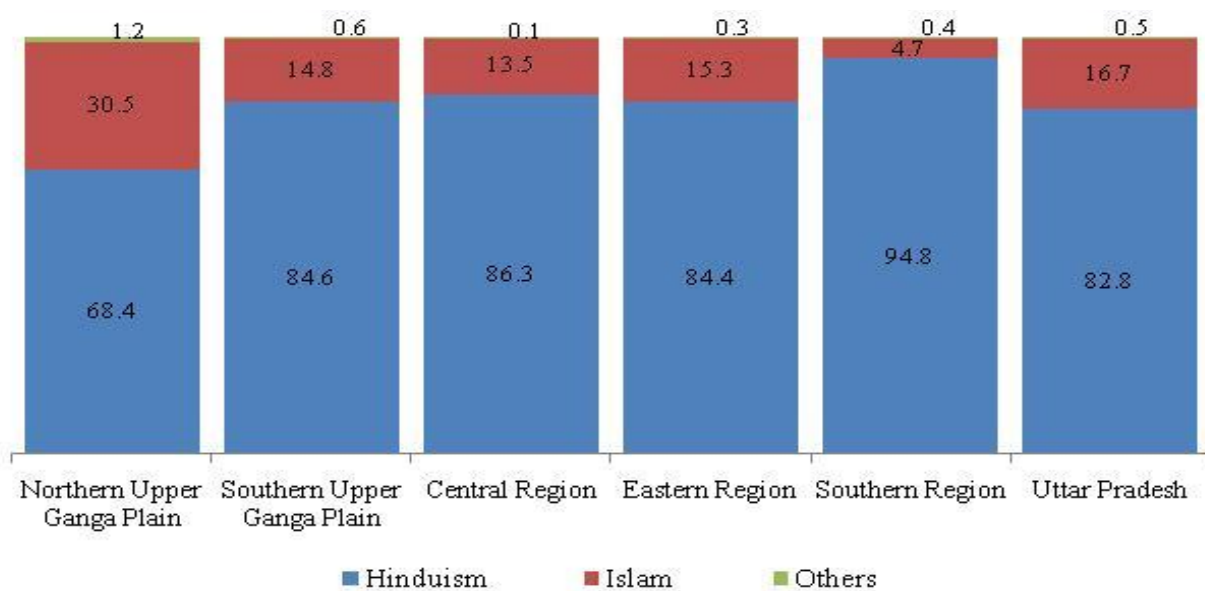


**Figure 19: Proportion (%) of Population by Social Group, Uttar Pradesh, 2009-10**

Figure 19 presents the proportion of population in different social groups across regions of Uttar Pradesh, and is estimated from the 66<sup>th</sup> round of National Sample Survey (NSS) data. The state

reported more than 50 percent of OBCs (Other Backward Castes) population during 2009-10. Majority of this population lives in the ER (58.2%) and the SUGP (51.6%). Majority of the SC/ST population lives in the CR and the SR.

Majority of the population in the state belongs to two main religious groups i.e. Hindus and Muslims and the population belonging to other religious groups is negligible i.e., even less than 1 percent. The proportion of Hindu population across the state is 82.8%, though there are variation across regions (Figure 20). Population of Hindus was proportionately highest in the SR (94.8%) and lowest in the NUGP (68.4%) region. Since only two religious groups are prominent in the state, the proportion of one religious group is complementary to another. In other words, if the proportion of Hindu population is more in any region, the Muslim population will obviously be proportionally less. Hence, Muslim population was reported to be highest in the NUGP, and lowest in the SR. Other three regions of the state had more or less the same proportion of population belonging to Hinduism and Islam religious group.



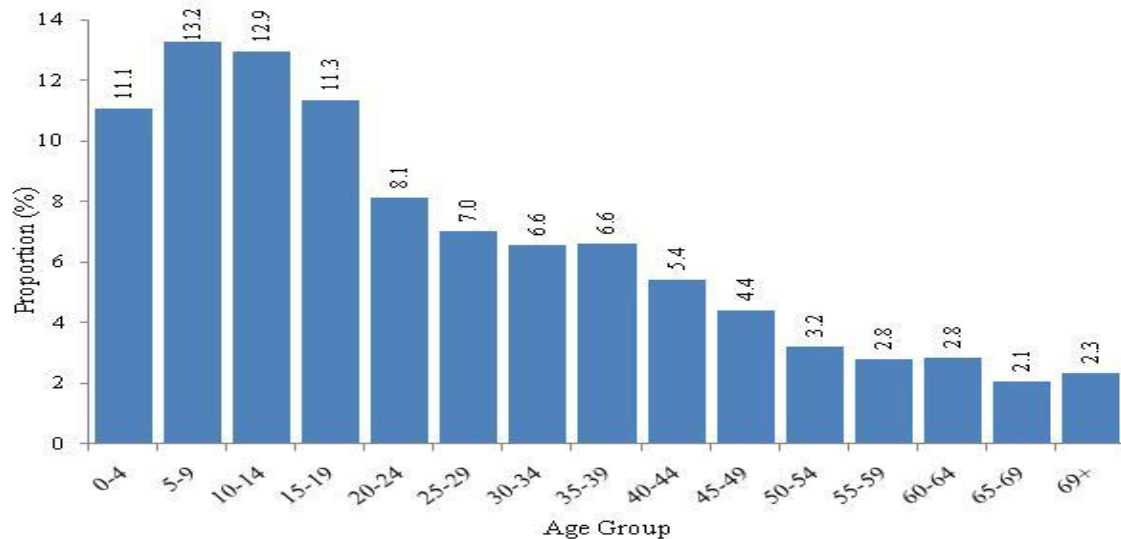
**Figure 20: Proportion (%) of Population by Religious Group, Uttar Pradesh, 2009-10**

### 3.6. Population Dependency

Population dependency indicates the potential effects of changes in population age structures for social and economic development, pointing out broad trends in social support needs. This is measured by the dependency ratio, which relates the number of children (0-14 years old) and older persons (65 years or over) to the working-age population (15-64 years old). By relating the group of the economically dependent population (net consumers) to the group most likely to be economically active (net producers), it provides an indication of the potential social support requirements resulting from changes in population age structures. In addition, the ratio highlights the potential dependency burden on workers and indicates the shift in dependency from a situation in which children are dominant to one in which older persons outnumber children as the demographic transition advances (i.e. the transition from high mortality and high fertility, to low mortality and low fertility). A high dependency ratio indicates that the economically active

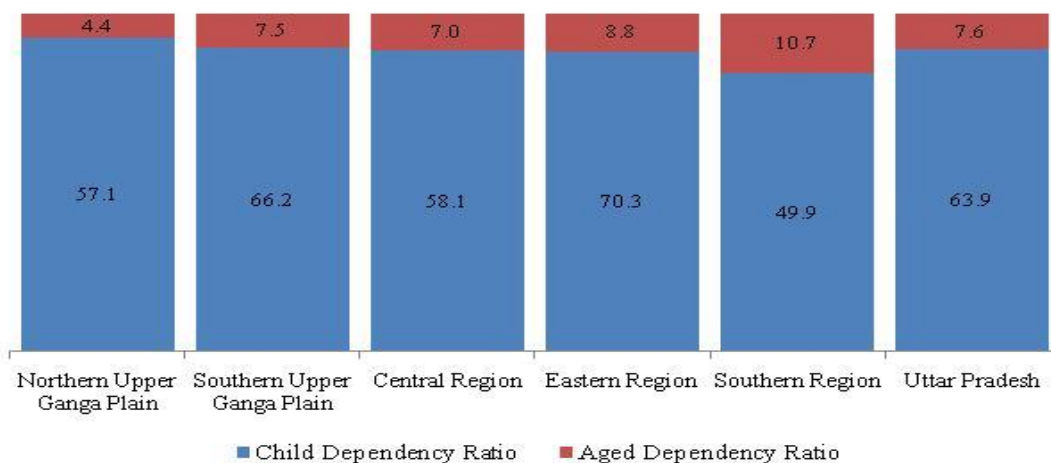
population and the overall economy face a greater burden to support and provide the social services needs of the dependent children and older persons.

Figure 21 illustrates the proportion of population in different age groups during 2009-10. During the period under consideration, Uttar Pradesh reported almost 37 percent of its population below the age of 15 years, 58 percent between 15-64 years, and only 5 percent above 64 years. The figures are estimated using information retrieved from the 66<sup>th</sup> round National Sample Survey (NSS). Based on this information, the child dependency ratio and the aged dependency ratio were computed for Uttar Pradesh and its regions (Figure 22).



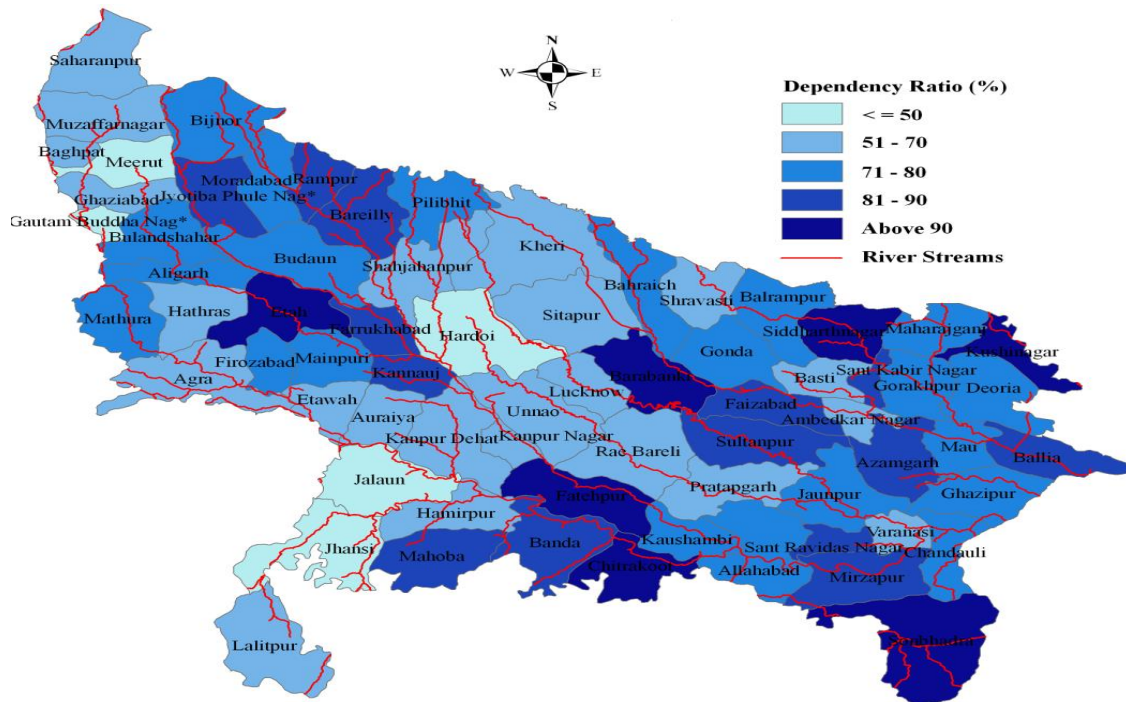
**Figure 21: Proportion (%) of Population by Age Group, Uttar Pradesh, 2009-10**

The child dependency ratio is a ratio of children or adolescent population (age 0-14 years) to the working age population (15-64 years). Similarly, the aged dependency is calculated as a ratio of aged population (65 years and above) to the working age population (15-64 years). These measures (in percent) are presented in Figure 22.



**Figure 22: Child & Aged Dependency Ratio (%), Uttar Pradesh, 2009-10**

During 2009-10 child dependency ratio was about 64 percent and the aged dependency was about 8 percent which together lead to an overall dependency ratio of 71%. The highest overall dependency (and child dependency) ratio was reported in the ER (79%), followed by the SUGP (74%). However, the highest aged dependency ratio was observed in the SR (11%). Figure 23 presents overall dependency ratio (%) across districts of Uttar Pradesh during 2009-10.



**Figure 23: Overall Dependency Ratio (%) across Districts of Uttar Pradesh, 2009-10**

As is evident from Figure 23, Siddhartha Nagar (119%) reported the highest dependency ratio (Child dependency of 112%), followed by Sonbhadra (104%), Kushinagar (102%), Chitrakoot (95%), Fatehpur (95%), Etah (93%), and Barabanki (92%). The highest aged dependency ratio was observed in Mahoba district (23%), followed by Kannauj (15%), Fatehpur (15%), and Chitrakoot (14%). In the Northern and the Southern Upper Ganga Plain regions, dependency ratio among the districts along Ganga River was observed to be more than 70 percent during 2009-10.

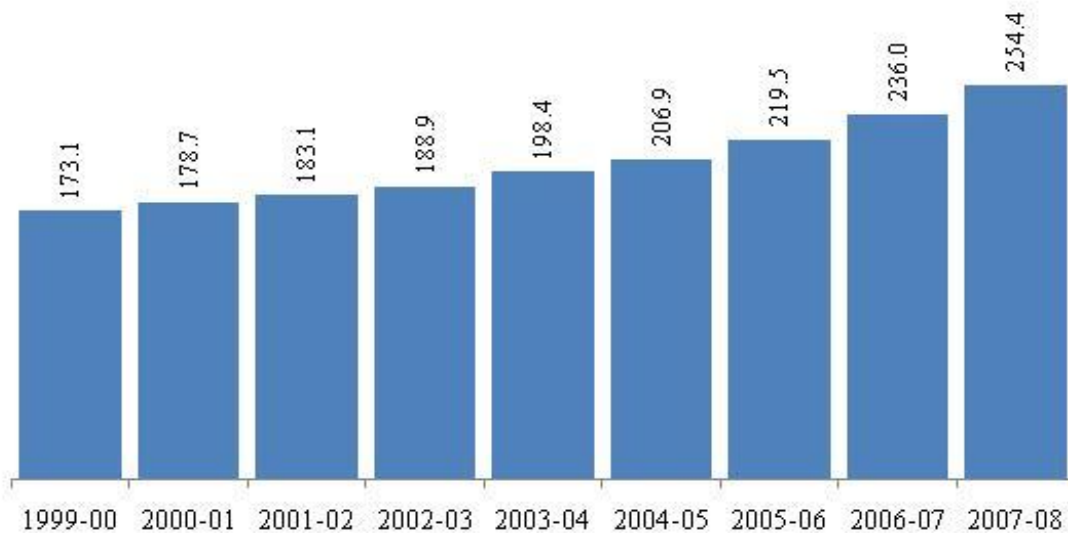
## 4. Economic Indicators

### 4.1. Gross (State) Domestic Product

Uttar Pradesh is the largest economy of North India and second largest economy in the country. However, not long ago, it was a laggard state in terms of economic growth. While during 1980s, UP's economy grew at roughly the same rate as that of India overall (5.0 vs. 5.6 percent per annum growth of GSDP and GDP, respectively), its growth rate decelerated to 3 percent per annum during 1990-95 period. During the period 1999-2008 when India grew at an average of 7.4 percent per year, Uttar Pradesh registered an average growth rate of just 4.4 percent per annum i.e., 3 percent below All India average. Nevertheless in 2010-11 the state's domestic product grew by 8 per cent which is closer to All India average of 8.4 per cent. Only five states viz., Bihar,

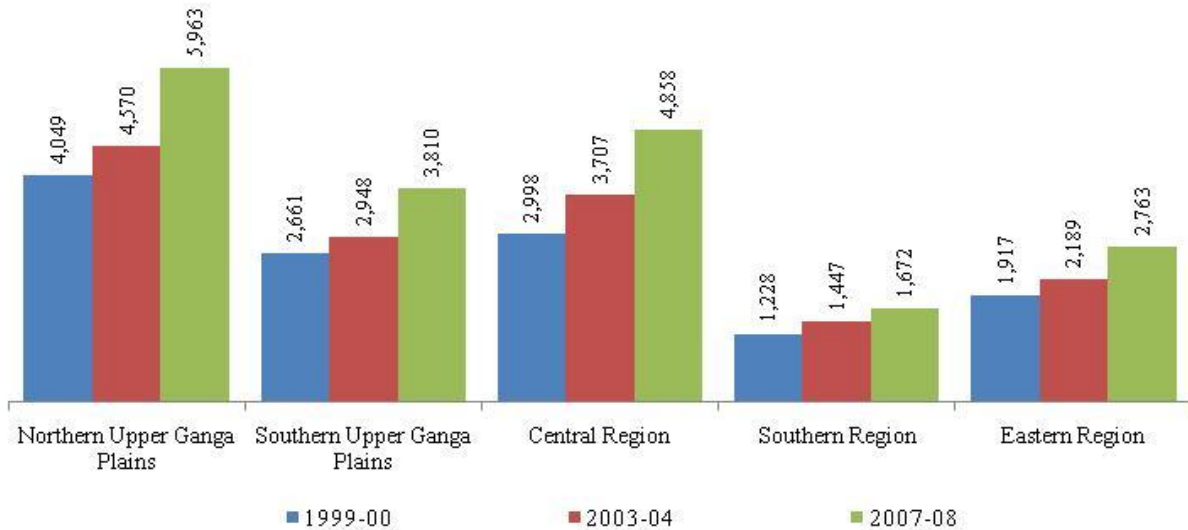


Chhattisgarh, Maharashtra, Punjab, and Uttar Pradesh have grown faster than their target growth rate during the 11<sup>th</sup> Five-Year Plan period<sup>7</sup>. The Gross State Domestic Product (GSDP) of the state has registered a smooth rise from 173.1 ('000 crores) during 1999-2000 to 254.4 ('000 crores) during 2007-08 adding 81.3 thousand crores in nine years, with an average increase of approximately 9 thousand crores every year (Figure 24).



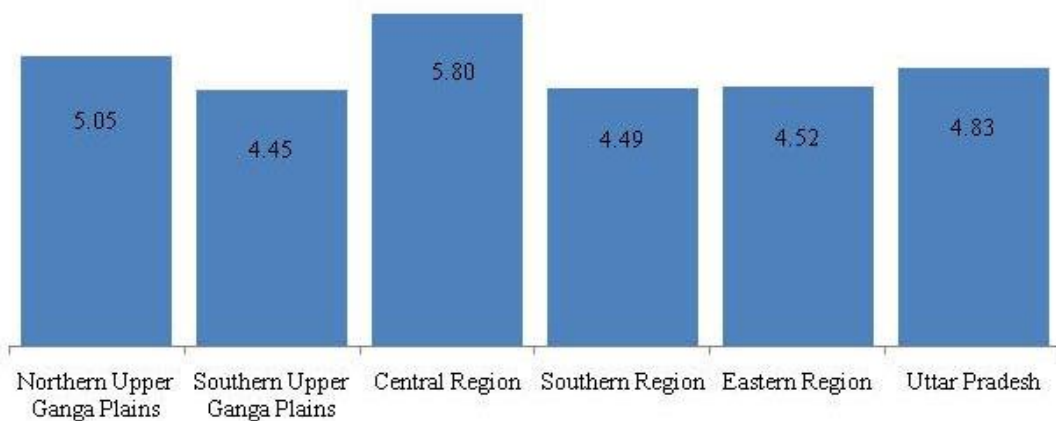
**Figure 24: Gross State Domestic Product (Rs. '000 Crores), Uttar Pradesh, 1999-2008**

The figure of 1999-2000 is adjusted to the present boundary of Uttar Pradesh excluding the districts of Uttarakhand to make it comparable with figures for the subsequent years (based on 1999-00 constant prices). To unfold, during 1999-2000 to 2002-03, GSDP of the state grew about 5-6 thousand crores per annum in absolute term, whereas from 2002-03 to 2003-04 and 2003-04 to 2004-05, it increased by 9.5 and 8.5 thousand crores respectively. Surprisingly, from 2004-05 onwards, GSDP of the state recorded rise of 300% as compared to previous years (i.e. 12.6, 16.5, and 18.4 thousand crores).



**Figure 25: Average GSDP (Crore Rs.) across Regions of Uttar Pradesh, 1999-2008**

Figure 25 depicts the average gross district domestic product (at 1999-00 constant price) across regions of Uttar Pradesh. During 1999-00 to 2003-04, the maximum increase in average district domestic product was recorded in CR (Rs. 709 crore), followed by the NUGP (Rs. 521 crores), SUGP (Rs. 287 crore), ER (Rs. 272 crore) and the SR (Rs. 219 crore). However, during 2003-04 to 2007-08, the maximum increase was observed in the NUGP (Rs. 1393 crore), followed by CR (Rs. 1151 crore), SUGP (Rs. 862 crore), ER (Rs. 574 crore) and the SR (Rs. 225 crore).

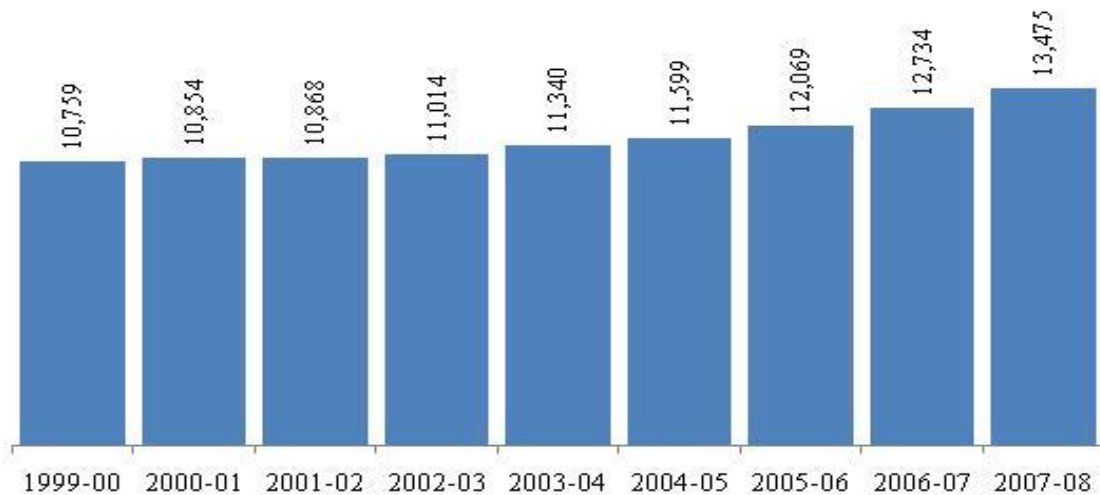


**Figure 26: Region-wise CAGR (%) of GSDP in Uttar Pradesh, 1999-2008**

To sum up, the GSDP of Uttar Pradesh grew with a cumulative annual growth rate (CAGR) of 4.83 percent during 1999-2008 (Figure 26). The average Gross District Domestic Product in the CR appears to have recorded the highest annual growth rate of 5.8 percent during the same period, followed by the NUGP (5.05%). However, the CAGRs in other regions were recorded below the state average of around 4.5 percent.

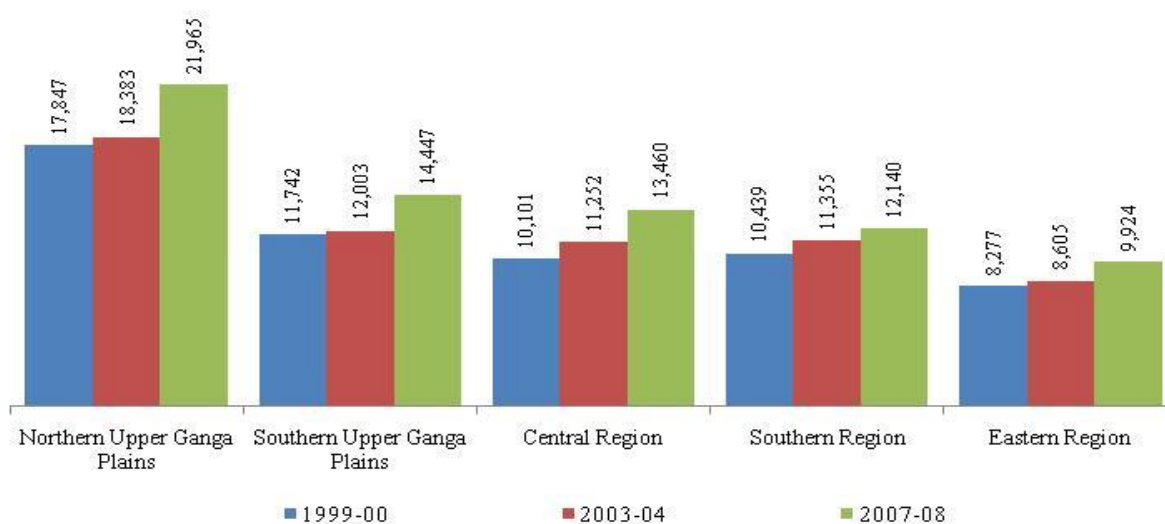
## 4.2. Per Capita Gross Domestic Product

Figure 27 presents the trend in per capita GSDP of Uttar Pradesh during 1999-00 to 2007-08. Over the 8 year period, the per Capita GSDP of Uttar Pradesh has increased from Rs. 10,759 to Rs. 13,475. representing a CAGR of 2.85%. However, it is noted that the economy picked up momentum in the later years. For instance during 1999-00 to 2002-03, average annual increase was Rs. 56.25, which went up to Rs. 585 during 2002-03 to 2004-05 and Rs. 469 during 2004-05 to 2007-08.



**Figure 27: Per Capita GSDP (Rs.) in Uttar Pradesh, 1999-2008**

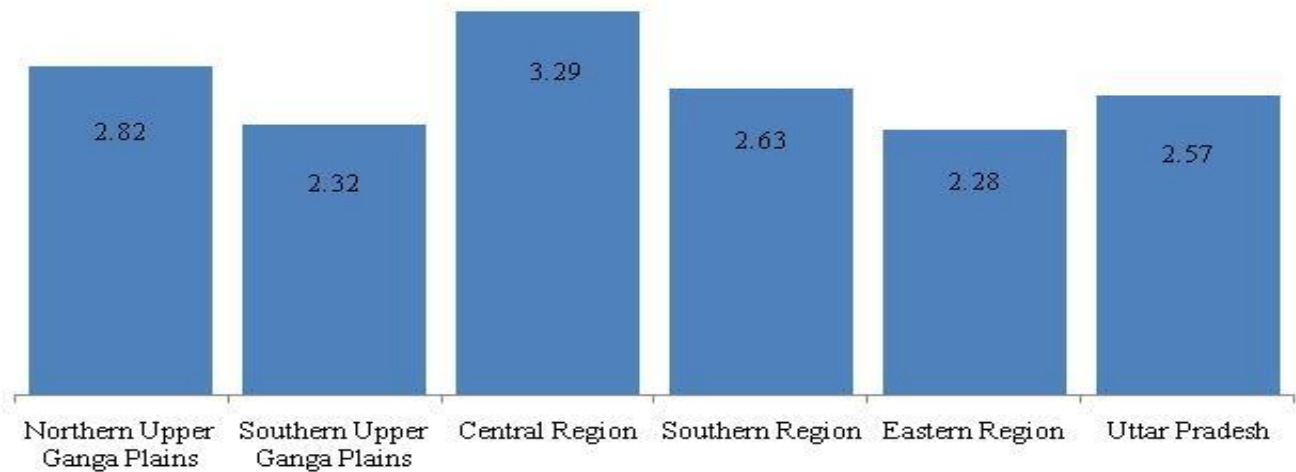
The average per capita gross district domestic product (GDDP) in the NUGP was recorded to be the highest during 1999-2008 as compared to other regions in the state (Figure 28). However, the ER accounted for the lowest average per capita GDDP in the state which indicates weak economic based in the region.



**Figure 28: Average per Capita GDDP (Rs.) across Regions of Uttar Pradesh, 1999-2008**

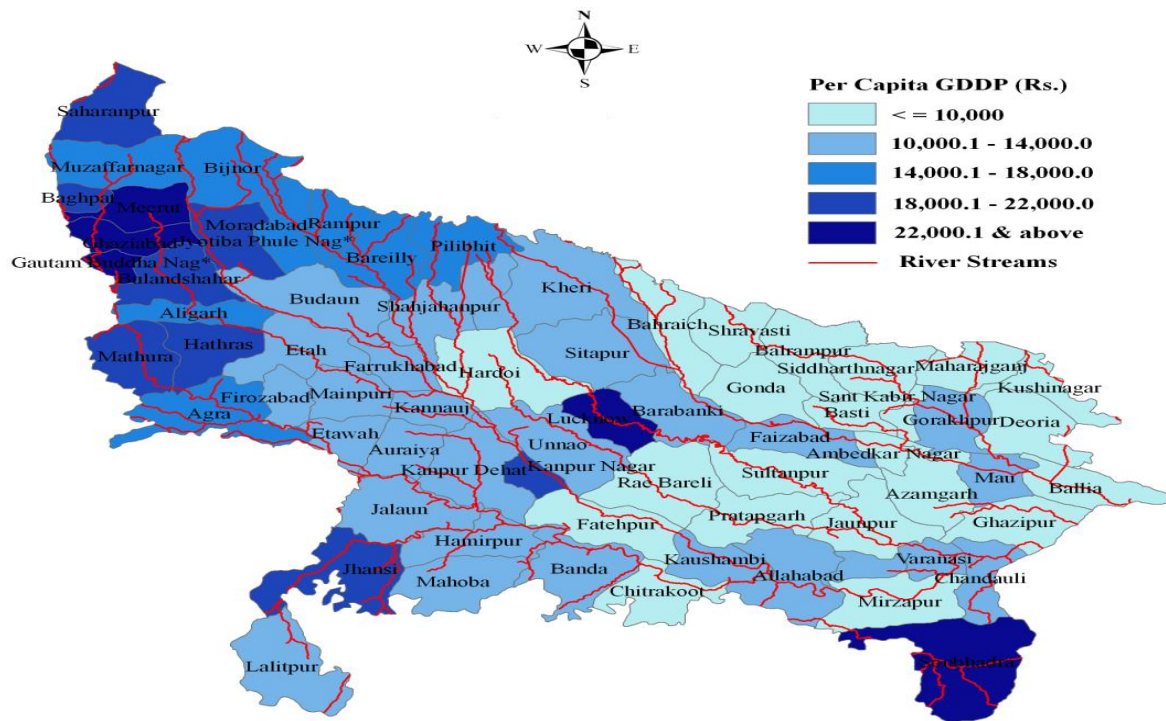
As brought to the fore in Figure 28, the CR recorded the highest and the SUGP witnessed the lowest absolute increase in the average per capita GDDP from 1999-00 till 2003-04. However, during 2003-04 to 2007-08, the Northern and the Southern Upper Ganga Plain regions had witnessed the highest and the second highest increase in the average per capita GDDP.

Overall, the per capita GSDP of Uttar Pradesh grew with a cumulative annual growth rate (CAGR) of 2.57 percent during 1999-2008 (Figure 29).



**Figure 29: Region-wise CAGR (%) of Per Capita GSDP in Uttar Pradesh, 1999-2008**

In sync with the pattern of growth as observed in the case of average GDDP across regions, the average per capita GDDP in the CR registered the highest annual growth rate of 3.29 percent in the state during the same period, followed by the NUGP (2.82%). However, the CAGRs in other regions were recorded below the state average at around 2.3 percent except for the SR which was at 2.67%. Figure 30 presents the district wise pattern of GDDP and it is noted that it is highly concentrated in the north-western part of the state.

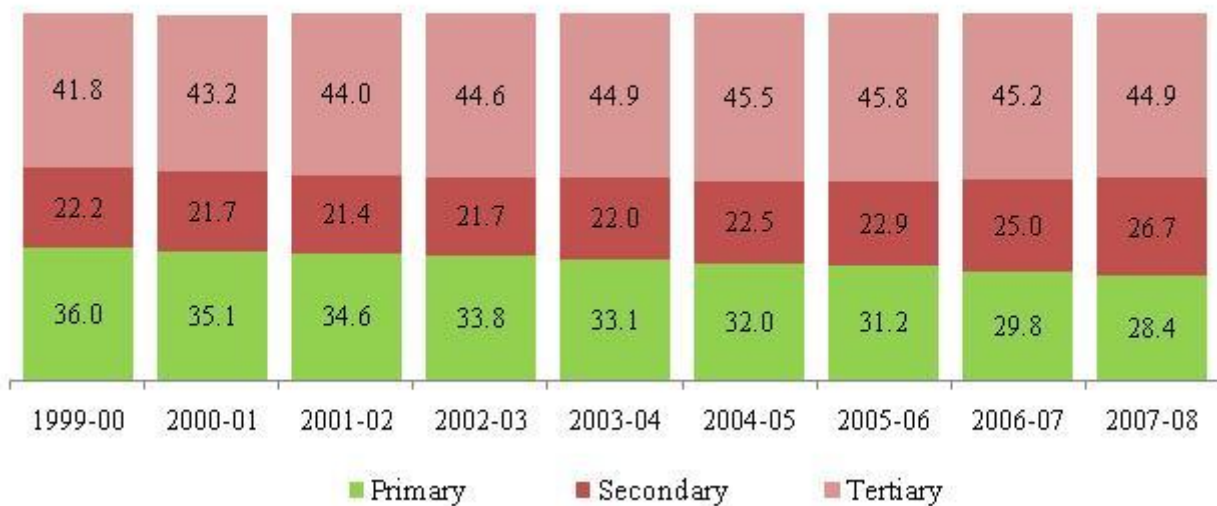


**Figure 30: Per Capita GDDP (Rs.) across Districts of Uttar Pradesh, 2007-08**

From Figure 30 it is also evident that the districts in the north-eastern part of the state significantly lagging behind in terms of economic growth. . Districts along Ganga River, which recorded a per capita GDDP less than Rs. 10,000 were Hardoi (Rs. 9,612), Fatehpur (Rs. 9,790) and Mirzapur (Rs. 9,645).

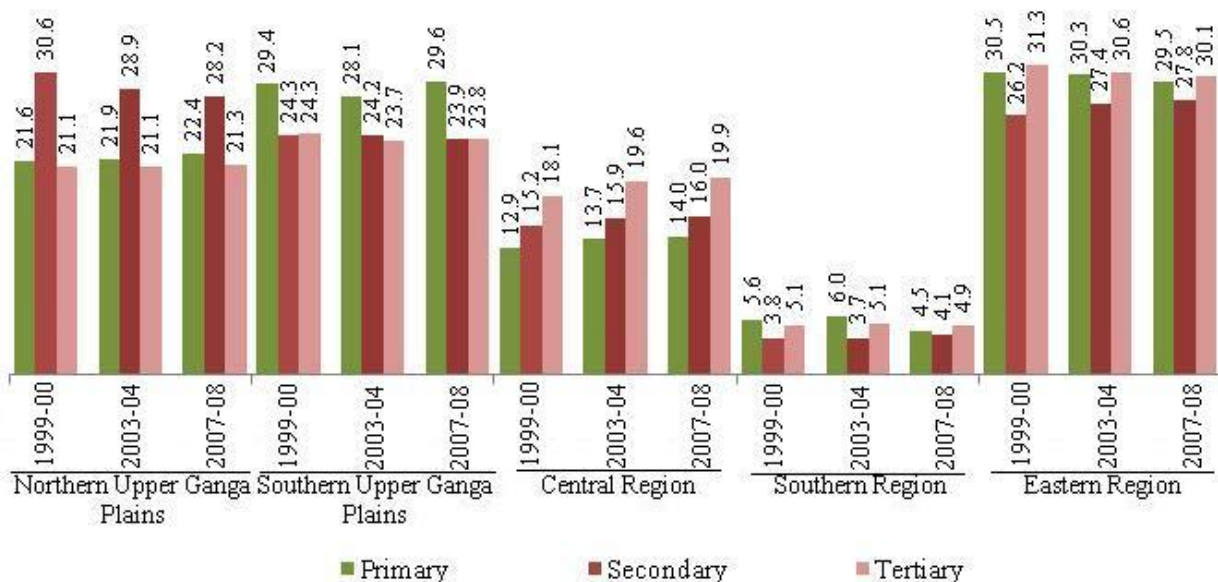
### 4.3. Sectoral Composition of GSDP

Figure 31 presents the trend in the sectoral composition of GSDP of Uttar Pradesh during 1999-2000 to 2007-08 (at 1999-00 constant price). It is clearly manifested in the graph that the maximum contribution in the GSDP was made by the tertiary sector while that from the primary sector registered a decline of 8% points. During 1990-00, there was a gap of about 13 percentage points between the contribution of primary sector (36%) and the secondary sector (22.2%) in the GSDP. However, during 2007-08, this gap narrowed down to two percentage points.



**Figure 31: Sectoral Composition of GSDP (%) in Uttar Pradesh, 1999-2008**

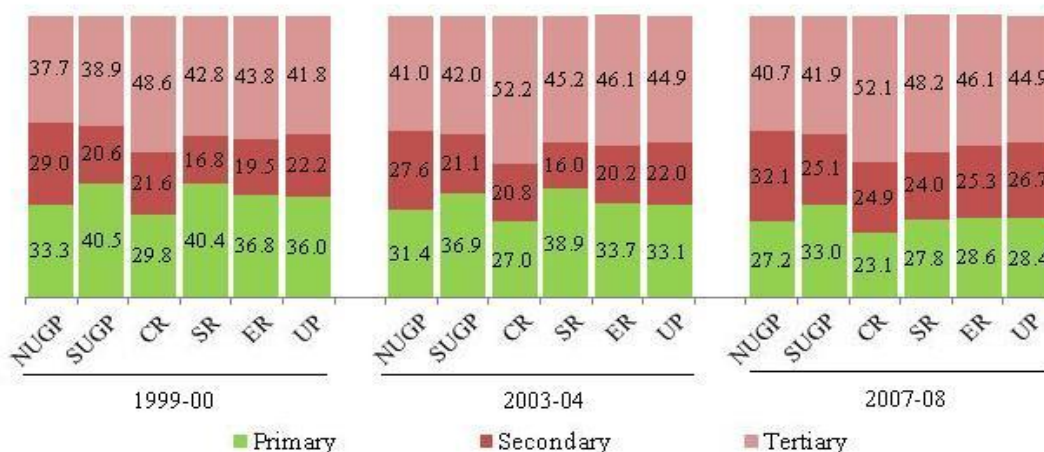
Disaggregating the share of sectoral composition in GSDP at regional level (Figures 32), the ER and the NUGP appeared to have accounted for the maximum share in the primary sector of the state economy.



**Figure 32: Sectoral Composition of GSDP (%) across Regions in Uttar Pradesh, 1999-2008**

Although the ER also contributes to the secondary sector in significant amount, the NUGP accounts for the maximum share of the secondary sector in GSDP (marginally higher than the share of the ER). Moreover, the maximum share in the tertiary sector of the SGDP was recorded by the ER (30% during 2007-08), followed by the SUGP and the NUGP. Figure 33 displays the share

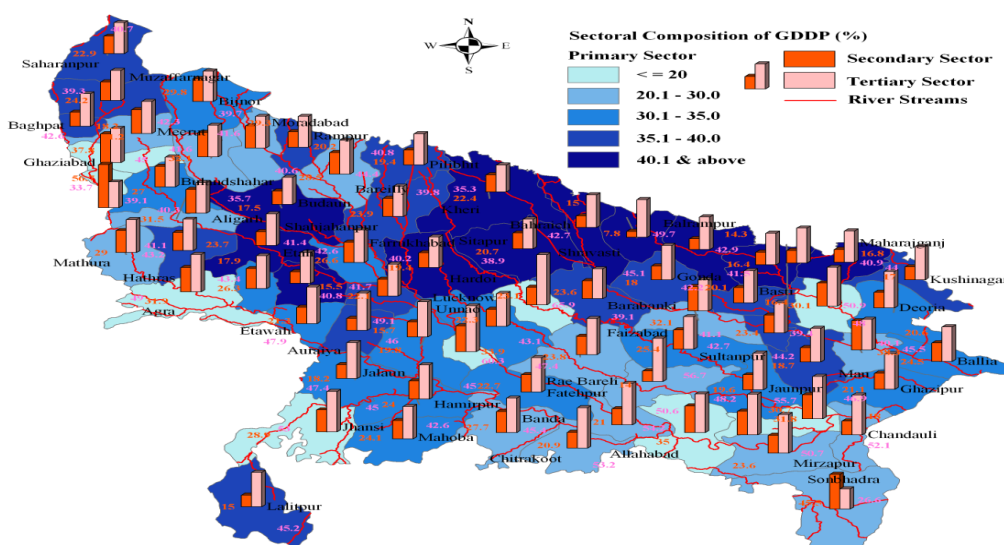
of different economic sectors in the GSDP within regions of Uttar Pradesh during 1999-00 to 2007-08.



**Figure 33: Region-wise Sectoral Composition of GSDP (%) in Uttar Pradesh, 1999-2008**

As is indicated in Figure 33, the SUGP (33%) had the maximum share of primary sector in GSDP among all the regions; the NUGP (32%) had the maximum share in secondary sector, while the highest share in tertiary sector was recorded by the CR (52%) during 2007-08.

Figure 34 presents the spatial distribution in sectoral composition of GDDP across the districts of Uttar Pradesh during 2007-08. On an average, the share of tertiary sector in the GDDP appeared to be the maximum in all districts of the state.



**Figure 34: Sectoral Composition of GDDP (%) across Districts of Uttar Pradesh, 2007-08**

As can be seen through Figure 34, the districts with more than 42 percent share of primary sector in the GDDP were Budaun (46.8%), Mainpuri (43.7%), Balrampur (42.7%), Shravasti (42.5%), Maharajganj (42.3%), Kheri (42.3%), Bahraich (42.2%), and Siddharth Nagar (42.1%). Similarly,

Gautam Buddha Nagar (56.7%) had the highest share of secondary sector in the GDDP, followed by Sonbhadra (45.5%) (power and smelting). Other districts had less than 40 percent share of secondary sector in GDDP. There were 12 districts in the state which had recorded more than 50 percent share of tertiary sector in GDDP, whereas the districts like Lucknow (65.9%), Kanpur Nagar (60.3%), Pratapgarh (56.7%), and Varanasi (55.7%) accounted for more than 55% share of tertiary sector in GDDP.

#### 4.4. Trends in Occupational Structure

Table 1 presents the proportion (%) of households by main occupation in rural and urban areas separately in Uttar Pradesh during 1983-2010. The figures are based on the quinquennial rounds of the given reference periods (i.e. 38<sup>th</sup>, 43<sup>rd</sup>, 50<sup>th</sup>, 55<sup>th</sup>, 61<sup>st</sup>, and 66<sup>th</sup> round) of National Sample Survey (NSS) data. There is a clear indication of decline in the proportion of households engaged in agricultural activities in rural Uttar Pradesh. It is pertinent to mention here that the figures shown in Table 1 are based on households implying that they indicate the main occupation of the household (as the member of household may involve in different activities, but the source of highest earning is considered as the main occupation of the household) that sustain their livelihoods. The proportion of households which were self-employed in agricultural activities declined from 56 percent in 1983 to 48 percent in 2009-10. Similarly, the proportion of households which were involved as agricultural labourers also declined from 18 percent (1983) to 11 percent (2009-10). Due to increasing employment opportunities in non-agricultural activities, especially after the advent of the National Rural Employment Guarantee Act (NREGA), the share of non-agricultural labourers has increased almost two times between 2004-05 and 2009-10 in rural Uttar Pradesh.

Over the period under consideration the urban areas of the state do not witness any noticeable change in the occupational structure. However, the data indicate a marginal declining trend in the proportion of households involved in regular wage/salary earnings and an increase in self employed economic activities and casual labourers.

**Table1: Household Main Occupation (%) in Rural and Urban Areas, Uttar Pradesh, 1983-2010**

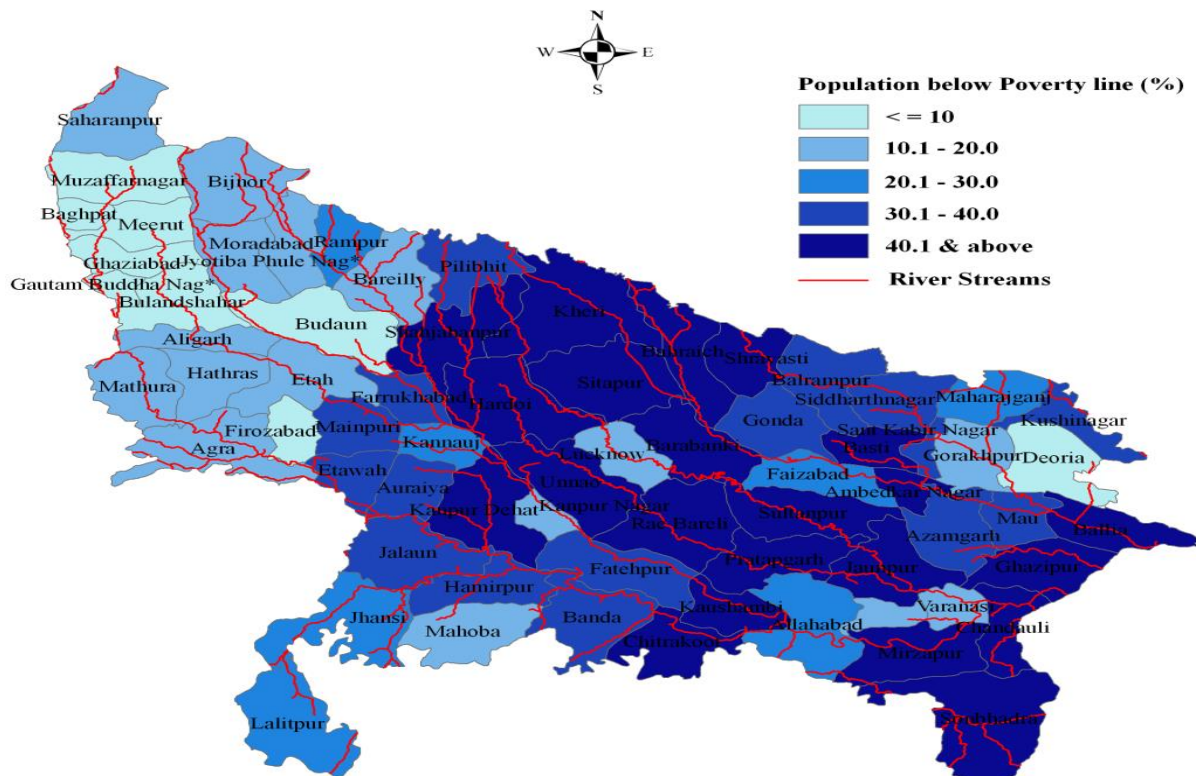
Particulars	1983	1987-88	1993-94	1999-00	2004-05	2009-10
<b>Rural Area</b>						
Self-employed in non-agriculture	13.1	12.7	13.2	14.7	18.5	16.0
Agricultural labourers	18.0	20.1	15.3	19.7	13.7	11.3
Other labour	4.1	5.5	3.9	5.7	9.2	18.1
Self-employed in agriculture	56.2	53.9	54.2	46.8	49.2	44.7
Others	8.6	7.7	13.3	13.2	9.4	9.8
<b>Urban Area</b>						
Self employed	45.1	45.6	46.4	46.7	49.3	43.5
Regular wage/salary earning		35.3	34.0	33.9	34.0	30.2
Casual labour		9.1	9.3	10.4	8.8	12.7
Others	54.9	10.0	10.3	9.0	7.9	13.5

Note: Computed from the unit level data of concerned NSS rounds.



## 4.5. Population Below Poverty Line

Figure 35 presents the spatial distribution of population below poverty line (%) across districts of Uttar Pradesh in 2002<sup>8</sup>.



**Figure 35: Population below Poverty Line (%) across Districts of Uttar Pradesh, 2002**

**BOX-4.5.1. UP has highest number of BPL families<sup>9,10</sup>** on July 3<sup>rd</sup>, 2009, the Ministry of Rural Development, GOI, declared that Uttar Pradesh, Bihar and Maharashtra figure among the list of states with large number of people living below poverty line. The latest estimates released by the Planning Commission for the year 2004-05 reveals that Uttar Pradesh has the largest BPL population with 590.03 lakh people living below the poverty line. While Bihar with 369.15 lakh and Maharashtra with 317.38 lakh BPL population follow it. These figures are based on URP consumption data. However as per available estimates, the percentage of people living below poverty line has come down from 37 percent in 1993-94 to 27.5 percent in 2004-05.

The Rural Development Department of the State Government has conducted a survey in the year 2002-03 on the basis of 13 parameters relating to economic and social indicators, which has revealed that the population below poverty line in Scheduled Castes constituted about 60%. Thus, higher incidence of poverty among Scheduled Castes is a cause of concern and needs to be arrested on priority basis. Of the total number of BPL families living in UP, the highest are located in Unnao, just 30 kilometres away from the state capital.

Figure 35 manifests that the higher proportion of population, living below poverty line as per the 2002 BPL Census, is concentrated in the ER except for some districts like Varanasi, Deoria, Gorakhpur etc.; in the CR excluding Lucknow, and Kanpur Nagar; and in some of the districts of the SUGP. The top five districts with the highest proportion of population below poverty line in the state were recorded as Bahraich (78%), Kaushambi (69%), Hardoi (65%), Ambedkar Nagar (61%), and Sonbhadra (57%).

#### 4.6. Trends and Pattern in Banking

Table 2 presents selected statistics related to commercial banks in Uttar Pradesh during 2003-11. The data show that the number of bank offices has increased significantly in last 8 years during 2003-11. The number has gone up from 8,366 in 2003 to 11,119 in 2011, a net increase of about 33 percent. In rural areas, the number of bank offices is much higher than that in semi-urban and urban areas. During the last 8 years, the number in rural areas has increased only by 4.46 percent while in semi-urban and urban areas, the number of bank offices has increased by 59.56 and 35.55 percent, respectively during the same period. This shows that rural population is not being proactively targeted by the banking sector or it is not coming forward to avail the banking services. As far as credit-deposit ratio is concerned, it is found to be fluctuating across years.

**Table2: Statistics related to Commercial Banks, Uttar Pradesh, 2003-2011**

Indicators	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>Number of Bank Offices in India</b>	8366	8413	8520	8591	8947	9353	9881	10585	11119
<b>(a) Rural</b>	4882	4881	4620	4617	4634	4714	4806	4953	5100
<b>(b) Semi-Urban</b>	1365	1368	1447	1454	1523	1621	1776	1974	2178
<b>(c) Urban</b>	1530	1551	1248	1277	1422	1562	1731	1963	2074
<b>(d) Metropolitan</b>	589	613	1205	1243	1368	1456	1568	1695	1767
<b>Credit-Deposit Ratio (per cent)</b>	NA	33.21	NA	46.3	44.92	42.06	NA	41.5	NA

Source: <http://rbidocs.rbi.org.in/rdocs/Publications/PDFs/02CG031111ST1.pdf>

#### **BOX-4.6.1. UP has the largest number of Bank Branches**

At the national level, number of offices opened all scheduled commercial banks grew from 92534 of March 2009 to 98694 by the end of March 2010, an increase of 6160 branches within one year. Of the total bank branches, 32289 are in rural areas, 20358 are in semi urban areas, 31350 are in urban areas and Metropolitan cities having 14697 branches. The largest number of bank branches are in Uttar Pradesh (11726 Nos.) followed by Maharashtra (10941 Nos.) and Andhra Pradesh (8001 Nos.).

At regional level (Table 3), the highest growth in credit-deposit ratio during 2000-01 and 2008-09 was recorded in the SR (74%), followed by the NUGP (71%), while the least growth was reported in the ER (17%). Similarly, the number of scheduled commercial banks per lakh population grew by 19 percent in the NUGP, followed by the CR (3.4%). Other regions had either no change in the number of commercial banks during the period or registered a decline (e.g., in Southern region - 2.8%); Eastern region -3.4%).

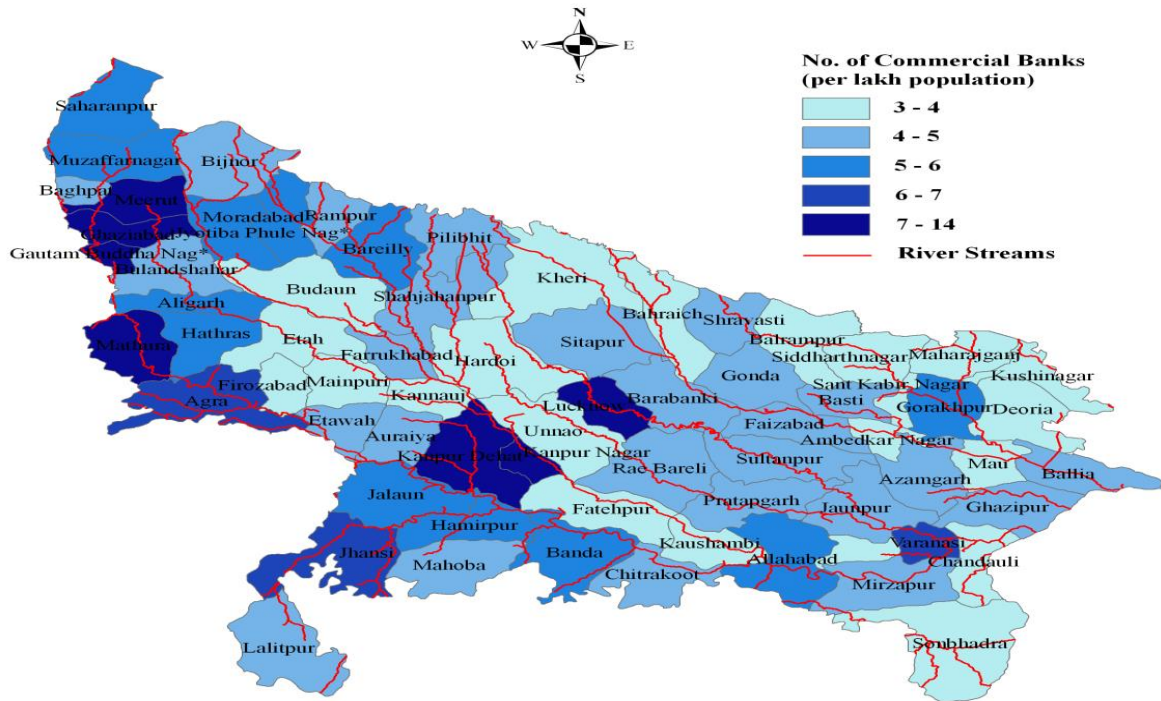
**Table3: Credit Deposit Ratio and number of Commercial Banks, Uttar Pradesh, 2000-2009**

Region/State	Credit Deposit Ratio		No. of scheduled commercial banks per lakh of population	
	2000-01	2008-09	2000-01	2008-09
Northern Upper Ganga Plains	37.4	63.9	5.3	6.3
Southern Upper Ganga Plains	31.8	50.7	4.7	4.7
Central Region	26.7	41.7	5.6	5.7
Southern Region	31.1	54.1	5.2	5.0
Eastern Region	24.1	28.1	4.3	4.2
<b>Uttar Pradesh</b>	<b>28.8</b>	<b>42.1</b>	<b>4.9</b>	<b>5.0</b>

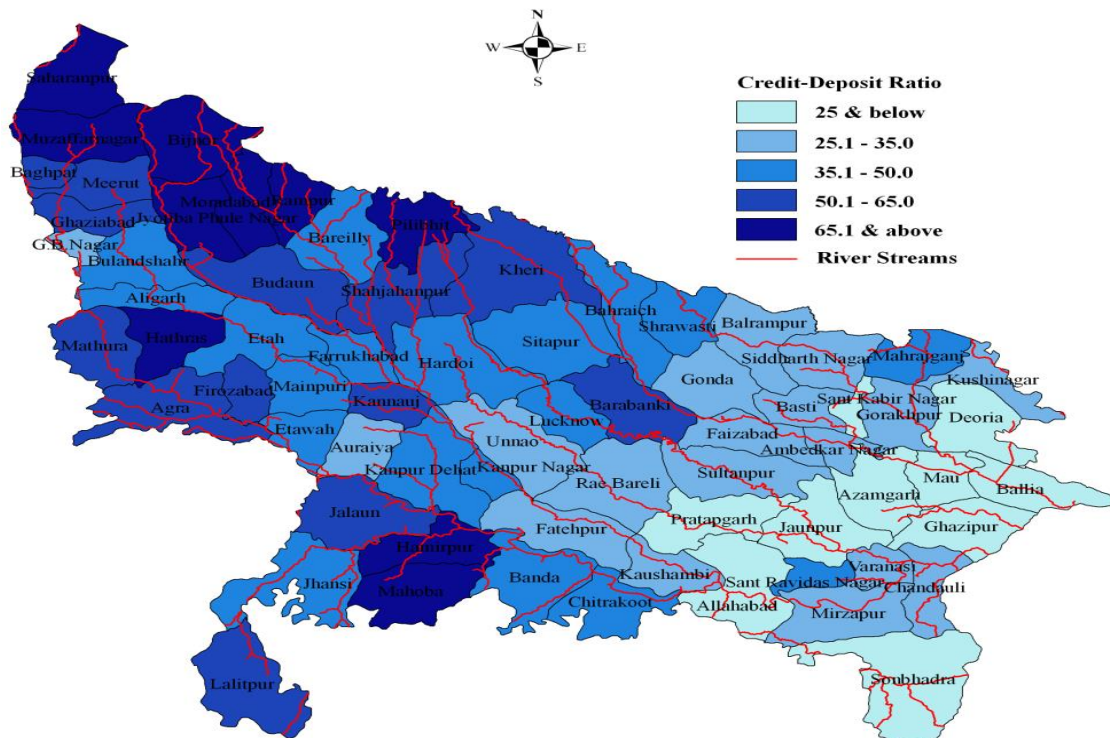
Note: Figures for the regions represent the average value of districts in that particular region.

Figures 36 and 37 display the number of scheduled commercial banks per lakh population and the credit-deposit ratio across districts of Uttar Pradesh during 2008-09<sup>8</sup>. The Figure 36 shows that Gautam Buddha Nagar (14) had the largest number of scheduled commercial banks(per lakh population) in the state during 2008-09, followed by Lucknow (11), Kanpur Nagar (8) and Kanpur Dehat (8). There were 22 districts having more than state average (5.0) number of scheduled commercial banks (per lakh population). The lowest number was registered in Kushinagar (3), district, followed by Mahrajganj indicating significantly low economic activity.

The district-wise details of credit-deposit ratio (CDR) in Uttar Pradesh reveal that Muzaffarnagar recorded the highest CDR(90%), followed by Bijnor (82%),Saharanpur (73%), Hathras (72%) and Pilibhit (71%) during 2008-09. However, the lowest CDR was recorded by Mau (17.56%), followed by Jaunpur (17.63%), Sonbhadra (19.39%), Pratapgarh (19.91%) and Azamgarh (20.14%). The concentration of districts with high CDR was highest in the NUGP (Figure 37) indicating clear lead in economic activity this region.



**Figure 36: No. of Scheduled Commercial Banks (per lakh population) across Districts of Uttar Pradesh, 2008-09**

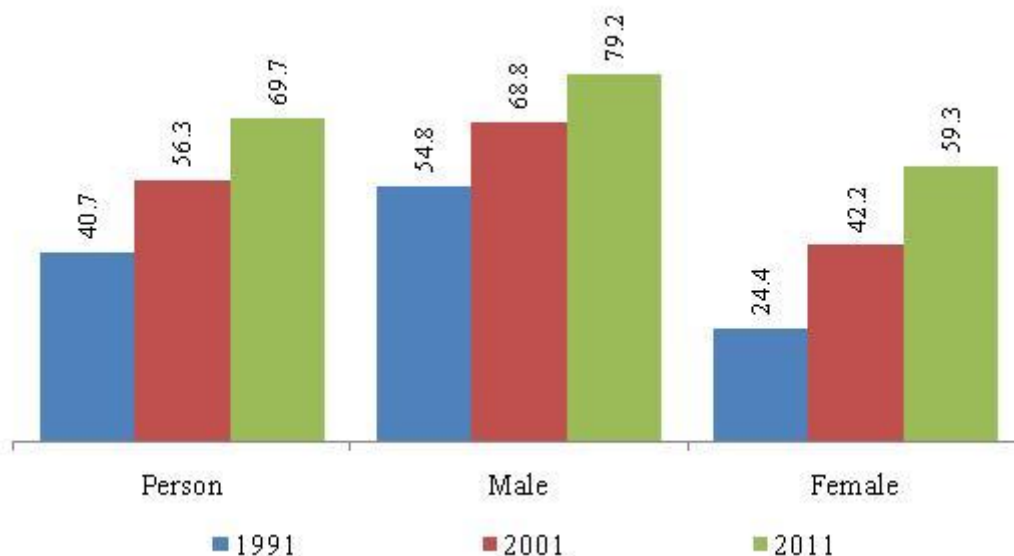


**Figure 37: Credit Deposit Ratio (%) across Districts of Uttar Pradesh, 2008-09**

## 5. Social and Health Components

### 5.1. Literacy

Literacy is an essential tool of self-defense in a society where social interactions include the written media. An illiterate person is significantly less equipped to defend him. Herself in court, to obtain a bank loan, to enforce his/her inheritance rights, to take advantage of new technology, to compete for secured employment, to get on the right bus, to take part in political activity- in short, to participate successfully in the modern economy and society (Dreze and Sen, 2003)<sup>11</sup>. Female literacy in particular, plays important role in the development of family and the younger generation. Educated and empowered women are fundamental characteristics of a developed society. Figure 38 presents the literacy rate (person, male, and female) in Uttar Pradesh during 1991-2011. An increase of more than 70 percent in literacy rate of the state was observed during the last two decades from a level of 41 percent in 1991 to 70 percent in 2011. The male literacy rate (79%) in the state was about 34 percent higher compared to female literacy rate (59%) in 2011. Nevertheless, the female literacy in the state has increased by nearly 143 percent during 1991-2011.



**Figure 38: Literacy Rate (%), Uttar Pradesh, 1991-2011**

At regional level, there were few differences observed in the level of literacy rate in Uttar Pradesh (Figure 39). The female literacy in the Eastern and Southern regions was relatively lower as compared to other regions in the state. The overall literacy rate was observed to be the highest in the CR (71%), while the male literacy rate was up to nearly 81% in the SR, relatively higher when compared to other regions of the state.

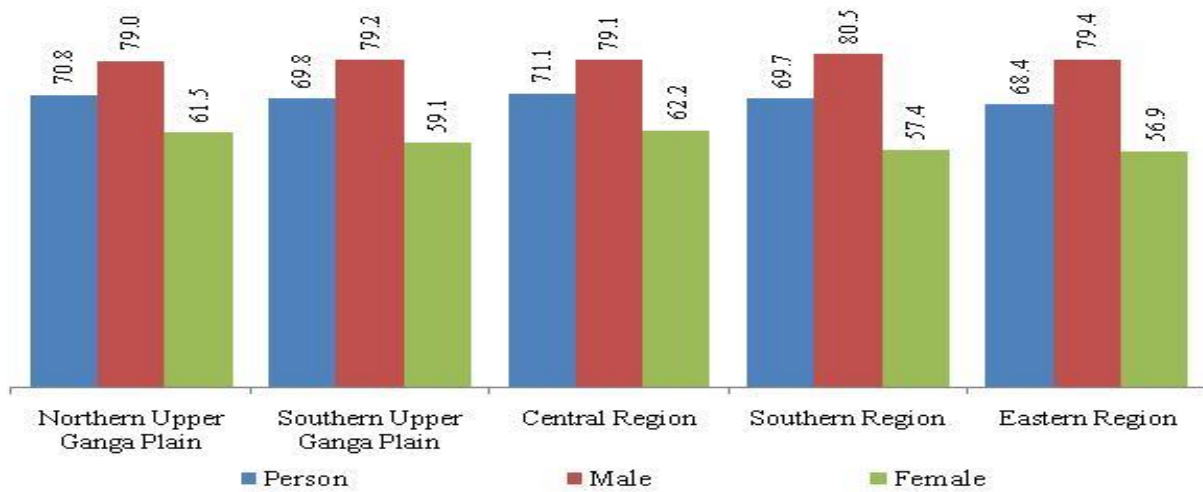


Figure 39: Literacy Rate (%) across Regions of Uttar Pradesh, 2011

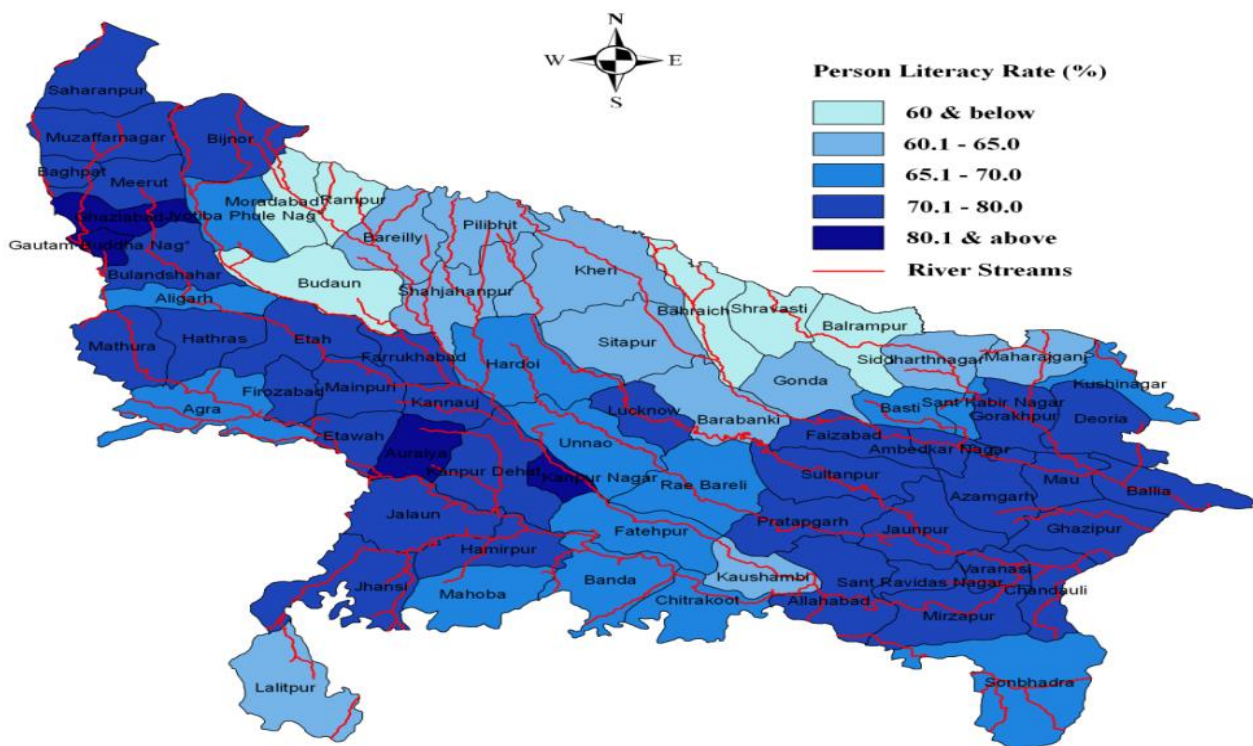
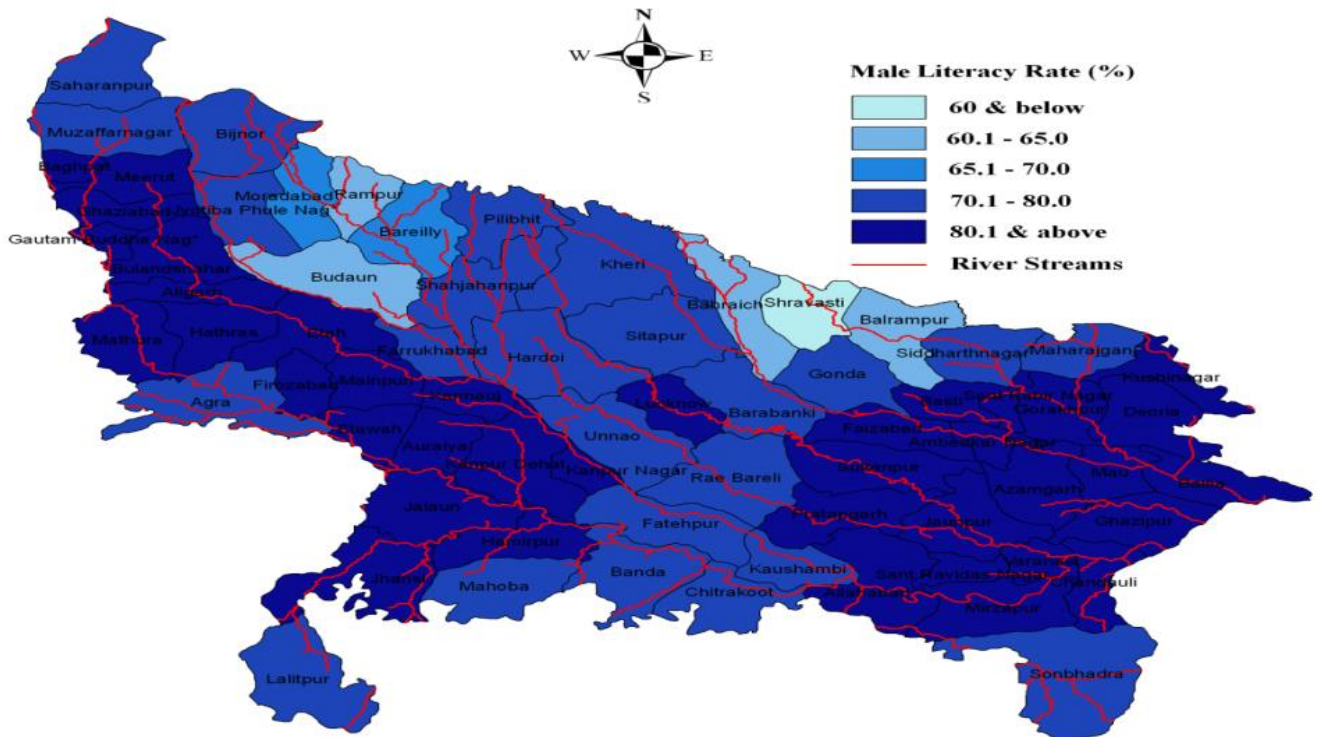
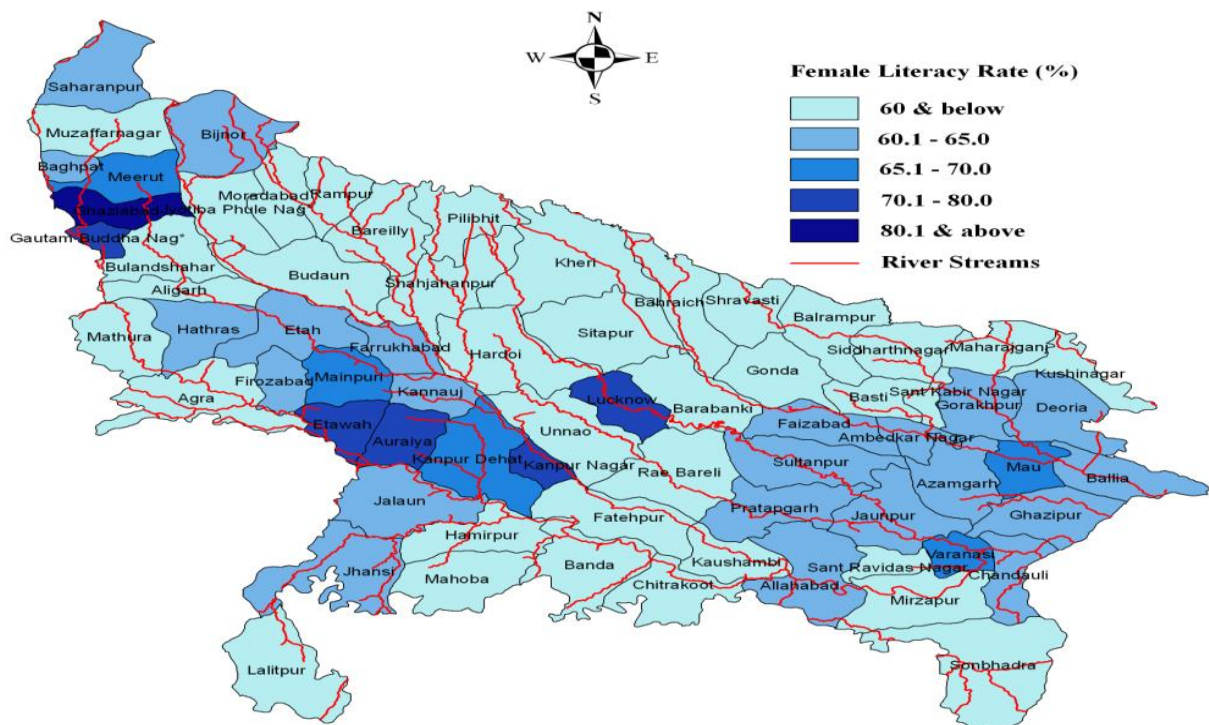


Figure 40: Literacy (Person) Rate (%) across Districts of Uttar Pradesh, 2011



**Figure 41: Literacy (Male) Rate (%) across Districts of Uttar Pradesh, 2011**



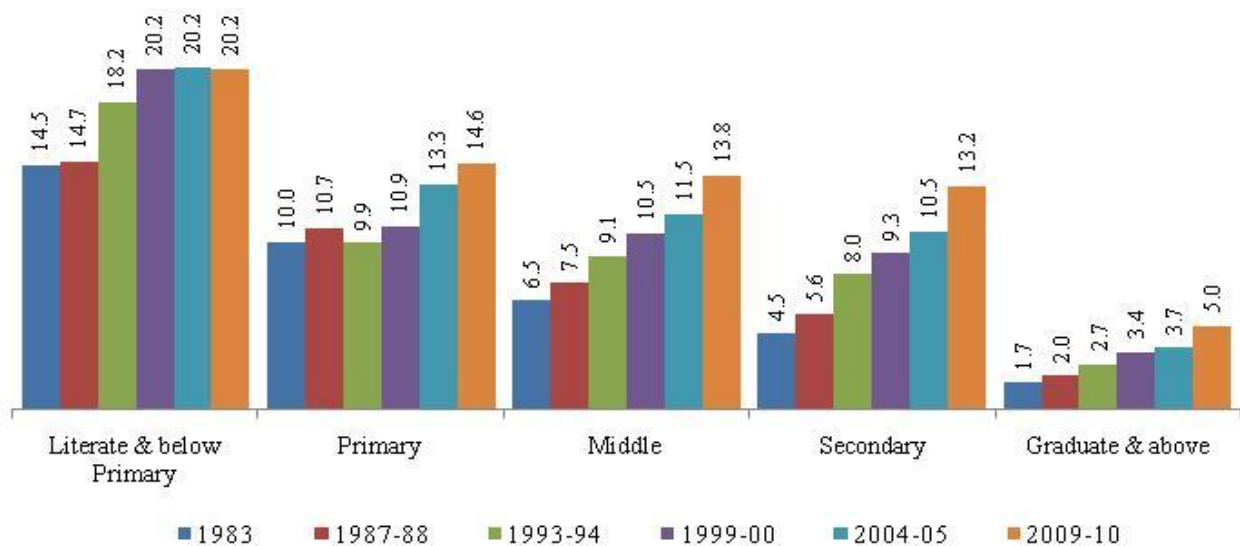
**Figure 42: Literacy (Female) Rate (%) across Districts of Uttar Pradesh, 2011**

Figures 40, 41, and 42 present a spatial distribution of total, male, and female literacy rates across districts of Uttar Pradesh in 2011 respectively. Figure 40 manifests that almost 70 percent and

more people in districts along Ganga river were literate in 2011, except for a few districts like Budaun, Kaushambi, Fatehpur, and Moradabad. Male literacy almost follows the same pattern. However, the levels of female literacy were not appreciable enough. Only one district in the state, i.e. Jyotiba Phule Nagar had recorded the level of female literacy higher than 80 percent. In the context of this study, it is pertinent to note that the districts along Ganga river like Moradabad, Bulandshahar, Budaun, Aligarh, Shahjahanpur, Hardoi, Unnao, Rae Bareli, Fatehpur, Kaushambi, and Mirzapur had registered female literacy well below 60 percent in 2011.

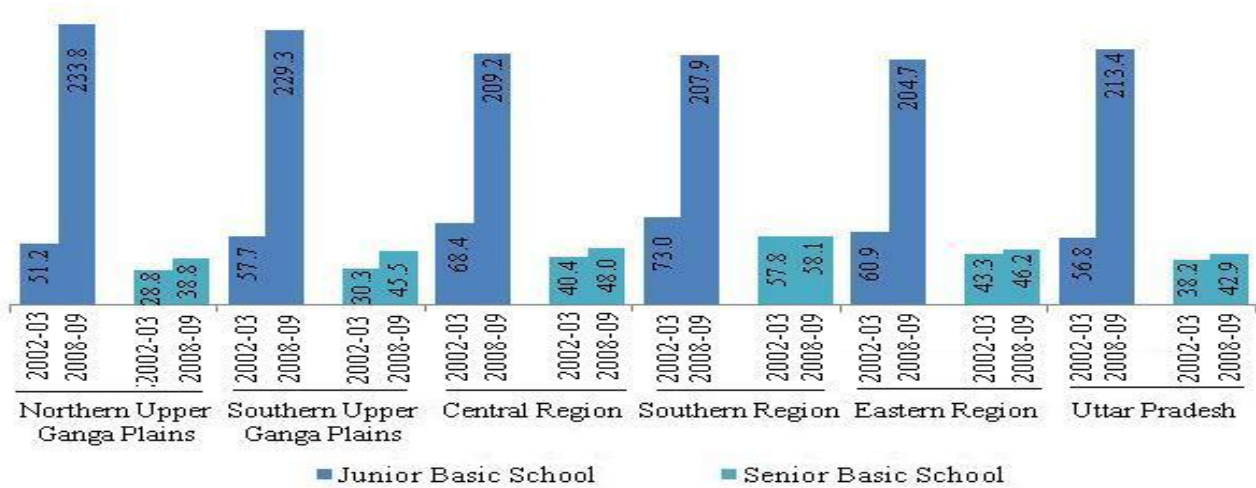
## 5.2. Education

Figure 43 presents the level of education in Uttar Pradesh during 1983 to 2009-10. The proportion of population above age of 6 years at different levels of education in the state at different point of time are estimated using the unit level data from the 38<sup>th</sup>, 43<sup>rd</sup>, 50<sup>th</sup>, 55<sup>th</sup>, 61<sup>st</sup>, and 66<sup>th</sup> quinquennial rounds of National Sample Survey (NSS). The Figure shows that there has been a constant growth in the middle, secondary, graduate & above levels of education in the state over the period. During 2009-10, about 15 percent population age above 6 years had their highest level of education up to primary level, 14 percent had education up to middle level, 13 percent had up to secondary level, and nearly 5 percent of population achieved graduate and higher level of education in the state. Moreover, the gross enrolment ratio, especially in Junior Basic Schools has recorded a tremendous rise from a level of 57 percent during 2002-03 to a level of 213 percent during 2008-09 (Figure 44).



**Figure 43: Proportion of population (%) by level of Education, Uttar Pradesh, 1983-2010**





**Figure 44: Gross Enrolment Ratio (%), Uttar Pradesh, 2003-2009**

Almost similar trend can be observed in the gross enrolment ratio in Junior Basic Schools across different regions in the state. However, the highest increase (more than 50%) in the enrolment ratio in Senior Basic Schools was reported in the SUGP compared to the other regions.

Since, the level of education and literacy very much depend upon the education infrastructure and facilities available for the population in the state, Figures 45 and 46 present the number of schools per lakh population and the Pupil-Teacher ratio across districts of Uttar Pradesh during 2008-09<sup>8</sup>. The information is based on the Economics & Statistics Division, State Planning Institute, Uttar Pradesh. Both the indicators manifested in the following maps present a clear contrast, especially in the districts of the Southern and the Eastern regions. The ER and some of the districts in the CR including the capital of the state (Lucknow), demonstrated a poor educational infrastructure and facility. Although, some of these districts have relatively better literacy rate, but the quality of education becomes the real issue which needs to be taken care of. At Junior Basic Schools, the highest pupil-teacher ratio was reported in Muzaffarnagar district (142 students/teacher), followed by Bulandshahar (114), Maharajgang (110), and Baghpat (110) during 2008-09. At Senior Basic Schools, the districts with the pupil-teacher ratio more than 120 students/teacher were Bulandshahar, Kushinagar, Agra, Pratapgarh, and Lucknow in order of highest to lowest. However, at higher secondary schools, Etah was the only district in the state recording a pupil-teacher ratio of more than 100 during 2008-09.

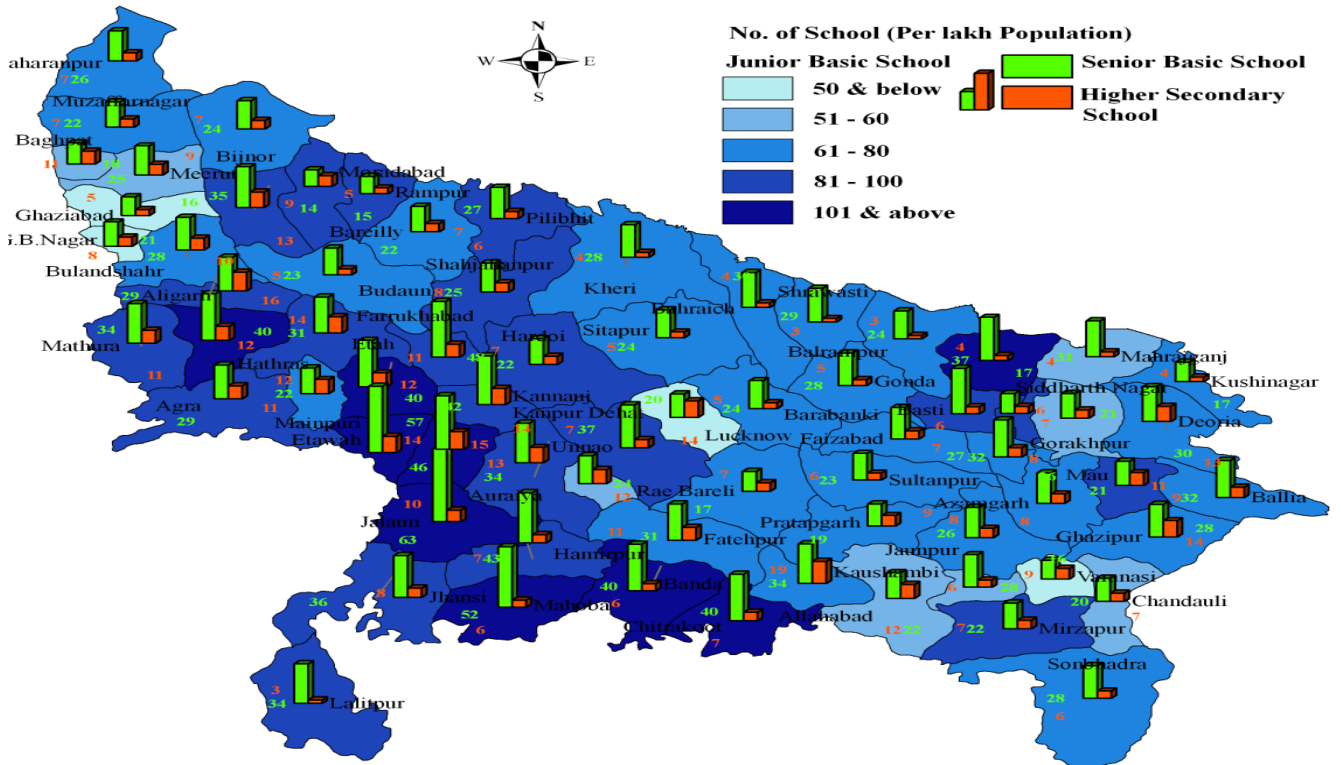


Figure 45: No. of Schools (per lakh population) across Districts of Uttar Pradesh, 2008-09

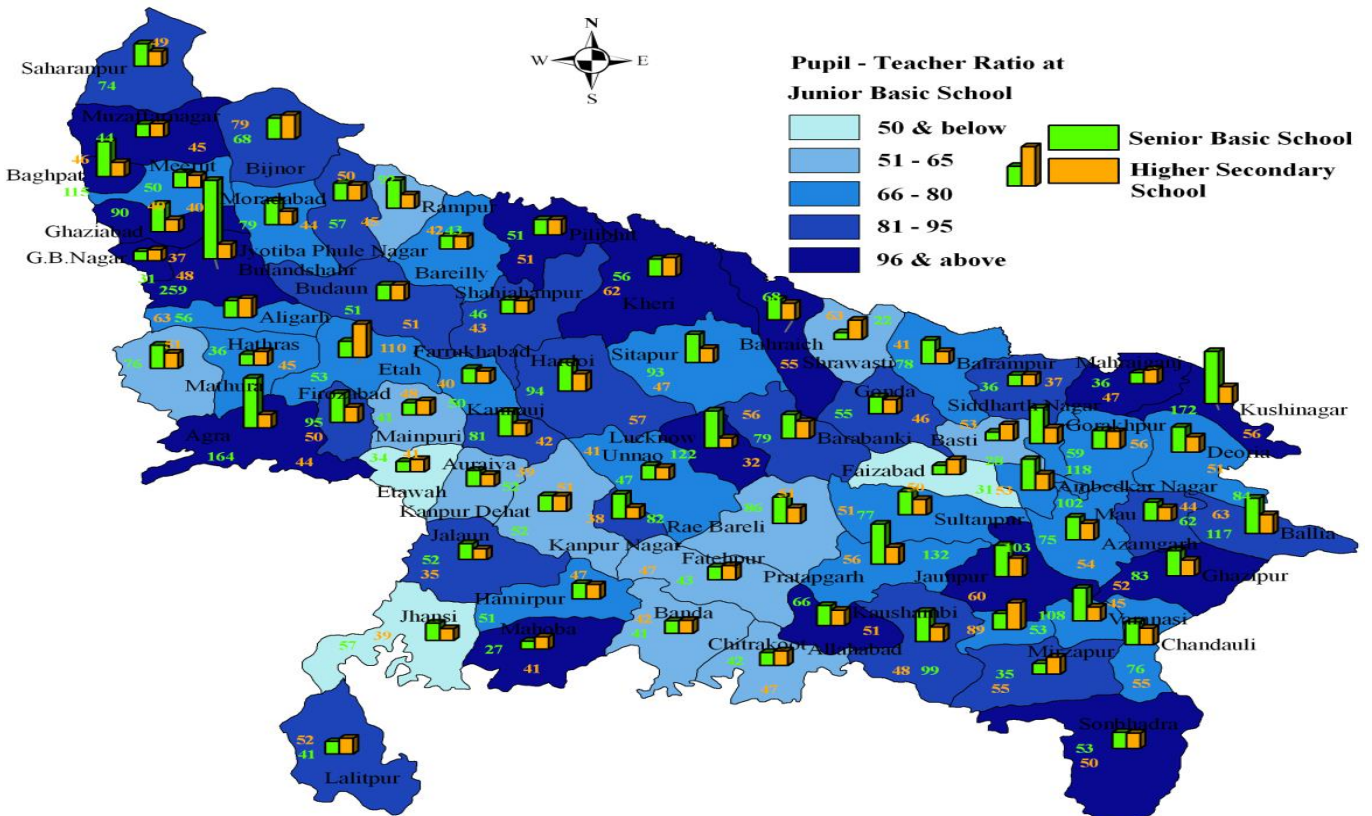
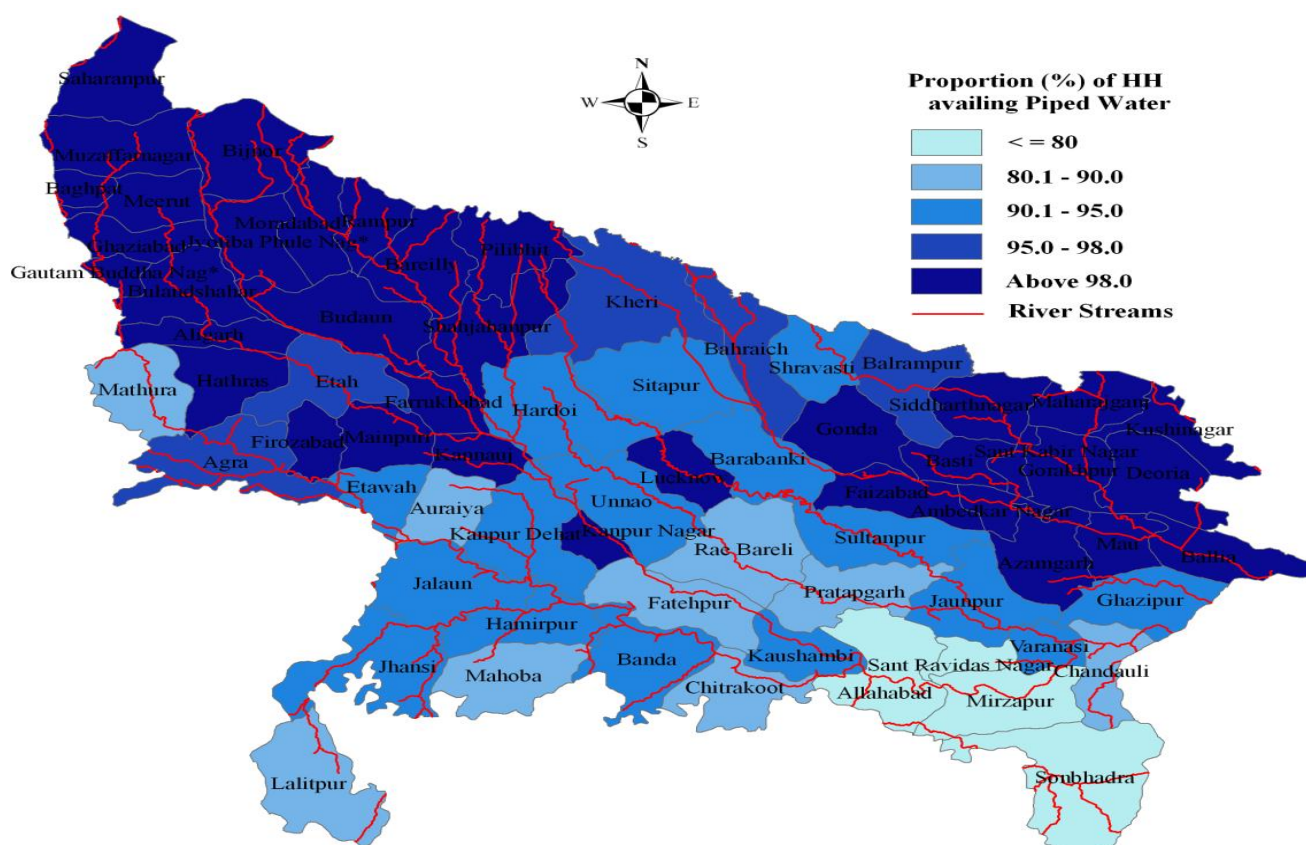


Figure 46: Pupil-Teacher Ratio across Districts of Uttar Pradesh, 2008-09

### 5.3. Drinking Water and Sanitation

A pure drinking water facility and the adequate management of the sanitation facility are two prominent indicators of a healthy state. District Level Household Survey (DLHS)-3<sup>12</sup> conducted during 2007-08 provides comprehensive information on the household infrastructure and facilities apart from other reproductive and child health indicators across all districts in India. Figure 47 presents the proportion (%) of households availing piped water facility (which includes piped into dwelling, piped to yard/plot, public tap/stand pipe/hand pump, tube well/ bore well/well covered/spring tanker, cart with small tank, and bottled water) across districts of Uttar Pradesh. The following map brings to the fore that there were higher proportion of households availing piped water (which is generally deemed clean) in districts of the NUGP and the northern part of the ER. However, some districts in the ER namely Mirzapur, Sonbhadra, Allahabad, and Sant Ravidas Nagar had 20-25 percent households which were deprived of the clean drinking water facility.

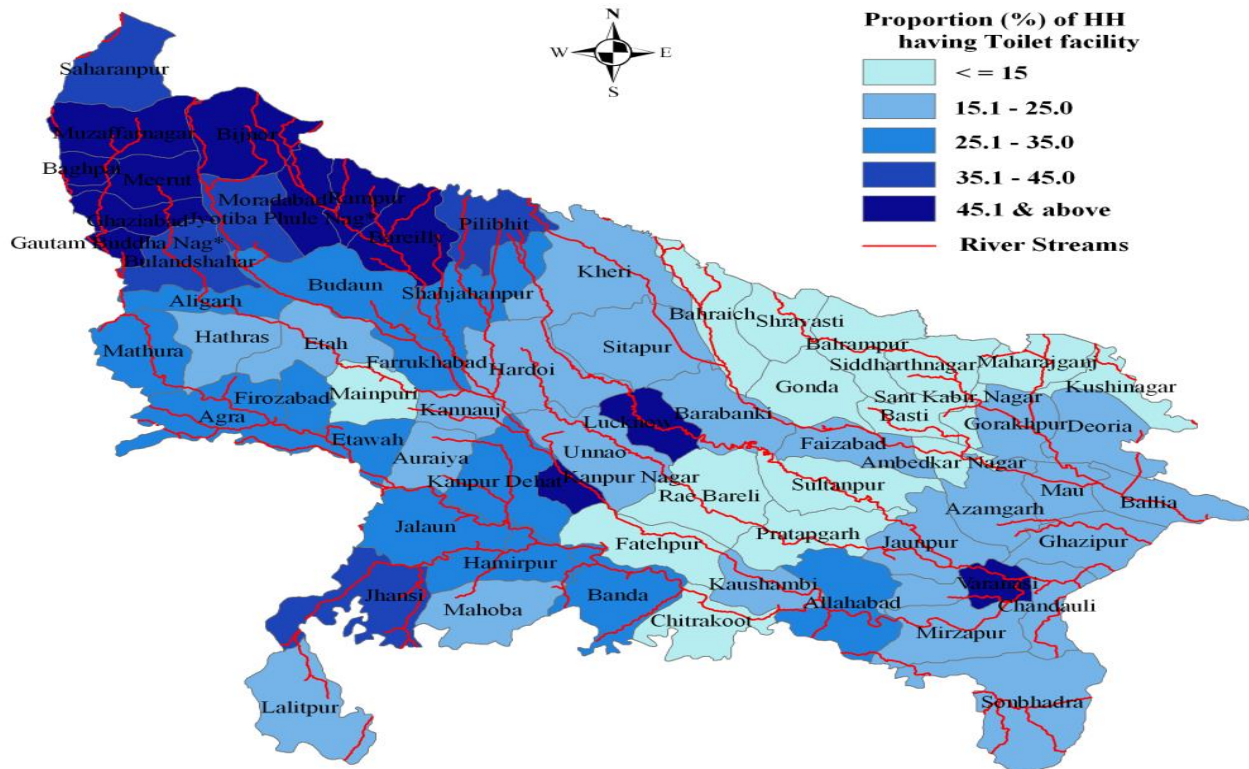


**Figure 47: Households availing Piped Water (%) across Districts of Uttar Pradesh, 2007-08**

**BOX-5.3.1. Water Born Disorders in Aligarh, Uttar Pradesh<sup>13</sup>**

Waterborne disorders of bacterial origin, e.g. typhoid, bacillary dysentery and diarrhea are one of the major global health problems, especially in developing countries like India. The prevalence of these diseases is largely dependent on the quality of water consumed by people. The quality of water in India is still below the WHO recommendation of zero fecal coliform/100 ml of water. A study was conducted in a suburb of Aligarh District of Uttar Pradesh by Ashraf and Yunus (1997), which surveyed a total of 1,270 persons by paying home visits and followed up for a period of one year. The study revealed that morbidity was higher in standpost group, i.e., 88.3% while in piped water group it was 51.8%. The average episode of typhoid for both sources of water was one while dysentery had 3 average episodes. The average episodes of diarrhea were 4 in stand post and 3 in piped water group. In standpost group, the majority of people (87.6%) were using unsatisfactory water as compared to 74.4% for piped water supply. The frequency of typhoid was 1.4%, bacillary dysentery 3.4% and diarrhea 7.7%. The occurrence of waterborne disorders of bacterial origin was common for typhoid in the 5-12 years age group, bacillary dysentery for the 1-5 years, and diarrhea for the 0-5 year age group. The morbidity rate in standpost group was comparatively higher, i.e., 79.6%. The frequency for the standpost group and piped water group for different diseases were, typhoid 1.1% and 0.7%, bacillary dysentery 2.7% and 2.2%, and diarrhea 6.1% and 5.1%, respectively.

Figure 48 shows the proportion of households having access to toilet facility across districts of Uttar Pradesh during 2007-08. Households having access to toilet facility here refers to the improved source of sanitation, flush not to sewer/septic/pit/twin pit, pit without slab, and dry toilet. Majority of districts in the NUGP region like Muzaffarnagar, Bijnor, Bhagpat, Meerut, Ghaziabad, Gautam Buddha Nagar, Bareilly, Rampur etc. along with Lucknow, Kanpur Nagar, and Varanasi had reported more than 45 percent of their households having access to toilet facility. Apart from some districts in the northern part of the ER, some districts belonging to other regions which are along Ganga river such as Mainpuri, Fatehpur, Rae Bareli, Etah, Hathras had less than 25 percent of total households having access to toilet facility during 2007-08.



**Figure 48: Households having toilet facility (%) across Districts of Uttar Pradesh, 2007-08**

### 5.4. Health Indicators

Initial years immediately after birth are regarded as very crucial in human life, and the chances of survival to a great extent depend upon the health of the mother, health facilities available to mothers during their gestation period, immediate household environment, knowhow/ education or the precautionary measures adopted by the mother and the family members, and other post-natal services (apart from socio-psychological perspectives towards male and female child as generally seen in traditional societies) etc. Hence, the availability of a better health facility in any society or community to mother and the child can easily be perceived as important as they affect the rate of infant or child deaths and other concerned indicators. In addition, a single prominent health indicator of a community or society is the life expectancy of the people which is defined as the average number of additional years a person could expect to live if current mortality trends were to continue for rest of that person's life.

Table 3 presents selected health and mortality indicators of Uttar Pradesh during 2010-11. The data is collected from the Annual Health Survey (AHS), 2011. An infant mortality rate of 71 per 1000 live births (rural: 74; urban: 54) was recorded in Uttar Pradesh during 2010-11. Under-5 mortality rate was recorded as 94 per 1000 live births, while neo-natal and post neo-natal mortality rate were observed around 50 and 21 per 1000 live births respectively. Mortality rates were higher in rural areas as compared to urban areas, and among females as compared to males. The life expectancy at birth of a person in Uttar Pradesh was measured as 60 years in 2011.

**Table3: Health and Mortality Indicators, Uttar Pradesh, 2010-11**

Particulars	Total	Rural	Urban
<b>Infant Mortality Rate</b>			
Total	71	74	54
Male	69	73	53
Female	72	75	55
<b>Neo-natal Mortality Rate</b>	50	53	36
<b>Post Neo-natal Mortality Rate</b>	21	22	18
<b>Under-5 Mortality Rate</b>			
Total	94	101	68
Male	90	95	66
Female	99	106	69
<b>Life Expectancy at Birth</b>	60	-	-

Notes: 1. Infant mortality rate is calculated as annual deaths of infants (D) between birth and one year, divided by the annual number of births (B), all multiplied by 1000.

2. Neo-natal deaths: Infant dying before age of 29 days.

3. Post Neo-natal deaths: Infant dying during age of 29 days to < 1 year.

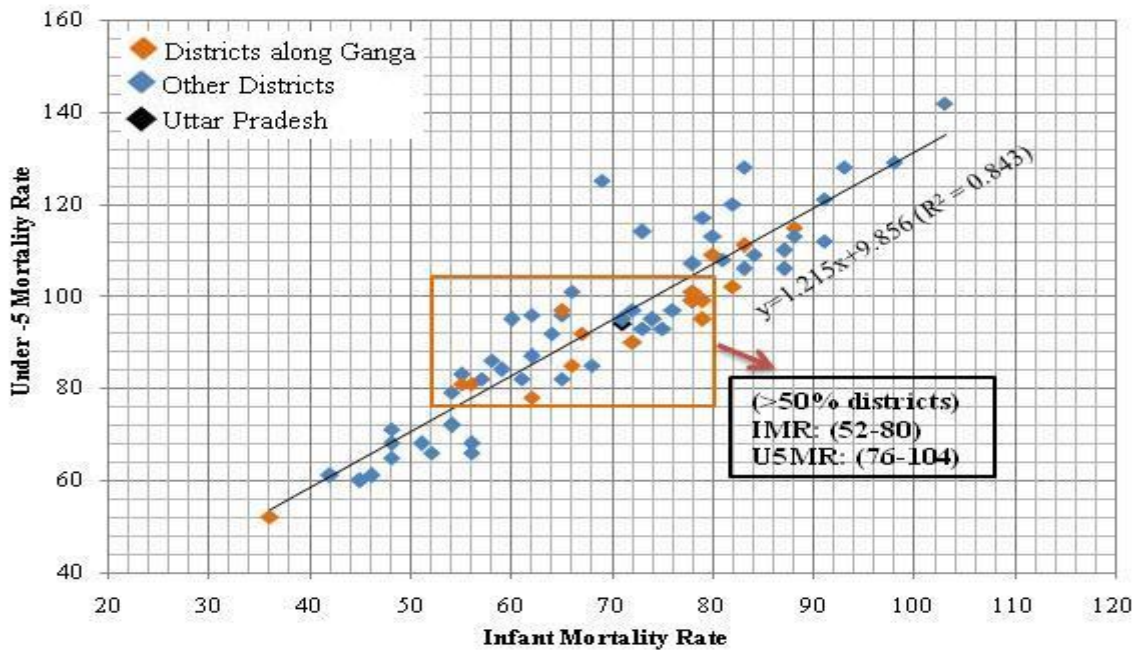
4. The under-five mortality is the probability (5q0) that a child born in a specific year or time period will die before reaching the age of five, subject to current age specific mortality rates. It is expressed as a rate per 1,000 live births.

**Source: Annual Health Survey, 2011, Uttar Pradesh**

The trend in infant mortality rate (IMR) of Uttar Pradesh during 1971-2009<sup>14</sup> shows a clear declining pattern (Figure 49). During 1971-79, the IMR of the state was advancing with uncertain highs and lows indicating no stable medical control on the mishaps, though since 1984, after firm resolution at the global level towards better reproductive and child health facilities, the IMR seems to have declined rapidly and at a rather constant pace. In the 1990s, due to possible control in the deaths of infants in post-natal period, the IMR reduced but shows a stalling trend, possibly due to lack of control on pre-natal infant deaths. However, since 2005 there is an indication of a slight decline in the mortality rate further. The IMR seems prominent in rural areas which is a manifestation of poor health facilities.



**Figure 49: Infant Mortality Rate (per 1000 live births), Uttar Pradesh, 1971-2009**

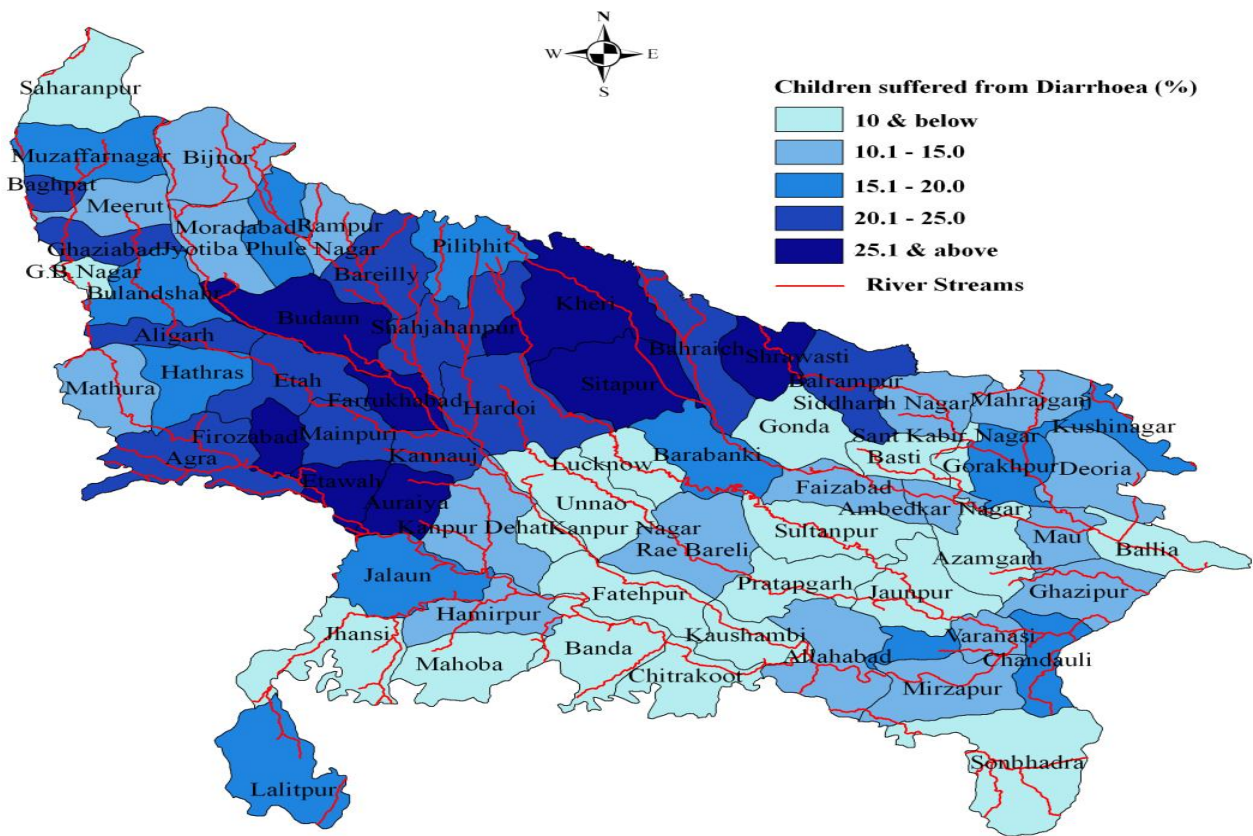


**Figure 50: Infant Mortality and Under-5 Mortality Rate (per 1000 live births) across Districts of Uttar Pradesh, 2010-11**

Figure 50 displays relationship between IMR and the U5MR which is found to be highly correlated. It shows that more than half of the districts in Uttar Pradesh had IMR ranging between 52 and 80 per 1000 live births, and U5MR ranging between 76 and 104 per 1000 live births.

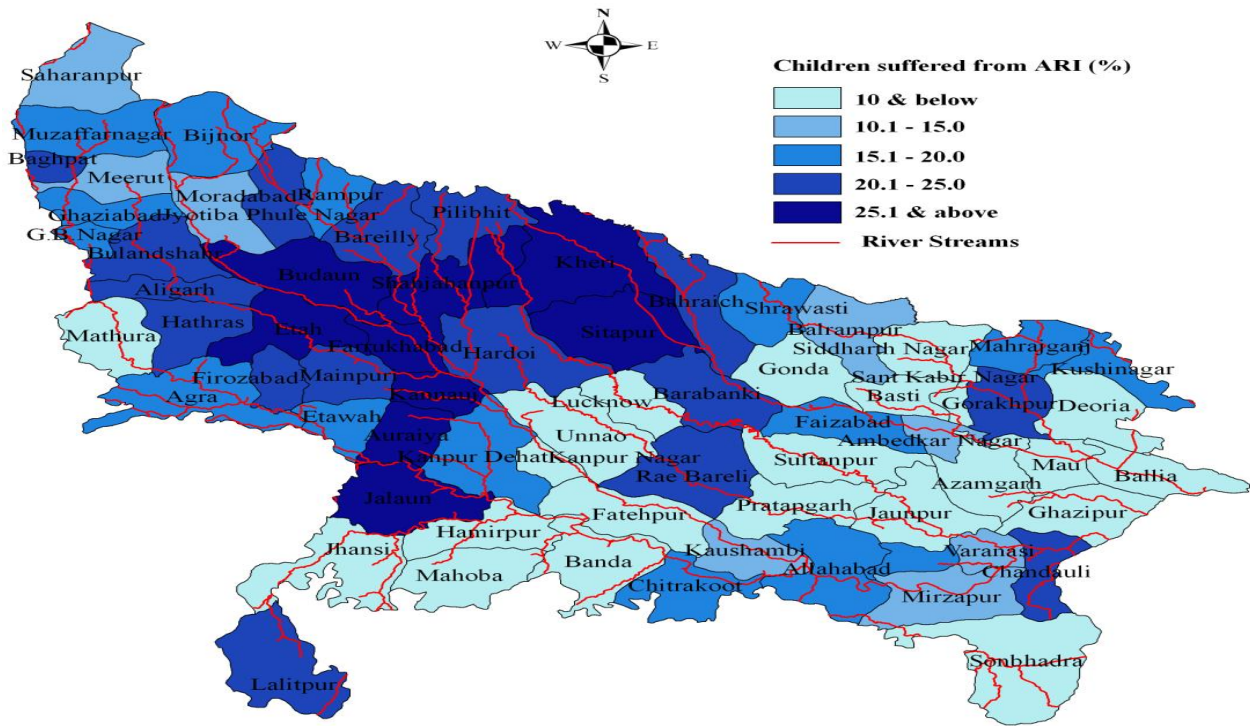
Figure 51 and 52 are based on the information collected from the District Level Household Survey (DLHS)-3<sup>12</sup> (2007-08), and present the proportion of last or last-but-one-child born after January 1,

2004 (born to women aged 15-49) having had suffered from Diarrhea and Acute Respiratory Infection (ARI) in the last two weeks prior to the survey respectively across districts of Uttar Pradesh. The highest proportion (33.8%) was recorded in Kheri (SUGP), and 80.9 percent of them were given treatment for diarrhea. On the other hand in Kanpur Nagar, about 3.3 percent of children of the same cohort had diarrhea and 49.7 percent were provided treatment. The prevalence of ARI among children varies from 1 percent in Ballia to 30 percent in Kheri. On average, treatment for ARI is more common (84%) than the treatment for diarrhoea. The higher prevalence of diarrhea and ARI in the western part of the state compared to the eastern part may possibly be attributed to, among others, difference in the levels of awareness towards the concerned illness, hygiene practices, among children and environment sanitation levels.

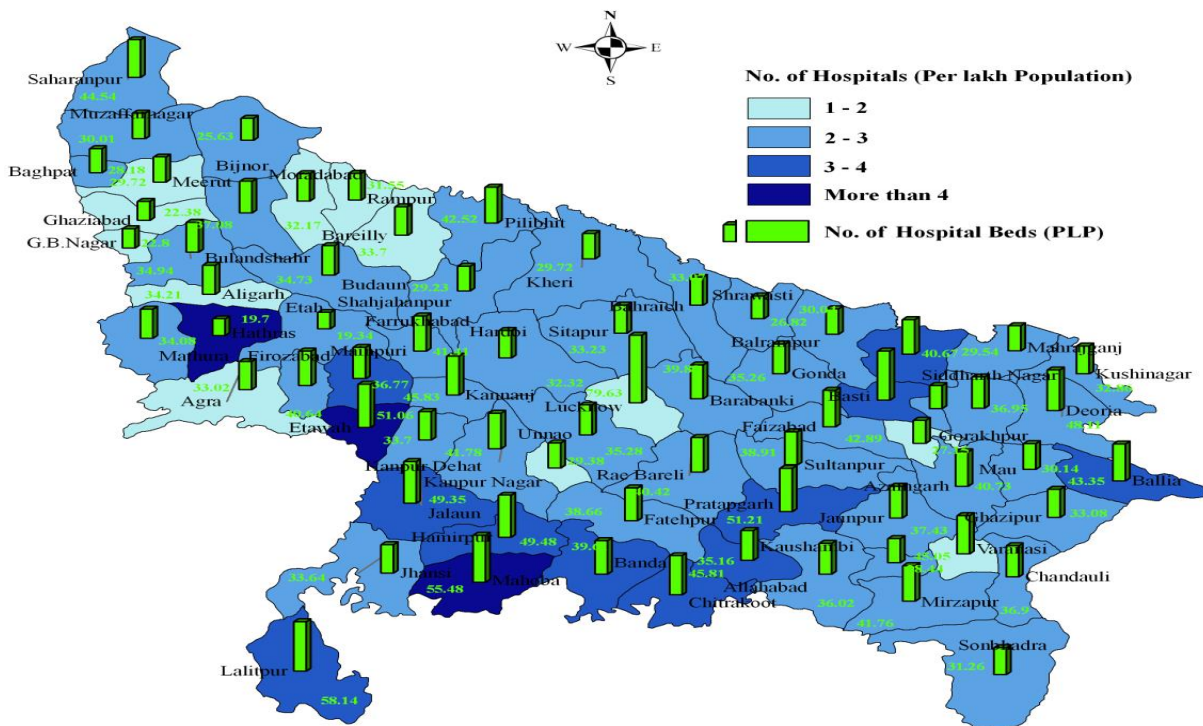


**Figure 51: Children suffered from Diarrhoea (%) across Districts of Uttar Pradesh, 2007-08**





**Figure 52: Children suffered from Acute Respiratory Infection (%) across Districts of Uttar Pradesh, 2007-08**



**Figure 53: No. of Allopathic Hospitals and Hospital Beds (per lakh population) across Districts of Uttar Pradesh, 2008-09**

Figure 53 presents the general indicator of public health infrastructure and facilities, i.e. the number of Allopathic hospitals and hospital beds (per lakh population) across districts of Uttar Pradesh.

Pradesh during 2007-08. The districts like Hathras, Etawah, and Mahoba had more than 4 Allopathic hospitals per lakh population during 2008-09. However, with 20 hospital beds per lakh population, the number is not found to be adequate ) in Hathras. The pattern shows that the lesser number of hospitals was compensated by the increased number of hospital beds. For instance, in Lucknow the number of hospitals per lakh population was very less but there was a provision of about 80 hospital beds per lakh population. Similarly, Varanasi and Kanpur Nagar seem to have bigger hospitals with more numbers of hospital beds. These bigger cities also cater to the patients from nearby districts of the state, and even from neighbouring states.

## 6. Population Projections for Various Regions of Uttar Pradesh

Here projections are made by assuming past trends will continue to operate in future (policy parameters are not taking into account). By using the population of Uttar Pradesh from 1991-2011 and distributing it in five regions, namely NUGP, SUGP, CR, SR and ER, following steps are taken to calculate population projection:

Compound Annual Growth Rate (CAGR) of population can be calculated by using the formula:

$CAGR \text{ or } R = [(P_n/P_o)^{1/n} - 1] \times 100$ , where

$P_o$  = Population in the base year (1991)

$P_n$  = Population in the current year (2011)

$n$  = Number of intermediary Years

For Example,  $P_o$  = 132,061,653 (Population in 1991)

$P_n$  = 199,581,477 (Population in 2011)

$n$  = 30 years, so CAGR (1991-2011) of total population in Uttar Pradesh = 1.39

Starting with the population of the various regions of the state of Uttar Pradesh as per the estimates of the three consecutive years i.e., 1991, 2001, and 2011 and assuming that the trends shall follow the linear trend, the projections can be made for both the years i.e., 2025 and 2050. Table 4 provides the relevant information in this regard.

**Table 4: Region-wise Population (in Millions) in Uttar Pradesh (1991-2011)**

State/?Regions	Census 1991			Census 2001			Census 2011		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
<b>Uttar Pradesh</b>	132.06	106.09	25.97	166.05	131.54	34.51	199.58	155.11	44.47
<b>Northern Upper Ganga Plain (NUGP)</b>	18.38	13.42	4.96	25.34	16.98	8.36	31.32	19.34	11.98
<b>Southern Upper Ganga Plain (SUGP)</b>	32.46	24.46	8.00	38.90	29.68	9.22	46.93	35.17	11.77
<b>Central Region (CR)</b>	21.77	16.29	5.48	26.97	19.74	7.23	31.93	23.14	8.79
<b>Southern Region (SR)</b>	6.73	5.30	1.44	8.23	6.38	1.85	9.66	7.46	2.20
<b>Eastern Region (ER)</b>	52.72	46.63	6.10	66.62	58.77	7.85	79.74	70.01	9.74

Based upon the statistics given in Table 4, the CAGR for the period has been calculated and presented in Table 5. As could be discerned from the calculated CAGR, the population growth rate has been maximum for the NUGP where the urban population has been growing at the fastest rate while the growth of rural population has been growing, more or less, at the same rate at which it is growing for the state. The second highest growth rate was found for the CR and if existing trends are any indication, these two regions may expand faster than other regions of UP and are likely to post highest growth rate of urban population which implies far more increase in the domestic and industrial demand for the water. This may put further stress on the ground and surface water which have already started showing signs of fatigue. Interestingly, ER has recorded maximum growth in CAGR in regard of the rural areas.

**Table 5: CAGR of Uttar Pradesh Population (1991-2011)**

State / Regions	Total	Rural	Urban
Uttar Pradesh	1.39	1.27	1.81
Northern Upper Ganga Plain (NUGP)	1.79	1.23	2.98
Southern Upper Ganga Plain (SUGP)	1.24	1.22	1.29
Central Region (CR)	1.28	1.18	1.59
Southern Region (SR)	1.21	1.15	1.43
Eastern Region (ER)	1.39	1.36	1.57

By using the formula  $P_{n+1} = P_n (1+R/100)^n$ , the population of the various regions of Uttar Pradesh for 2025 and 2050 can be projected and the relevant information is summed up in Table 6.

**Table 6: Region-wise Projected Population (in Millions) in Uttar Pradesh**

State / Regions	2025			2050		
	Total	Rural	Urban	Total	Rural	Urban
Uttar Pradesh	243.15	185.23	57.92	343.09	246.47	96.62
Northern Upper Ganga Plain	41.01	22.94	18.07	55.79	31.69	24.10
Southern Upper Ganga Plain	55.74	41.66	14.09	93.56	56.55	37.01
Central Region	38.21	27.25	10.96	51.60	37.09	14.51
Southern Region	11.44	8.76	2.68	15.84	11.77	4.06
Eastern Region	96.74	84.63	12.11	126.30	109.36	16.94

Table 6 brings to the fore that while the NUGP and CR shall keep on expanding, the ER may register an impressive growth of population especially in rural areas. All these projections have serious implications for the demand for both ground and surface water whose supply is already under heavy stress.

## 7. Demand for and Supply of Water: Projections

The issue of demand for and supply of water for various purposes along Ganges and its extensive network of canals and major tributaries, does have a great relevance in terms of current as well as

future needs, given the fact that quantitative supply and water quality problems are escalating and could severely impair the economic development, environment, and wellbeing of all forms of life existing in its basin. It may be mentioned here that while the demand for water for all uses is increasing exponentially, there does not appear to be any evidence of any increase in supply. The ground realities, in fact, are the other way round due to uncertain rains and radically altered climatic conditions. An indication of what is going to happen in the Gangetic plains in coming times with yawning gap between demand and supply of water can also be discerned from the incidences of unsettling differences between riparian states over Cauvery water, Yamuna water, etc. at the national level and between India and Pakistan, and India and Bangladesh at the sub-continent level. It is, therefore, important that the water resources in the state are managed in such a way that while they meet all the legitimate needs of the current population, they may remain available, in terms of acceptable quantity and quality, for the use of ever expanding future population as well. The first step towards the management of water resources is the assessment of supply of and demand for water in short and long runs which could be done by making projections, based upon realistic assumptions, with regard to both. The second logical step is the matching up of the supply and demand, in the short and long run, through supply and demand side management. While the supply side management involves technical and other interventions for the scientific development and growth of water resources, the demand side management accounts for the socio-economic-cultural dimensions for the appropriate allocation of water among various competing uses. The third step would be the setting up of a powerful monitoring mechanism for the integrated management of water resources so as to keep a check on the use, availability and quality of water, keeping in view the current and future requirements. The case for water is very special in the sense that this is a resource 'where the action of any one economic agent increases the social costs of resource use for the entire community and the individual user lacks the incentive to limit his/her level of use' (Kale 2010 p.47). Being part of the common property resources, it has to be managed very thoughtfully and efficiently.

## 7.1. Demand for Water

Before examining the demand for water for the state of Uttar Pradesh, it would be interesting to find out the current water usage in the world as well as in India. As could be seen in Table 7, most of the demand for water comes from agricultural sector, distantly followed by demand for water for the industrial activities and domestic use.

**Table7: Current Water Usage**

Usage (%)	World	Europe	Africa	India
<b>Agriculture</b>	69	33	88	83
<b>Industry</b>	23	54	5	12
<b>Domestic</b>	8	13	7	5

Source: Hegde, Narayan C, (2012) 'Water Scarcity and Security in India, Downloaded on Aug. 23, 2012 from the website: <http://www.indiawaterportal.org/node/23240>

In the context of the state of Uttar Pradesh, the demand for Ganges' water arises out of:

- (i) Domestic and municipal usages;

- (ii) As input in agriculture, industry (including power generation) and the tertiary sector;
- (iii) For cultural festivals and religious rites performance, including religious congregations,
- (iv) For the evacuation of effluents (sanitation, removing industrial wastes etc.).
- (v) Navigation and recreation, and
- (vi) Environmental flow/ecologically acceptable flow regime needs

While all the above uses compete with each other, the major concern arises out of conflict between irrigation versus ecological flow versus flow needed for performance of the religious rites. Given the reverence for the water River Ganga, which is believed to have descended from heaven in order to enable human beings to get rid of their sins and attain 'MOKSHA' (salvation), maintaining an appropriate depth and flow from its source to when it finally meets the sea, has become a major focus of attention. Similarly, the demand for water for maintaining ecological flow in the river, which is estimated to be at least 1/3 of the available water volume, is equally important so as to enable it to carry out many more functions efficiently besides providing water for agriculture, drinking and other uses. In fact, the demands from all these usages are increasing at much faster rate and compete with each other due to rapid population growth, urbanization and industrialization. The major demand for water comes from the agricultural sector. On an average, while the global consumption of water for agricultural use stands around 71% of the total water use, the corresponding figures for India and Uttar Pradesh are 89% and 93% respectively (Kumar 2010). This magnitude of water for irrigation in the state of Uttar Pradesh, is supplied by an extensive network of around 73,637 km canals, 27,600 state owned tube-wells, 17,768 deep tube-wells and 3.96 million shallow tube-wells owned by individual farmers (Jal Sandesh 2010). In the entire area around 13.08 million ha that these systems irrigate, the share of canals stands at 18% and that of state tube-wells at 3%. Private tube-wells, on the other hand, provide water to around 70.2% of the irrigated area (Statistical Diary, Uttar Pradesh 2009).

A projection for the demand for water for different states by GOI, as shown in Table 8 reveals that the demand for water in UP and Uttaranchal is highest among all the states. Although these twin states also have perennial snow-fed sources of river water, yet any water deficit arising out of population expansion and resultant increase in the demand for water for growing crops, drinking and domestic, power (thermal and hydro), industrial and other uses, may hit these two states most.

**Table 8: State-wise Projected Water Requirements in India (2025 and 2050) [Billion Cubic Metre (BCM)]**

State / UTs	2025	2050
Andhra Pradesh	78.5	109.8
Arunachal Pradesh	2.1	12.6
Assam	24.1	50.1
Bihar and Jharkhand	64.3	106.6
Goa	0.8	0.9
Gujarat	46.0	56.8
Haryana	31.8	31.6
Himachal Pradesh	6.0	6.7
Jammu & Kashmir	9.1	15.5
Karnataka	42.7	58.8
Kerala	15.6	30.9
Madhya Pradesh and Chhattisgarh	67.6	113.6
Maharashtra	74.0	101.5
Manipur	1.7	5.1
Meghalaya	1.5	2.2
Mizoram	0.6	1.2
Nagaland	1.6	6.1
Orissa	32.8	49.1
Punjab	48.8	47.5
Rajasthan	54.8	59.6
Sikkim	0.5	0.8
Tamil Nadu	51.6	61.7
Tripura	2.0	6.9
Uttar Pradesh and Uttaranchal	137.0	171.6
West Bengal	44.5	66.4
UTs	2.5	4.0

<http://www.indiastat.com/table/agriculture/2/waterdemandrequirement/450270/442946/data.aspx>

Source : Lok Sabha Unstarred Question No. 5283, dated on 05.05.2008.

## 7.2 Supply of Water:

The sources of water supply comprise:

- A. Ganges and its tributaries,
- B. Ground Water (with uneven spatial distribution)
- C. Return Flows from: (i) Irrigation, (ii) Water Supply, and (iii) Industries
- D. Harvested Rain Water

Of all the above, while reliable estimates are available for (A) and (B), there are practical difficulties in estimating (C) and (D). However, Planning Commission has prepared projected estimates calculating the ratio of the total return flows to total availability of water (including returns) at 26% for 2050, although there could be serious doubts about the quality of the water received from such return flows (especially industrial and domestic consumption) and whether

such water, in any case, be fit for human consumption/irrigation. Before proceeding ahead, it may be relevant to point out that one of the basic characteristics of water supply in India, from any source, is that water for all uses does not reflect even the cost of recovery and is, in a way, highly subsidized or free essentially because of the prevalence of a 'rights-based approach'. This has resulted in indiscriminate use of water, whether river or ground water, without much caring for its consequences. For instance, the average water use efficiency of irrigation projects is assessed to be only of the order of 25-35% (CWC) due to seepage, evaporation, leakages in structures, poor water management in the distribution network, and excessive use of the water largely due to its free nature. The Planning Commission has also reported 30-40 per cent losses in case of urban water supply (<http://planningcommission.nic.in/plans/mta/midterm/english-pdf/chapter-06.pdf>). It may be mentioned here that while there is no charge on the ground water extraction, irrigation water and domestic supply tariffs are too less to even cover the operation and maintenance costs (O&M). This results in total absence of motivation for even a small improvement in water-use efficiency which otherwise could have released significant amount of water for other competing uses. Similarly, ground water which at present meets most of the demand for water stands over-exploited/extracted in both the rural and urban areas, resulting into significant decline in the watertable, mostly affecting western U.P. Besides, widely reported contamination/pollution hazards due to percolation of industrial effluents, municipal solid wastes, pesticides and herbicides as well as the widely reported presence of contamination caused by the alarming quantities of arsenic, nitrate, and fluoride in groundwater from various areas in the state have also emerged as major threats to groundwater, at least for drinking water purposes (Bhargava and Dutta 2010). Despite the great significance of the ground water as it provides for 75% of the irrigation supplies, 80-90% of the drinking water and almost all the industrial needs, it is most poorly managed, unregulated and over-exploited water resource in the state of Uttar Pradesh (Sinha 2010). It may be mentioned that more than 40% of private minor irrigation tube wells in the country i.e. about 41 lakhs are alone located in the state, leading to indiscriminate extraction of huge quantity of groundwater (Sinha 2010). Given the heavy dependence on the ground water for irrigation, drinking water and industrial uses, it would probably be difficult for the natural cycle to adequately replenish the depleting aquifers. This overexploitation may also put heavy stress on the aquifers. It may be mentioned here that the gross ground water draft for irrigation alone has increased by 20.58% between 1991 and 2004. It may be further stated that out of total 820 blocks in the state the number of over-exploited/critical blocks has also significantly increased from 22 in the year 2000 to 50 blocks in the year 2004 and further boubling to 105 blocks in 2008. Similarly, the number of semi-critical blocks increased from 53 in 2000 to 88 in 2004 and to 109 by 2008 (Sinha 2010). It implies that there is a steep decline in the number of safe blocks in the state, in terms of groundwater exploitation and the rate of decline is rather high.

### **7. 3. Demand for Water and Supply of Water: Projections**

The projections for demand and supply of water for various purposes/sources, have been made by the Planning Commission and given the sound methodology adopted for doing the same, these projections can be taken with a fair degree of confidence. These projections are made on the basis of the figures adopted by National Commission on Integrated Water Resources Development,

India (1999) regarding the per person water requirement for the rural and urban consumers. For rural areas, 70 lpcd and 150 lpcd have been recommended for the year 2025 and 2050, while for urban areas these estimates have been put at 165 lpcd and 220 lpcd respectively. The net availability of the water through natural flow was estimated to be 250 BCM by 2050 out of which if 66 BCM, 15 BCM and 30 BCM are subtracted for being part of the upstream reserves, downstream reserves and unusable spill, the net availability comes down to 139 BCM. The final projections for demand for and supply of water are summed up in Table 9.

**Table 9: Projected Demand for and Supply of Water for Uttar Pradesh (BCM/Yr) -Year 2050**

<b>DEMAND IN WITHDRAWAL TERMS</b>	<b>2025</b>	<b>2050</b>
A. Domestic Water Demand (10% of storage)	8.22	21.25
<b>B. Consumptive Use of power (Based on UPSEB Projections)</b>		
<i>Hydro Power (Ultimate Storage 28.36 BCM) assuming 10% of storage</i>	1.5	2.83
<i>Thermal Power ( 50000 MW by 2025 and 125000 MW by 2050)@ 3.92 million m<sup>3</sup> per 100MW per Year</i>	1.96	4.9
C. Industrial Water Requirement (withdrawals)	4.82	7.8
D. Agricultural (Irrigation Demand)	(-)	147.6
<b>Aggregate</b>		184.38
<b>NET DEMAND IN CONSUMPTIVE TERMS</b>	<b>2025</b>	<b>2050</b>
A. Domestic Water Demand at 50% of withdrawals	4.11	10.625
B. Power Demand	3.46	7.73
C. Industrial Demand at 50% of withdrawals	2.41	3.9
D. Agricultural Demand	(-)	98.6
<b>Aggregate</b>	<b>(-)</b>	<b>120.855</b>
<b>WATER SUPPLY</b>	<b>2025</b>	<b>2050</b>
A. From irrigation at 70 % of imbalance [ $.7 * (147.60-98.6)$ ]	-	34.3
B. Water Supply	-	10.95
C. Industries	-	4.05
D. Total Returns	-	49.3
E. Approximate Natural availability to Uttar Pradesh	-	139
F. Total Availability Including returns	-	188.3

Source: Water Resources: Management and Development, UP Development Report, Vol. II, Chapter 11, Planning Commission, Government of India, P. 293.

As can be discerned from Table 9, there would still be some surplus water even by 2050 provided all the assumptions of the projections hold true. The projections, nevertheless, do not account for minimum required water flow in the river for maintaining river regime including both spatial and temporal patterns of river flow (Iyer2005), freshwater-dependent ecosystems/downstream obligations, besides, maintaining a minimum flow, at least at the important locations, throughout the year for enabling the people to perform the religious rites/congregations etc. In fact, maintenance of at least a basic minimum water flow towards the above purpose is extremely important as it preserves the self-purification characteristics of the river, sustains 'aquatic life and vegetation, recharges groundwater, supports livelihoods, facilitates navigation, preserves



estuarine conditions, prevents incursion of salinity, and enables the river to play its role in the cultural and spiritual lives of the people' (Iyer2005). Given these important functions of the river, the demand for water for other competing uses is over and above the required volume of environmental flow. Even if it is assumed that the water flow maintained for meeting ecological needs could also be sufficient for the people to meet their cultural and religious rites performance, the total availability of the river water for meeting other demands, shall substantially contract, putting further stress on the already heavily stressed ground water resources. This may further worsen the already deteriorating situation.

## 8. Conclusions and Policy Implications

### 8.1 Conclusions

Following conclusions emerge from the preceding discussion:

- Uttar Pradesh continues to be the most populous state in the country with almost 200 million people living here. The state holds 16.49 percent population of India, as per census 2011.
- During the recent decade 2001-11, the maximum decline in decadal growth rate of population was reported by CR (7 percentage point), followed by SR (5.9 percentage point), ER (5.7 percentage point), and SUGP (5.1 percentage point), while NUGP (3.7 percentage point) reported the lowest decline.
- ER accounted with the highest birth and the death rates (27 and 10 per 1000 population respectively), while the CR reported the lowest birth rate of 23 per 1000 population with the death rate of 8 per 1000 population.
- ER accounted with the highest birth and the death rates (27 and 10 per 1000 population respectively), while CR reported the lowest birth rate of 23 per 1000 population with the death rate of 8 per 1000 population.
- ER (comprises the most numbers of districts in the state), homes about 45 percent rural and 21.9 percent urban population of the state with the lowest level of urbanization.
- NUGP has reported highest population density in the state since 1991 (736 persons/sq. km.) to 2011 (1188 persons/sq. km.), while SR has always been sparsely populated (226 in 1991 and 326 in 2011).
- During 2009-10, Uttar Pradesh reported almost 37 percent of its population below the age of 15 years, 58 percent between 15-64 years, and 5 percent above 64 years. Males dominate (marginally) in the population up to 19 years of age, while in the age group 20-64 years the proportion of female population appeared to be more.

- There were 13 districts in the state with sex ratio of 951 females per 1000 males or more in census 2011, followed by 10 districts with sex ratio ranging between 911 and 950, 14 districts in the range 891 to 910, 17 districts in the range 871 to 890, and 17 districts in the range 870 females per 1000 males and below.
- Majority of the SC/ST population lives in CR and SR. Population of Hindus was proportionally highest in SR (94.8%) and lowest in NUGP (68.4%).
- The highest overall dependency ratio was reported in ER (79%), followed by SUGP (74%). However, highest aged dependency ratio was observed in SR (11%).
- The highest aged dependency ratio was observed in Mahoba district (23%), followed by Kannauj (15%), Fatehpur (15%), and Chitrakoot (14%). In NUGP, the dependency ratio among the districts along Ganga River was observed to be more than 70 percent during 2009-10.
- GSDP of Uttar Pradesh grew with a CAGR of 4.83 percent during 1999-2008. The average GDDP in the CR appears to have witnessed the highest annual growth rate of 5.8 percent among all the regions of the state during the same period, followed by NUGP (5.05%). This implies that there exists a regional variation in the growth of GDDP which creates inter-region economic disparities.
- ER and NUGP have contributed maximum share to the primary sector of the state economy. Although ER has also contributed to the secondary sector in significant amount, NUGP accounts for the maximum share to the secondary sector in GSDP (marginally higher than that of the ER). Moreover, maximum share in the tertiary sector of the GSDP was recorded in ER (30% during 2007-08), followed by SUGP and NUGP.
- The proportion of households which were self-employed in agricultural activities declined from 56 percent in 1983 to 48 percent in 2009-10. Similarly, the proportion of households which were involved as agricultural labourers also declined from 18 percent in 1983 to 11 percent in 2009-10. Due to increasing opportunities in non-agricultural activities, especially after the advent of the MGNREGA, the share of non-agricultural labourers has increased almost two times between 2004-05 and 2009-10 in rural Uttar Pradesh. This is a clear indication that non-farm activities have expanded in the State during the period 1983 to 2009-10. Expansion of non-farm activities in the state reduces the workforce pressure on agriculture but at the same time put more pressure on urban basic amenities.
- The credit-deposit ratio in the state does not evince any trend.

- An increase of more than 70 percent in literacy rate of the state was observed during the last two decades from a level of 41 percent in 1991 to 70 percent in 2011. Male literacy rate (79%) in the state was about 34 percent higher compared to female literacy rate (59%) in 2011. Nevertheless, female literacy rate in the state has increased by nearly 143 percent during 1991-2011.
- Female literacy in ER and SR was relatively lower as compared to other regions. Overall literacy rate was observed to be highest in CR (71%), while male literacy rate was up to nearly 81% in SR, relatively high as compared to other regions of the state.
- Gross enrolment ratio, especially at Junior Basic School level has recorded a tremendous rise in the state from a level of 57 percent during 2002-03 to a level of 213 percent during 2008-09.
- Districts in ER namely Mirzapur, Sonbhadra, Allahabad, and Sant Ravidas Nagar had 20-25 percent households deprived of clean drinking water facility.
- Apart from some districts of ER, other districts, belonging to other regions along Ganga river, such as, Mainpuri, Fatehpur, Rae Bareli, Etah, Hathras also had less than 25 percent of total households having access to toilet facility during 2007-08.
- Infant mortality rate of 71 per 1000 live births (rural: 74; urban: 54) was recorded in Uttar Pradesh during 2010-11. U5MR was recorded 94 per 1000 live births, while neo-natal and post neo-natal mortality rate were observed around 50 and 21 per 1000 live births respectively. Mortality rates were higher in rural areas as compared to urban, and among females as compared to males. The life expectancy at birth of a person in Uttar Pradesh was measured as 60 years in 2011.
- The rise in the urban population in the NUGP and the CR is projected to grow faster while ER may record a fast increase in the rural population growth rate in 2025 and 2050. These developments may have serious implications for the demand for ground and surface water, supply of which is already under heavy stress.
- The projections regarding the demand for and supply of water for 2050, appear to be providing a hint that there would still be some surplus water even by 2050, provided all the assumptions of the projections hold true. However, as these projections do not account for sparing water maintaining a minimum water flow in the Ganges to meet the ecological needs and downstream commitments, the demand estimates appear to be on much lower side. Accounting for all these factors may result in a deficiency of supply contrary to what has been projected.

## 8.2 Policy Implications

The above analyses highlight that there have been marked differences among the various regions in Uttar Pradesh in regard of the various demographic indicators. However, as the focus of this report is on the implications of the rise in population, levels of urbanisation and consequently intensification of agriculture to meet the increasing demands for food and other agricultural commodities, the discussion on the policy implications hinges around management of demand for and supply of water so as to ensure that the water resources are managed efficiently to ensure their sustainability and economic development. Since the current trends indicate that there is perceptible heterogeneity in regard of different demographic indicators having a bearing on the demand for and supply of water across various regions, the focus of the policy as well as the policy instruments have to be markedly different across different regions. For instance, rise in the urban population in NUGP and CR is projected to grow faster while ER region is expected to record a fast increase in the rural population growth rate in 2025 and 2050. Similarly, CAGR is highest for CR followed by NUGP. Therefore, the emphasis of the policy may have to be different for these regions. Yet before initiating any discussion on the policy implications, it may be pointed out that the water use is an extremely sensitive matter and its volume usage and usage practices are age old and have, more or less, become part of the life style of various stakeholders. Therefore, any deviation from the existing practices, in favour of better management of demand and supplies, causing discomfort to some of them, may have hard-to-accept political repercussions. Besides, these corrective measures may also entail large investment which may force policy makers to decide on the priorities and initiate interventions in stages. It implies that these changes are likely to be slow, even if political willingness to enforce the same is strong. However, given the current magnitude of problems, pro-active and timely interventions are required to be made immediately so that by the time full effect of these measures are felt, they become acceptable to all stakeholders. The measures may encompass the determination of the entitlements and rights for different stakeholders, formulation of suitable macroeconomic policies, building up of relevant institutions with needed capacities, governance directions and regulatory authorization, besides public involvement. Some of the possible interventions are discussed below:

- Since 93% of the water in Uttar Pradesh is used for irrigation purposes only, the deficit between demand for water and supply of the same could be far more effectively bridged by enhancing water use efficiency and productivity in agriculture through improved irrigation technology and practices. As groundwater pumping contributes to 70.2% irrigation in U.P., the saving in irrigation water will cause saving of energy also. According to an estimate, these systems irrigate at an efficiency of 30-45% ((Problems and Prospects of Saving Water and Energy in Agriculture in Upper Ganga River Basin, WWF). There are good possibilities of improving efficiency, effectiveness, economy and equity of water use in agriculture through technological intervention, better water management practices, shifting cropping pattern towards less water consuming crops and implementing appropriate water price policy, thus making more water available to other development sectors and environmental needs.

- There is a need to regulate exploitation of surface and ground water for diverse uses which would be possible only through a wide social mobilization as ground water management has now acquired a socio-economic-cultural-legal perspective. This social mobilisation calls for 'enhancing communication between water specialists, decision-makers and communities to strengthen public participation in groundwater protection (Bhargava et al 2010). It is also required to be preceded by massive efforts to sensitize and educate various stakeholders.
- The capacity building of government institutions and other stakeholders for the sustainable development and management of groundwater is the most warranted action, as it would help to strengthen and utilize skills/capabilities of people and institutions towards achieving sustainable development of ground water resources through combining the efforts of all the stakeholders. Given the tremendous stress on the ground water, there is a need for very swift movement, supported by enabling legal, institutional, technological and economic framework, towards the conjunctive use of groundwater and surface water. In order to arrest the further proliferation of private tube wells, community tube wells, supported by the provision of higher subsidy, needs to be promoted. This would not only save the energy but also help to regulate the over-exploitation of water.
- Our study shows that a majority of households in the basin do not have access to sanitary toilets and safe drinking piped water. Moreover, due to lack of awareness and cultural factors, most of people defecate in open, adversely affecting their health and creating non-point source of water pollution. Therefore priority must be given to create adequate public awareness about health and sanitation and appropriate incentives be provided to rural households for construction of toilets. Gram Panchayats and local NGOs may be involved in creating public awareness and also for effective implementation of total sanitation programme.
- Due to increasing population pressure in the urban areas, especially in the fast growing NUGP, CR and SUGP regions of the State, not only demand for water for various purposes have been rising but also safe disposal of urban household sewage and industrial wastes have become major problem. Therefore, there is a need to increase investment towards creating infrastructure for treating, re-cycling and re-using sewage /wastewater so that no treated or untreated wastewater goes to the river.

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# Appendix

**TableA1a: GSDP, in Uttar Pradesh, 1990-00 to 2007-08 (at 1999-2000 Prices)(Rs. in Crore)**

State/region	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
<b>Uttar Pradesh</b>	<b>173058</b>	<b>178670</b>	<b>183078</b>	<b>188919</b>	<b>198394</b>	<b>206941</b>	<b>219494</b>	<b>236001</b>	<b>254422</b>
Northern									
Upper Ganga Plains	4049 (1380)	4123 (1446)	4207 (1432)	4306 (1443)	4570 (1546)	4860 (1705)	5161 (1934)	5523 (2053)	5963 (2277)
Southern									
Upper Ganga Plains	2661 (1192)	2743 (1110)	2776 (1179)	2859 (1315)	2948 (1367)	3105 (1467)	3269 (1547)	3539 (1671)	3810 (1817)
Central Region	2998 (1459)	3262 (1856)	3334 (1822)	3691 (2466)	3707 (2213)	3994 (2556)	4169 (2745)	4444 (2896)	4858 (3167)
Southern Region	1228 (626)	1202 (676)	1308 (724)	1345 (750)	1447 (766)	1521 (815)	1526 (805)	1662 (884)	1672 (972)
Eastern Region	1917 (957)	1965 (1004)	2024 (986)	2023 (1047)	2189 (1105)	2184 (1126)	2381 (1246)	2555 (1381)	2763 (1433)
<b>Districts of UP along Ganga</b>	<b>2697 (1352)</b>	<b>2835 (1487)</b>	<b>2903 (1558)</b>	<b>2928 (1711)</b>	<b>3072 (1776)</b>	<b>3194 (1968)</b>	<b>3381 (2075)</b>	<b>3661 (2283)</b>	<b>3950 (2436)</b>
Other districts	2406 (1386)	2469 (1454)	2530 (1436)	2631 (1638)	2764 (1621)	2886 (1777)	3066 (1919)	3286 (2036)	3541 (2229)

Note: Figures for regions represent average value of GSDP per district while figures in parentheses represent Std. Deviation.



**Table A1b: GSDP in Primary Sector (at 1999-2000 Prices), Uttar Pradesh, 1990-00 to 2007-08 (Rs. in Crore)**

State/Region	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
<b>Uttar Pradesh</b>	<b>62320</b>	<b>62648</b>	<b>63380</b>	<b>63820</b>	<b>65698</b>	<b>66119</b>	<b>68623</b>	<b>70366</b>	<b>72278</b>
Northern Upper Ganga Plains	1346 (516)	1396 (520)	1393 (538)	1393 (549)	1436 (585)	1487 (599)	1539 (646)	1578 (652)	1620 (647)
Southern Upper Ganga Plains	1078 (491)	1080 (481)	1090 (501)	1082 (505)	1087 (492)	1132 (512)	1159 (526)	1218 (528)	1258 (536)
Central Region	892 (252)	968 (347)	943 (280)	1098 (489)	1001 (316)	1055 (343)	1028 (334)	1058 (350)	1120 (412)
Southern Region	496 (151)	429 (139)	500 (183)	520 (213)	562 (200)	585 (221)	526 (177)	551 (207)	465 (177)
Eastern Region	705 (267)	689 (247)	701 (257)	666 (284)	738 (286)	682 (263)	763 (342)	759 (311)	791 (280)
<b>Districts of UP along Ganga</b>	<b>859 (416)</b>	<b>855 (424)</b>	<b>880 (457)</b>	<b>841 (484)</b>	<b>885 (468)</b>	<b>864 (494)</b>	<b>883 (463)</b>	<b>910 (484)</b>	<b>931 (494)</b>
Other Districts	899 (452)	907 (473)	913 (461)	933 (501)	954 (470)	969 (496)	1009 (537)	1033 (540)	1063 (555)

Note: Note: Figures for regions represent average values of GSDP per district while figures in parentheses represent Std. Deviation.

**Table A1c: GSDP in Secondary Sector (at 1999-2000 prices), Uttar Pradesh, 1990-00 to 2007-08 (Rs. in crores)**

Regions	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
<b>Uttar Pradesh</b>	<b>38426</b>	<b>38761</b>	<b>39203</b>	<b>40937</b>	<b>43652</b>	<b>46629</b>	<b>50388</b>	<b>58958</b>	<b>67943</b>
Northern Upper Ganga Plains	1176 (816)	1084 (771)	1103 (768)	1151 (721)	1259 (767)	1382 (985)	1491 (1072)	1693 (1079)	1915 (1178)
Southern Upper Ganga Plains	548 (337)	554 (303)	543 (312)	592 (377)	622 (411)	654 (428)	705 (466)	825 (552)	954 (621)
Central Region	648 (532)	694 (625)	720 (667)	737 (682)	770 (687)	845 (757)	916 (821)	1053 (910)	1208 (1013)
Southern Region	207 (192)	214 (189)	220 (199)	215 (181)	231 (204)	244 (214)	270 (228)	333 (266)	401 (310)
Eastern Region	373 (334)	398 (373)	404 (359)	416 (382)	442 (406)	458 (418)	495 (442)	600 (531)	699 (596)
Districts of UP along Ganga	645 (458)	691 (524)	683 (549)	702 (573)	722 (601)	769 (638)	830 (686)	973 (799)	1119 (895)
Other Districts	520 (541)	513 (509)	523 (511)	550 (525)	594 (565)	636 (652)	687 (705)	804 (763)	927 (846)

Note: Figures represent the average value of district(s) in the particular region. \$ Figures in parentheses represent Std. Deviation.

**Table A1d: GSDP (in Tertiary Sector (at 1999-2000 Prices), Uttar Pradesh, 1990-00 to 2007-08Rs. in Crore)**

Region	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
<b>Uttar Pradesh</b>	<b>72312</b>	<b>77261</b>	<b>80494</b>	<b>84163</b>	<b>89044</b>	<b>94192</b>	<b>100483</b>	<b>106677</b>	<b>114200</b>
Northern Upper Ganga Plains	1527 (559)	1642 (620)	1711 (624)	1763 (645)	1874 (689)	1990 (763)	2131 (848)	2252 (896)	2428 (992)
Southern Upper Ganga Plains	1035 (495)	1108 (481)	1142 (516)	1185 (564)	1239 (600)	1320 (663)	1405 (709)	1497 (753)	1597 (813)
Central Region	1457 (1067)	1599 (1212)	1671 (1253)	1856 (1581)	1936 (1614)	2094 (1883)	2225 (2021)	2333 (2083)	2529 (2272)
Southern Region	526 (317)	560 (367)	588 (374)	610 (390)	654 (408)	692 (436)	730 (452)	778 (490)	806 (534)
Eastern Region	839 (480)	877 (512)	919 (513)	941 (536)	1008 (569)	1043 (599)	1123 (643)	1195 (716)	1272 (737)
<b>Districts of UP along Ganga</b>	<b>1193 (744)</b>	<b>1288 (813)</b>	<b>1340 (844)</b>	<b>1386 (938)</b>	<b>1465 (996)</b>	<b>1561 (1168)</b>	<b>1667 (1242)</b>	<b>1778 (1319)</b>	<b>1900 (1401)</b>
Other Districts	986 (622)	1049 (680)	1094 (698)	1148 (808)	1215 (834)	1282 (915)	1370 (986)	1449 (1031)	1552 (1128)

Note: Figures represent the average value of district(s) in the particular region. \$ Figures in parentheses represent Std. Deviation.

**Table A1e: Per Capita Income (Rs.) in Uttar Pradesh, 1990-00 to 200708 (at 1999-2000 Prices)**

State/Region	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
<b>Uttar Pradesh</b>	<b>10759</b>	<b>10854</b>	<b>10868</b>	<b>11014</b>	<b>11340</b>	<b>11599</b>	<b>12069</b>	<b>12734</b>	<b>13475</b>
Northern Upper Ganga Plains	17847 (7910)	17771 (7802)	17648 (7539)	17661 (6913)	18383 (7439)	19401 (9424)	20065 (10148)	20910 (9714)	21965 (9805)
Southern Upper Ganga Plains	11742 (1763)	12116 (2083)	11852 (1870)	11900 (2264)	12003 (2263)	12426 (2452)	12771 (2367)	13631 (2592)	14447 (2987)
Central Region	10101 (2831)	10584 (3745)	10609 (3435)	11363 (5143)	11252 (4150)	11758 (4735)	12000 (4982)	12551 (5074)	13460 (5390)
Southern Region	10439 (2570)	9933 (2731)	10567 (2827)	10697 (3000)	11355 (2870)	11768 (3238)	11587 (2848)	12427 (3302)	12140 (3438)
Eastern Region	8277 (4061)	8153 (3243)	8254 (3314)	8111 (3845)	8605 (3668)	8396 (3656)	8997 (4186)	9370 (3970)	9924 (3590)
<b>Districts of UP along Ganga</b>	<b>10527 (2909)</b>	<b>10819 (3283)</b>	<b>10802 (3278)</b>	<b>10607 (3749)</b>	<b>10875 (3654)</b>	<b>11099 (4099)</b>	<b>11453 (3922)</b>	<b>12120 (4115)</b>	<b>12865 (4244)</b>
Other districts	11058 (5668)	11027 (5483)	11064 (5309)	11210 (5547)	11610 (5520)	11899 (6328)	12343 (6705)	12960 (6678)	13583 (6812)

Note: Figures represent the average value of district(s) in the particular region. \$ Figures in parentheses represent Std. Deviation.

**Table A2a: Percentage share of NUGP in Total GSDP of the State by Economic Activity**

<b>Economic Activity</b>	<b>1999-00</b>	<b>2000-01</b>	<b>2001-02</b>	<b>2002-03</b>	<b>2003-04</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>
Agriculture & Allied	22.22	22.96	22.67	22.68	22.66	23.36	23.41	23.35	23.08
Forestry & Logging	17.19	16.22	16.27	16.32	16.80	16.62	17.85	17.78	18.54
Fishing	7.91	7.70	7.70	7.70	7.70	7.75	7.86	7.86	7.86
Mining & Quarrying	11.18	12.60	9.67	8.83	9.05	10.36	9.54	10.80	12.74
<b>PRIMARY</b>	<b>21.60</b>	<b>22.29</b>	<b>21.98</b>	<b>21.82</b>	<b>21.86</b>	<b>22.49</b>	<b>22.43</b>	<b>22.42</b>	<b>22.41</b>
Manufacturing	38.49	35.64	36.04	35.28	36.58	37.57	38.20	37.97	37.67
Construction	21.70	19.09	19.38	19.77	20.26	21.11	19.63	19.63	21.16
Electricity, Gas & Water	15.25	15.28	15.32	15.38	15.50	15.39	15.33	15.45	15.64
<b>SECONDARY</b>	<b>30.59</b>	<b>27.97</b>	<b>28.15</b>	<b>28.11</b>	<b>28.85</b>	<b>29.65</b>	<b>29.59</b>	<b>28.72</b>	<b>28.19</b>
Transport, Storage & Communication	21.29	20.57	20.43	20.39	20.37	20.31	20.35	20.23	19.89
Railway	14.48	14.48	14.48	14.48	14.48	14.48	14.48	14.48	14.48
Other means of Transport & Storage	24.43	23.99	24.07	24.15	24.05	23.98	24.05	24.28	23.95
Communication	18.05	18.05	18.05	18.05	18.05	18.05	18.05	18.05	18.05
Trade and Hotel & Restaurant	25.16	25.48	25.65	25.50	25.95	26.68	27.19	27.02	27.14
Transport, Com. & Trade	23.93	23.69	23.73	23.51	23.69	23.99	24.18	23.99	23.63
Banking and Insurance	19.10	19.10	19.10	19.10	19.10	19.10	19.10	19.10	19.10
Real Estate, housing and Business Services	19.26	19.72	20.03	20.29	20.63	21.00	21.42	21.37	21.99
Finance and Real Estate	19.21	19.51	19.71	19.85	20.08	20.30	20.52	20.48	20.66
Public Administration	15.19	14.25	13.59	12.29	12.35	12.29	12.05	12.52	12.56
Other Services	20.54	21.82	21.74	21.74	21.72	21.19	20.58	20.61	21.36
Community and Personal Services	18.45	18.88	18.63	17.96	17.78	17.42	17.14	17.17	17.83
<b>Tertiary</b>	<b>21.12</b>	<b>21.26</b>	<b>21.25</b>	<b>20.95</b>	<b>21.05</b>	<b>21.13</b>	<b>21.18</b>	<b>21.11</b>	<b>21.26</b>
<b>GDDP</b>	<b>23.40</b>	<b>23.07</b>	<b>22.98</b>	<b>22.80</b>	<b>23.04</b>	<b>23.48</b>	<b>23.50</b>	<b>23.40</b>	<b>23.44</b>

**Table A2b: Percentage share of SUGP in Total GSDP of the State by Economic Activity**

<b>Economic Activity</b>	<b>1999-00</b>	<b>2000-01</b>	<b>2001-02</b>	<b>2002-03</b>	<b>2003-04</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>
Agriculture & Allied	30.47	30.39	30.29	30.08	29.27	30.36	30.19	30.91	30.83
Forestry & Logging	22.74	22.95	22.90	22.81	22.87	22.69	22.63	22.79	22.85
Fishing	4.94	4.81	4.81	4.81	4.81	4.85	4.86	4.85	4.85
Mining & Quarrying	10.33	10.42	8.80	8.82	8.82	10.05	9.29	10.74	10.23
<b>PRIMARY</b>	<b>29.40</b>	<b>29.31</b>	<b>29.25</b>	<b>28.81</b>	<b>28.13</b>	<b>29.10</b>	<b>28.71</b>	<b>29.43</b>	<b>29.60</b>
Manufacturing	24.69	25.49	24.31	25.87	24.85	24.70	24.54	24.67	24.79
Construction	24.37	22.62	22.39	22.67	23.57	22.55	22.69	22.64	23.00
Elect., Gas & Water	22.66	22.73	22.80	22.92	22.98	22.81	22.88	23.00	23.18
<b>SECONDARY</b>	<b>24.26</b>	<b>24.30</b>	<b>23.56</b>	<b>24.59</b>	<b>24.21</b>	<b>23.84</b>	<b>23.78</b>	<b>23.78</b>	<b>23.88</b>
Transport, Storage & Com.	22.68	22.56	22.55	22.48	22.47	22.44	22.46	22.29	22.37
Railway	19.90	19.90	19.90	19.90	19.90	19.90	19.90	19.90	19.90
Other means of Trans. & Storage	23.83	23.82	23.92	23.81	23.76	23.69	23.72	23.52	23.76
Communication	22.08	22.08	22.08	22.08	22.08	22.08	22.08	22.08	22.08
Trade and Hotel & Restaurant	27.44	28.80	27.96	28.01	27.22	27.70	27.47	27.99	28.11
Transport, Com.& Trade	25.93	26.53	25.97	25.85	25.30	25.48	25.27	25.45	25.33
Banking and Insurance	21.25	21.25	21.25	21.25	21.25	21.25	21.25	21.25	21.25
Real Estate, Housing and Business Services	23.83	23.76	23.80	23.82	23.76	23.67	23.57	23.62	23.25
Finance and Real Estate	23.06	22.93	22.93	22.88	22.86	22.78	22.67	22.70	22.32
Public Administration	21.91	21.74	21.65	20.91	21.01	20.87	20.96	21.15	21.68
Other Services	23.66	22.53	22.55	22.54	22.35	23.01	23.06	23.12	23.05
Community and Personal Services	22.98	22.22	22.20	21.89	21.79	22.11	22.21	22.28	22.50
<b>Tertiary</b>	<b>24.34</b>	<b>24.39</b>	<b>24.13</b>	<b>23.93</b>	<b>23.66</b>	<b>23.82</b>	<b>23.73</b>	<b>23.85</b>	<b>23.78</b>
<b>GSDP</b>	<b>26.14</b>	<b>26.10</b>	<b>25.78</b>	<b>25.72</b>	<b>25.26</b>	<b>25.51</b>	<b>25.30</b>	<b>25.49</b>	<b>25.46</b>

**Table A2c: Percentage share of Central Region in Total GSDP of the State by Economic Activity**

Economic Activity	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
<b>Agriculture &amp; Allied</b>	<b>13.13</b>	<b>14.12</b>	<b>13.55</b>	<b>15.90</b>	<b>13.96</b>	<b>14.64</b>	<b>13.94</b>	<b>13.95</b>	<b>14.27</b>
Forestry & Logging	11.13	14.30	14.28	14.33	14.31	14.41	11.15	11.36	11.16
Fishing	12.68	14.97	14.97	14.97	14.97	16.25	13.70	13.64	13.64
Mining & Quarrying	6.96	6.13	5.64	5.17	4.96	5.72	5.38	6.17	6.74
<b>PRIMARY</b>	<b>12.89</b>	<b>13.91</b>	<b>13.40</b>	<b>15.48</b>	<b>13.71</b>	<b>14.36</b>	<b>13.48</b>	<b>13.53</b>	<b>13.95</b>
Manufacturing	14.09	14.91	15.47	14.40	14.38	15.01	15.02	14.39	14.39
Construction	16.49	18.09	18.33	19.64	18.39	18.55	18.59	18.28	17.47
Electricity, Gas & Water Supply	17.13	17.37	17.40	17.57	17.23	17.43	17.44	17.40	17.47
<b>SECONDARY</b>	<b>15.17</b>	<b>16.12</b>	<b>16.53</b>	<b>16.20</b>	<b>15.87</b>	<b>16.31</b>	<b>16.36</b>	<b>16.08</b>	<b>16.00</b>
Transport, Storage & Communication	18.45	18.88	18.95	19.04	19.10	19.19	19.24	19.35	19.55
Railway	17.88	17.88	17.88	17.88	17.88	17.88	17.88	17.88	17.88
Other means of Transport & Storage	17.98	18.00	18.02	17.99	17.96	18.03	18.01	18.13	18.09
Communication	22.26	22.26	22.26	22.26	22.26	22.26	22.26	22.26	22.26
Trade and Hotel & Restaurant	13.15	14.09	13.94	15.18	13.89	14.47	13.81	13.92	14.09
Transport, Communication & Trade	14.83	15.84	15.78	16.69	16.00	16.47	16.19	16.34	16.73
Banking and Insurance	28.25	28.25	28.25	28.25	28.25	28.25	28.25	28.25	28.25
Real Estate, Ownership of Dwellings and Business Services	17.93	18.07	18.18	18.26	18.37	18.49	18.62	18.64	18.75
Finance and Real Estate	21.01	21.44	21.60	21.91	21.89	22.10	22.33	22.40	23.14
Public Administration	25.55	25.51	25.71	30.75	30.73	32.27	32.19	29.25	28.72
Other Services	17.80	17.65	17.81	17.74	17.75	17.54	17.86	17.92	18.16
Community and Personal Services	20.82	20.71	20.82	22.95	23.20	23.77	23.64	22.74	22.40
<b>Tertiary</b>	<b>18.14</b>	<b>18.63</b>	<b>18.68</b>	<b>19.85</b>	<b>19.57</b>	<b>20.01</b>	<b>19.90</b>	<b>19.68</b>	<b>19.93</b>
<b>GSDP</b>	<b>15.59</b>	<b>16.43</b>	<b>16.39</b>	<b>17.58</b>	<b>16.81</b>	<b>17.37</b>	<b>17.08</b>	<b>16.95</b>	<b>17.18</b>

**Table A2d: Percentage Share of Southern Region in Total GSDP of the State by Economic Activity**

ECONOMIC ACTIVITY	Southern Region								
	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Agriculture & Allied	5.23	4.39	5.24	5.35	5.66	5.84	4.93	4.97	3.97
Forestry & Logging	4.92	4.62	4.50	4.57	4.38	4.44	4.63	4.50	4.41
Fishing	30.60	29.80	29.80	29.80	29.80	29.97	28.96	28.95	28.95
Mining & Quarrying	8.85	8.72	6.21	7.75	7.66	8.44	7.90	9.47	9.29
<b>PRIMARY</b>	<b>5.57</b>	<b>4.79</b>	<b>5.52</b>	<b>5.71</b>	<b>5.99</b>	<b>6.19</b>	<b>5.37</b>	<b>5.48</b>	<b>4.50</b>
Manufacturing	2.65	2.82	2.91	2.47	2.44	2.39	2.32	2.32	2.35
Construction	6.29	6.64	6.61	6.76	6.80	6.71	6.98	6.95	6.72
Electricity, Gas & Water	4.29	3.57	3.53	3.49	3.53	3.53	3.49	3.47	3.44
<b>SECONDARY</b>	<b>3.76</b>	<b>3.87</b>	<b>3.93</b>	<b>3.67</b>	<b>3.71</b>	<b>3.67</b>	<b>3.75</b>	<b>3.96</b>	<b>4.13</b>
Transport, Storage & Com.	6.36	6.26	6.25	6.23	6.20	6.17	6.14	6.19	6.12
Railway	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85
Other means of Transport & Storage	4.96	4.96	4.84	4.88	4.98	5.01	5.04	4.97	5.01
Communication	4.79	4.79	4.79	4.79	4.79	4.79	4.79	4.79	4.79
Trade and Hotel & Restaurant	4.82	4.71	4.84	4.82	5.00	5.04	4.48	4.49	3.84
Transport, Com.& Trade	5.31	5.27	5.36	5.37	5.49	5.52	5.21	5.25	4.94
Banking and Insurance	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96
Real Estate, Housing and Business Services	5.32	5.29	5.28	5.27	5.24	5.20	5.14	5.13	5.05
Finance and Real Estate	4.91	4.85	4.83	4.79	4.78	4.74	4.69	4.67	4.55
Public Administration	4.26	4.50	4.63	4.45	4.51	4.46	4.94	5.14	5.11
Other Services	5.30	5.21	5.17	5.11	5.16	5.19	5.33	5.27	5.44
Community and Personal Services	4.90	4.93	4.96	4.84	4.89	4.88	5.17	5.21	5.30
<b>Tertiary</b>	<b>5.09</b>	<b>5.07</b>	<b>5.11</b>	<b>5.07</b>	<b>5.14</b>	<b>5.14</b>	<b>5.08</b>	<b>5.10</b>	<b>4.94</b>
<b>GSDP</b>	<b>4.97</b>	<b>4.71</b>	<b>5.00</b>	<b>4.98</b>	<b>5.10</b>	<b>5.15</b>	<b>4.86</b>	<b>4.93</b>	<b>4.60</b>

**Table A2e: Percentage Share of Eastern Region in Total GSDP of the State by Economic Activity**

Economic Activity	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Agriculture & Allied	28.94	28.14	28.25	25.98	28.45	25.80	27.52	26.82	27.85
Forestry & Logging	44.02	41.92	42.05	41.98	41.64	41.84	43.73	43.57	43.05
Fishing	43.86	42.72	42.72	42.72	42.72	41.19	44.63	44.69	44.69
Mining & Quarrying	62.68	62.13	69.68	69.43	69.51	65.43	67.89	62.82	61.00
<b>PRIMARY</b>	<b>30.54</b>	<b>29.70</b>	<b>29.86</b>	<b>28.18</b>	<b>30.32</b>	<b>27.86</b>	<b>30.03</b>	<b>29.14</b>	<b>29.54</b>
Manufacturing	20.08	21.12	21.27	21.98	21.75	20.33	19.91	20.65	20.80
Registered	11.99	12.62	13.20	14.73	14.22	11.99	11.99	12.75	12.75
Unregistered	30.85	30.85	30.85	30.85	30.85	30.85	30.85	30.85	30.85
Construction	31.15	33.56	33.29	31.17	30.98	31.08	32.12	32.51	31.65
Electricity, Gas & Water Supply	40.67	41.05	40.95	40.64	40.75	40.84	40.85	40.68	40.27
<b>SECONDARY</b>	<b>26.22</b>	<b>27.74</b>	<b>27.83</b>	<b>27.43</b>	<b>27.37</b>	<b>26.54</b>	<b>26.52</b>	<b>27.47</b>	<b>27.79</b>
Transport, Storage & Communication	31.22	31.72	31.82	31.86	31.86	31.88	31.81	31.94	32.07
Railway	36.89	36.89	36.89	36.89	36.89	36.89	36.89	36.89	36.89
Other means of Transport & Storage	28.80	29.22	29.15	29.17	29.25	29.30	29.19	29.10	29.19
Communication	32.83	32.83	32.83	32.83	32.83	32.83	32.83	32.83	32.83
Trade and Hotel & Restaurant	29.44	26.91	27.62	26.48	27.94	26.11	27.05	26.58	26.83
Transport, Com.& Trade	30.00	28.67	29.16	28.58	29.53	28.55	29.15	28.97	29.37
Banking and Insurance	27.44	27.44	27.44	27.44	27.44	27.44	27.44	27.44	27.44
Real Estate, Housing and Business Services	33.67	33.17	32.71	32.36	32.00	31.64	31.26	31.24	30.95
Finance and Real Estate	31.81	31.27	30.92	30.57	30.38	30.08	29.79	29.76	29.33
Public Administration	33.10	34.00	34.43	31.61	31.39	30.11	29.85	31.94	31.93
Other Services	32.69	32.79	32.73	32.86	33.03	33.07	33.17	33.08	32.00
Community and Personal Services	32.85	33.26	33.38	32.36	32.34	31.82	31.83	32.60	31.97
<b>Tertiary</b>	<b>31.31</b>	<b>30.65</b>	<b>30.83</b>	<b>30.20</b>	<b>30.58</b>	<b>29.90</b>	<b>30.12</b>	<b>30.25</b>	<b>30.08</b>
<b>GSDP</b>	<b>29.90</b>	<b>29.69</b>	<b>29.85</b>	<b>28.92</b>	<b>29.79</b>	<b>28.49</b>	<b>29.26</b>	<b>29.23</b>	<b>29.32</b>

**Table A3a: Percentage Share of Different Economic Activities in the Total GSDP of  
Uttar Pradesh**

<b>Economic Activity</b>	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Agriculture & Allied	33.50	32.58	32.27	31.11	30.59	29.39	28.43	27.18	26.26
Forestry & Logging	1.10	1.11	1.12	1.12	1.09	1.08	1.06	0.95	0.91
Fishing	0.35	0.37	0.39	0.42	0.43	0.42	0.42	0.41	0.42
Mining & Quarrying	1.06	1.00	0.83	1.14	1.00	1.06	1.33	1.28	0.83
<b>PRIMARY</b>	<b>36.01</b>	<b>35.06</b>	<b>34.62</b>	<b>33.78</b>	<b>33.12</b>	<b>31.95</b>	<b>31.24</b>	<b>29.82</b>	<b>28.41</b>
Manufacturing	13.26	12.56	12.22	12.72	12.72	13.03	13.15	13.26	12.75
Construction	5.02	5.15	5.28	5.16	5.40	5.63	6.10	7.88	9.84
Electricity, Gas & Water Supply	3.91	3.99	3.91	3.79	3.88	3.87	3.69	3.85	4.11
<b>SECONDARY</b>	<b>22.20</b>	<b>21.69</b>	<b>21.41</b>	<b>21.67</b>	<b>22.00</b>	<b>22.53</b>	<b>22.94</b>	<b>24.98</b>	<b>26.70</b>
Transport, Storage & Com.	6.02	7.30	7.48	7.88	8.37	8.87	9.30	9.36	10.18
Railway	1.45	1.65	1.77	1.81	1.81	1.86	1.88	2.03	2.08
Other means of Transport & Storage	3.87	4.10	4.01	4.09	4.31	4.51	4.68	4.45	4.44
Communication	0.69	1.55	1.70	1.98	2.25	2.50	2.74	2.88	3.66
Trade and Hotel & Rest.	12.98	12.73	12.87	12.34	12.31	12.12	11.85	11.64	10.83
Transport, Com.& Trade	19.00	20.02	20.35	20.22	20.68	20.98	21.15	21.00	21.00
Banking and Insurance	2.94	3.46	3.62	4.03	3.80	3.98	4.09	4.10	5.27
Real Estate, Housing and Business Services	6.91	6.97	7.03	7.01	6.86	6.76	6.54	6.39	6.15
Finance and Real Estate	9.85	10.43	10.65	11.04	10.66	10.74	10.63	10.49	11.42
Public Administration	5.05	4.97	4.94	5.32	5.69	5.84	5.66	5.83	5.00
Other Services	7.89	7.81	8.02	7.97	7.85	7.95	8.37	7.88	7.46
Community and Personal Services	12.94	12.79	12.96	13.29	13.54	13.79	14.03	13.70	12.47
<b>TERTIARY</b>	<b>41.79</b>	<b>43.24</b>	<b>43.97</b>	<b>44.55</b>	<b>44.88</b>	<b>45.52</b>	<b>45.82</b>	<b>45.20</b>	<b>44.89</b>
<b>GSDP</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>



**Table A3b: Percentage shares of different Activities in total GSDP in NUGP of  
Uttar Pradesh**

<b>Economic Activity</b>	<b>1999-00</b>	<b>2000-01</b>	<b>2001-02</b>	<b>2002-03</b>	<b>2003-04</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>
Agriculture & Allied	31.82	32.41	31.83	30.95	30.09	29.23	28.33	27.12	25.86
Forestry & Logging	0.81	0.78	0.79	0.80	0.80	0.77	0.80	0.72	0.72
Fishing	0.12	0.12	0.13	0.14	0.14	0.14	0.14	0.14	0.14
Mining & Quarrying	0.51	0.55	0.35	0.44	0.40	0.47	0.54	0.59	0.45
<b>PRIMARY</b>	<b>33.25</b>	<b>33.87</b>	<b>33.11</b>	<b>32.34</b>	<b>31.43</b>	<b>30.60</b>	<b>29.82</b>	<b>28.57</b>	<b>27.16</b>
Manufacturing	21.82	19.39	19.16	19.69	20.20	20.85	21.38	21.51	20.49
Construction	4.66	4.26	4.46	4.47	4.75	5.06	5.09	6.61	8.88
Electricity, Gas & Water	2.55	2.64	2.61	2.56	2.61	2.53	2.41	2.54	2.74
<b>SECONDARY</b>	<b>29.03</b>	<b>26.29</b>	<b>26.23</b>	<b>26.72</b>	<b>27.56</b>	<b>28.45</b>	<b>28.89</b>	<b>30.66</b>	<b>32.12</b>
Transport, Storage & Com.n	5.48	6.51	6.65	7.05	7.40	7.67	8.06	8.09	8.64
Railway	0.90	1.03	1.12	1.15	1.14	1.14	1.16	1.26	1.28
Other means of Transport & Storage	4.04	4.26	4.20	4.33	4.50	4.60	4.79	4.61	4.54
Communication	0.54	1.22	1.33	1.57	1.76	1.92	2.11	2.22	2.82
Trade and Hotel & Restaurant	13.95	14.05	14.37	13.81	13.86	13.77	13.71	13.44	12.54
Transport, Communication & Trade	19.43	20.56	21.01	20.85	21.26	21.44	21.77	21.53	21.17
Banking and Insurance	2.40	2.86	3.01	3.38	3.15	3.24	3.33	3.35	4.29
Real Estate, Ownership of Dwellings and Business Services	5.69	5.96	6.13	6.24	6.15	6.05	5.96	5.84	5.77
Finance and Real Estate	8.09	8.82	9.14	9.62	9.30	9.29	9.29	9.18	10.06
Public Administration	3.28	3.07	2.92	2.87	3.05	3.06	2.91	3.12	2.68
Other Services	6.93	7.39	7.59	7.60	7.40	7.17	7.33	6.94	6.80
Community and Personal Services	10.20	10.46	10.51	10.47	10.45	10.23	10.24	10.06	9.48
<b>TERTIARY</b>	<b>37.72</b>	<b>39.84</b>	<b>40.66</b>	<b>40.94</b>	<b>41.01</b>	<b>40.95</b>	<b>41.30</b>	<b>40.77</b>	<b>40.72</b>
<b>GSDP</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

**Table A3c: Percentage share of different Activities in total GSDP in SUGP of Uttar Pradesh**

Economic Activity	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Agriculture & Allied	39.05	37.94	37.92	36.38	35.45	34.98	33.94	32.95	31.80
Forestry & Logging	0.96	0.98	1.00	0.99	0.99	0.96	0.94	0.85	0.81
Fishing	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.08
Mining & Quarrying	0.42	0.40	0.29	0.39	0.35	0.42	0.49	0.54	0.33
<b>PRIMARY</b>	<b>40.50</b>	<b>39.39</b>	<b>39.28</b>	<b>37.84</b>	<b>36.87</b>	<b>36.44</b>	<b>35.45</b>	<b>34.41</b>	<b>33.03</b>
Manufacturing	12.53	12.27	11.52	12.80	12.51	12.62	12.76	12.83	12.42
Construction	4.68	4.46	4.59	4.55	5.04	4.98	5.47	6.99	8.89
Electricity, Gas & Water	3.39	3.48	3.46	3.37	3.53	3.46	3.34	3.47	3.74
<b>SECONDARY</b>	<b>20.60</b>	<b>20.20</b>	<b>19.57</b>	<b>20.72</b>	<b>21.09</b>	<b>21.06</b>	<b>21.57</b>	<b>23.30</b>	<b>25.05</b>
Transport, Storage & Com.	5.22	6.31	6.54	6.88	7.45	7.80	8.26	8.18	8.94
Railway	1.11	1.26	1.37	1.40	1.42	1.45	1.48	1.59	1.62
Other means of Transport & Storage	3.53	3.74	3.72	3.78	4.06	4.19	4.39	4.10	4.14
Communication	0.59	1.31	1.45	1.70	1.96	2.17	2.39	2.49	3.18
Trade and Hotel & Restaurant	13.62	14.05	13.96	13.43	13.26	13.16	12.86	12.78	11.95
Transport, Communication & Trade	18.84	20.36	20.50	20.32	20.71	20.96	21.13	20.97	20.89
Banking and Insurance	2.39	2.82	2.99	3.33	3.20	3.31	3.44	3.42	4.40
Real Estate, Ownership of Dwellings and Business Services	6.30	6.35	6.49	6.49	6.45	6.28	6.09	5.92	5.62
Finance and Real Estate	8.69	9.17	9.48	9.82	9.65	9.59	9.53	9.34	10.01
Public Administration	4.23	4.14	4.15	4.33	4.73	4.78	4.69	4.83	4.26
Other Services	7.14	6.74	7.02	6.98	6.95	7.17	7.63	7.14	6.76
Community and Personal Services	11.37	10.89	11.17	11.31	11.68	11.95	12.32	11.98	11.02
<b>TERTIARY</b>	<b>38.90</b>	<b>40.41</b>	<b>41.15</b>	<b>41.45</b>	<b>42.04</b>	<b>42.50</b>	<b>42.98</b>	<b>42.29</b>	<b>41.92</b>
<b>GSDP</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

**Table A3d: Percentage share of different Activities in total GSDP in Central Region of Uttar Pradesh**

<b>Economic Activity</b>	<b>1999-00</b>	<b>2000-01</b>	<b>2001-02</b>	<b>2002-03</b>	<b>2003-04</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>
Agriculture & Animal Husbandry	28.23	28.01	26.68	28.14	25.39	24.77	23.20	22.37	21.81
Forestry & Logging	0.78	0.97	0.98	0.91	0.93	0.90	0.69	0.63	0.59
Fishing	0.28	0.34	0.36	0.36	0.38	0.40	0.33	0.33	0.33
Mining & Quarrying	0.47	0.37	0.29	0.33	0.30	0.35	0.42	0.47	0.32
<b>PRIMARY</b>	<b>29.77</b>	<b>29.68</b>	<b>28.30</b>	<b>29.74</b>	<b>27.00</b>	<b>26.41</b>	<b>24.65</b>	<b>23.80</b>	<b>23.06</b>
Manufacturing	11.99	11.40	11.53	10.42	10.87	11.26	11.57	11.25	10.68
Construction	5.32	5.67	5.91	5.76	5.91	6.01	6.63	8.49	10.01
Electricity, Gas & Water Supply	4.30	4.22	4.15	3.78	3.98	3.88	3.77	3.95	4.18
<b>SECONDARY</b>	<b>21.61</b>	<b>21.28</b>	<b>21.59</b>	<b>19.97</b>	<b>20.76</b>	<b>21.16</b>	<b>21.97</b>	<b>23.70</b>	<b>24.87</b>
Transport, Storage & Communication	7.12	8.39	8.64	8.53	9.50	9.80	10.48	10.68	11.58
Railway	1.67	1.79	1.93	1.84	1.92	1.91	1.96	2.14	2.16
Other means of Transport & Storage	4.46	4.49	4.41	4.18	4.61	4.68	4.94	4.76	4.67
Communication	0.99	2.11	2.31	2.51	2.98	3.21	3.58	3.78	4.75
Trade and Hotel & Restaurant	10.94	10.91	10.95	10.66	10.17	10.09	9.58	9.56	8.87
Transport, Communication & Trade	18.07	19.30	19.59	19.19	19.67	19.89	20.06	20.24	20.45
Banking and Insurance	5.32	5.95	6.25	6.48	6.39	6.47	6.77	6.84	8.66
Real Estate, Ownership of Dwellings and Business Services	7.95	7.67	7.80	7.28	7.50	7.20	7.13	7.03	6.71
Finance and Real Estate	13.28	13.62	14.04	13.76	13.89	13.67	13.90	13.87	15.37
Public Administration	8.27	7.72	7.75	9.31	10.40	10.84	10.68	10.06	8.36
Other Services	9.01	8.39	8.72	8.04	8.29	8.03	8.75	8.33	7.89
Community and Personal Services	17.28	16.12	16.47	17.35	18.68	18.87	19.43	18.39	16.25
<b>TERTIARY</b>	<b>48.62</b>	<b>49.03</b>	<b>50.11</b>	<b>50.30</b>	<b>52.24</b>	<b>52.43</b>	<b>53.38</b>	<b>52.50</b>	<b>52.07</b>
<b>GSDP</b>	<b>100.00</b>	<b>100.00</b>	<b>100.0</b>	<b>100.00</b>	<b>100.0</b>	<b>100.0</b>	<b>100.00</b>	<b>100.0</b>	<b>100.0</b>

**Table A3e: Percentage share of different Activities in total GSDP in Southern Region of Uttar Pradesh**

<b>Economic Activity</b>	<b>1999-00</b>	<b>2000-01</b>	<b>2001-02</b>	<b>2002-03</b>	<b>2003-04</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>
Agriculture & Animal Husbandry	35.27	30.38	33.84	33.40	33.92	33.33	28.82	27.41	22.66
Forestry & Logging	1.09	1.09	1.01	1.03	0.94	0.93	1.00	0.86	0.87
Fishing	2.14	2.33	2.32	2.50	2.48	2.47	2.48	2.41	2.61
Mining & Quarrying	1.89	1.86	1.04	1.77	1.51	1.73	2.17	2.46	1.67
<b>PRIMARY</b>	<b>40.39</b>	<b>35.66</b>	<b>38.20</b>	<b>38.70</b>	<b>38.85</b>	<b>38.46</b>	<b>34.48</b>	<b>33.14</b>	<b>27.81</b>
Manufacturing	7.08	7.53	7.10	6.32	6.09	6.06	6.28	6.24	6.52
Construction	6.36	7.25	6.98	7.00	7.19	7.35	8.75	11.10	14.38
Electricity, Gas & Water Supply	3.38	3.03	2.76	2.65	2.69	2.65	2.65	2.71	3.07
<b>SECONDARY</b>	<b>16.82</b>	<b>17.81</b>	<b>16.85</b>	<b>15.96</b>	<b>15.97</b>	<b>16.06</b>	<b>17.67</b>	<b>20.05</b>	<b>23.97</b>
Transport, Storage & Communication	7.71	9.69	9.35	9.85	10.16	10.64	11.75	11.75	13.54
Railway	3.18	3.80	3.84	3.94	3.84	3.92	4.19	4.48	4.89
Other means of Transport & Storage	3.86	4.32	3.88	4.00	4.21	4.39	4.86	4.48	4.84
Communication	0.67	1.58	1.63	1.90	2.11	2.33	2.70	2.79	3.81
Trade and Hotel & Restaurant	12.59	12.72	12.45	11.94	12.07	11.87	10.92	10.61	9.03
Transport, Communication & Trade	20.30	22.42	21.80	21.79	22.23	22.51	22.67	22.36	22.57
Banking and Insurance	2.34	2.91	2.87	3.20	2.95	3.06	3.33	3.29	4.53
Real Estate, Ownership of Dwellings and Business Services	7.40	7.82	7.42	7.42	7.04	6.83	6.92	6.65	6.76
Finance and Real Estate	9.74	10.73	10.29	10.62	9.99	9.89	10.25	9.95	11.29
Public Administration	4.33	4.75	4.57	4.75	5.03	5.06	5.76	6.07	5.55
Other Services	8.42	8.64	8.29	8.17	7.94	8.02	9.17	8.42	8.82
Community and Personal Services	12.75	13.39	12.86	12.92	12.97	13.07	14.93	14.50	14.37
<b>TERTIARY</b>	<b>42.79</b>	<b>46.54</b>	<b>44.95</b>	<b>45.33</b>	<b>45.18</b>	<b>45.47</b>	<b>47.85</b>	<b>46.80</b>	<b>48.23</b>
<b>GSDP</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

**Table A3f: Percentage share of different Activities in total GSDP in ER of Uttar Pradesh**

<b>Economic Activity</b>	<b>1999-00</b>	<b>2000-01</b>	<b>2001-02</b>	<b>2002-03</b>	<b>2003-04</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>
Agriculture & Animal Husbandry	32.43	30.88	30.54	27.95	29.22	26.61	26.74	24.94	24.94
Forestry & Logging	1.62	1.57	1.58	1.63	1.53	1.59	1.58	1.41	1.33
Fishing	0.51	0.53	0.56	0.62	0.61	0.61	0.64	0.63	0.63
Mining & Quarrying	2.22	2.10	1.95	2.73	2.35	2.42	3.10	2.75	1.72
<b>PRIMARY</b>	<b>36.78</b>	<b>35.08</b>	<b>34.63</b>	<b>32.92</b>	<b>33.71</b>	<b>31.24</b>	<b>32.05</b>	<b>29.73</b>	<b>28.63</b>
Manufacturing	8.91	8.93	8.70	9.67	9.29	9.30	8.95	9.36	9.05
Construction	5.23	5.82	5.89	5.56	5.62	6.15	6.69	8.76	10.62
Electricity, Gas & Water Supply	5.33	5.52	5.37	5.32	5.31	5.54	5.15	5.36	5.65
<b>SECONDARY</b>	<b>19.47</b>	<b>20.27</b>	<b>19.96</b>	<b>20.55</b>	<b>20.22</b>	<b>20.99</b>	<b>20.79</b>	<b>23.48</b>	<b>25.32</b>
Transport, Storage & Communication	6.28	7.80	7.97	8.68	8.95	9.92	10.11	10.23	11.13
Railway	1.79	2.05	2.19	2.31	2.24	2.40	2.37	2.57	2.61
Other means of Transport & Storage	3.73	4.03	3.91	4.12	4.24	4.64	4.67	4.43	4.42
Communication	0.76	1.72	1.87	2.25	2.48	2.88	3.08	3.23	4.10
Trade and Hotel & Restaurant	12.78	11.54	11.91	11.30	11.55	11.10	10.95	10.59	9.91
Transport, Communication & Trade	19.06	19.33	19.88	19.98	20.50	21.03	21.07	20.82	21.04
Banking and Insurance	2.70	3.20	3.33	3.83	3.50	3.83	3.84	3.85	4.93
Real Estate, Ownership of Dwellings and Business Services	7.78	7.79	7.70	7.85	7.37	7.51	6.99	6.83	6.49
Finance and Real Estate	10.48	10.99	11.04	11.68	10.88	11.34	10.82	10.68	11.42
Public Administration	5.59	5.70	5.70	5.82	6.00	6.17	5.78	6.37	5.45
Other Services	8.63	8.63	8.80	9.05	8.71	9.23	9.49	8.92	8.15
Community and Personal Services	14.21	14.33	14.50	14.87	14.70	15.40	15.26	15.29	13.60
<b>TERTIARY</b>	<b>43.75</b>	<b>44.65</b>	<b>45.41</b>	<b>46.53</b>	<b>46.08</b>	<b>47.77</b>	<b>47.15</b>	<b>46.79</b>	<b>46.06</b>
<b>GROSS DISTRICT DOMESTIC PRODUCT</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

**Table A4: Activity-wise CAGR in GSDP in Uttar Pradesh, 1990-2008**

<b>Economic Activity</b>	<b>U.P.</b>	<b>NUGP</b>	<b>SUGP</b>	<b>CR</b>	<b>SR</b>	<b>ER</b>
Agriculture & Allied	1.69	2.19	1.86	2.15	0.40 <sup>ns</sup>	1.08 <sup>ns</sup>
Forestry & Logging	2.41	3.75	2.36	0.43 <sup>ns</sup>	1.58**	2.58
Fishing	6.92	7.06	6.89	6.78	6.28	7.39
Mining & Quarrying	5.88**	6.23**	6.39**	5.70*	7.67**	5.55**
<b>PRIMARY</b>	1.91	2.31	1.93	2.20**	1.20 <sup>ns</sup>	1.59**
Manufacturing	5.14	5.64	4.95	5.07	2.46**	4.90
Construction	12.70	12.83	12.31	13.13	13.65	12.49
Electricity, Gas & Water Supply	4.82	5.06	5.05	4.96	3.10**	4.70
<b>SECONDARY</b>	7.20	7.03	6.95	7.54	7.81	7.33
Transport, Storage & Communication	10.95	10.34	10.76	11.59	10.52	11.19
Railway	8.74	8.74	8.74	8.74	8.74	8.74
Other means of Transport & Storage	6.96	6.87	6.83	7.04	7.24	7.05
Communication	23.21	23.21	23.21	23.21	23.21	23.21
Trade and Hotel & Restaurant	2.80	3.90	2.74	3.09	0.83 <sup>ns</sup>	2.01**
Transport, Communication & Trade	5.99	6.07	5.48	7.08	5.42	5.89
Banking and Insurance	10.35	10.35	10.35	10.35	10.35	10.35
Real Estate, Ownership of Dwellings and Business Services	3.26	4.89	3.01	3.83	2.64	2.18
Finance and Real Estate	5.84	6.80	5.51	6.89	4.99	4.85
Public Administration	6.25	3.82**	5.91	8.71	8.49	5.08
Other Services	4.63	4.37	4.70	4.84	5.00	4.59
Community and Personal Services	5.28	4.20	5.17	6.80	6.30	4.79
<b>TERTIARY</b>	5.75	5.76	5.40	6.95	5.59	5.30
GSDP	4.83	5.05	4.45	5.80	4.49	4.52
Per Capita Income (in Rs.)	2.57	2.82	2.32**	3.29	2.63	2.28**

\*\* p<0.05, \*p<0.10, ns=not significant.

Note: All other values are significant at 1% significance level

**Table A5a: Statistics Related to Commercial Banking in Northern Upper Ganga Plains**

Districts	Northern Upper Ganga Plain							
	Credit Deposit Ratio		No. of scheduled commercial banks per lakh of population		Per Capita Credits		Per Capita Deposits	
	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09
Saharanpur	37.18	72.88	5.0	5.5	1853	7432	4985	10198
Muzaffarnagar	40.17	90.08	5.2	5.2	1879	8752	4676	9716
Bijnor	45.17	81.68	4.3	4.3	1677	6480	3712	7934
Moradabad	39.97	65.90	5.0	5.1	2114	6816	5289	10343
Rampur	56.55	66.02	5.0	5.0	1323	3648	2340	5525
JyotibaPhuleNagar	38.49	65.50	4.2	5.3	1021	4685	2653	7153
Meerut	37.16	55.03	6.5	7.2	3411	12539	9179	22787
Baghpat	21.25	52.23	4.1	4.4	763	4517	3588	8647
Ghaziabad	36.60	55.97	6.5	7.3	4081	19361	11152	34591
G.B.Nagar	21.40	34.10	7.1	13.7	4984	56447	23288	165538

**Table A5b. Statistics Related to Commercial Banking in Southern Upper Ganga Plains**

District	Credit Deposit Ratio		No. of scheduled commercial banks per lakh of population		Per Capita Credits		Per Capita Deposits	
	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09
Bulandshahar	24.12	42.91	4.8	4.7	1031	4224	4274	9844
Aligarh	24.44	45.33	5.1	5.1	1701	5944	6201	13112
Hathras	32.82	72.20	5.2	5.9	1291	6237	3934	8638
Mathura	29.16	50.50	6.4	7.1	1807	7213	6199	14283
Agra	26.87	52.09	6.3	6.5	2486	12728	9271	24437
Firozabad	29.94	60.09	4.0	3.8	1109	4440	3702	7389
Etah	32.04	41.54	4.0	4.2	821	2708	2563	6519
Mainpuri	33.03	40.39	4.6	3.9	970	2646	2917	6552
Badaun	45.66	56.69	3.9	3.5	787	2236	1723	3944
Bareilly	30.17	47.85	5.0	5.3	1407	5197	4665	10861
Pilibhit	42.19	70.83	4.7	4.4	1076	3791	2551	5352
Shahjahanpur	39.89	59.73	4.7	4.5	1211	3751	3036	6279
Kheri	47.67	62.00	4.0	3.9	1099	3190	2306	5145
Farrukhabad	30.63	36.91	4.8	4.7	1116	3014	3645	8165
Kannauj	33.52	56.09	4.3	3.9	877	3249	2615	5793
Etawah	22.37	38.13	4.6	4.8	816	3717	3647	9747
Auraiya	16.55	28.94	4.2	4.4	419	1654	2535	5717

**Table A5c: Statistics Related to Commercial Banking, in Central Region**

District	Credit Deposit Ratio		No. of scheduled commercial banks per lakh of population		Per Capita Credits		Per Capita Deposits	
	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09
Sitapur	26.32	46.31	4.4	4.2	617	2255	2344	4869
Hardoi	28.80	48.35	3.8	3.7	614	2448	2132	5064
Unnao	18.15	31.88	4.2	3.9	594	2315	3274	7262
Lucknow	32.99	41.71	8.1	11.1	8768	37406	26580	89682
RaeBareli	19.11	32.45	4.6	4.7	626	2491	3277	7676
KanpurDehat	30.45	43.46	7.6	7.5	1098	3797	3607	8736
KanpurNagar	33.02	49.00	7.7	7.6	5029	17480	15231	35670
Fatehpur	20.14	30.99	4.6	4.0	523	1848	2598	5964
Barabanki	30.90	50.90	5.0	5.0	858	3381	2775	6643

**Table A5d: Statistics Related to Commercial Banking in Southern Region**

District	Credit Deposit Ratio		No. of scheduled commercial banks per lakh of population		Per Capita Credits		Per Capita Deposits	
	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09
Jalaun	28.28	58.49	5.6	5.4	887	4509	3138	7708
Jhansi	24.93	35.60	5.6	6.4	1633	6106	6550	17150
Lalitpur	31.98	60.41	4.5	4.1	762	3580	2383	5926
Hamirpur	36.01	67.13	5.4	5.1	814	4217	2260	6281
Mahoba	29.82	65.75	4.8	4.6	737	4461	2471	6785
Banda	34.20	48.26	5.5	5.2	727	3255	2126	6746
Chitrakoot	32.26	43.35	4.9	4.5	676	2342	2094	5403



**Table A5e: Statistics related to Commercial Banking in Eastern Region**

District	Credit Deposit Ratio		No .of scheduled commercial bank per lakh of population		Per Capita Credits		Per Capita Deposits	
	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09
Pratapgarh	16.97	19.91	4.8	4.4	587	1512	3457	7594
Kaushambi	22.53	25.55	3.7	3.8	430	1262	1910	4938
Allahabad	18.31	24.21	5.0	5.2	1420	4213	7756	17400
Faizabad	22.36	29.19	4.1	4.2	1006	2886	4499	9885
Ambedkar Nagar	22.61	31.41	3.7	3.4	611	1757	2703	5596
Sultanpur	23.07	29.86	4.5	4.3	939	2190	4068	7332
Bahraich	34.44	49.73	4.2	3.9	688	2588	1999	5204
Shrawasti	30.50	48.07	4.5	4.2	447	2091	1464	4350
Balrampur	24.75	27.17	4.0	4.0	661	1810	2670	6661
Gonda	22.63	31.08	3.9	4.1	660	2173	2915	6992
Siddharth Nagar	23.76	28.24	4.0	3.6	495	1479	2083	5236
Basti	33.56	28.68	4.3	4.1	1058	2130	3153	7426
Sant Kabir Nagar	20.90	22.97	3.8	3.8	460	1293	2201	5631
Mahrajganj	28.69	35.04	3.6	3.2	609	1606	2123	4583
Gorakhpur	23.75	30.43	4.8	5.1	1551	5488	6531	18032
Kushinagar	30.96	29.36	3.3	3.1	718	1586	2319	5401
Deoria	18.81	22.54	3.9	3.7	751	1835	3991	8142
Azamgarh	12.40	20.14	4.5	4.4	531	1769	4281	8783
Mau	12.02	17.56	4.2	3.9	500	1495	4156	8514
Ballia	14.17	21.84	5.1	4.6	649	2068	4580	9465
Jaunpur	16.61	17.63	4.6	4.3	752	1639	4527	9297
Ghazipur	13.52	21.51	4.8	4.6	593	1945	4386	9046
Chandauli	22.99	27.38	3.4	3.5	741	1788	3222	6530
Varanasi	26.75	27.45	6.4	6.8	2993	7808	11195	28449
Sant Ravidas Nagar	51.36	40.98	4.1	3.7	2982	3971	5805	9691
Mirzapur	35.98	31.59	4.5	4.3	1339	2438	3722	7717
Sonbhadra	26.46	19.39	4.5	4.0	1342	2564	5073	13227

**Table A6a: Statistics related to Cooperatives, in Northern Upper Ganga Plains**

District	No. of cooperative agricultural marketing centres per lakh of population		No. of cooperative marketing societies per lakh of population		No. of primary agricultural credit societies per lakh of rural population		No. of joint agricultural cooperative societies per lakh of population	
	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09
Saharanpur	1.36	1.29	0.24	0.15	3.72	4.94	1.33	0.83
Muzaffarnagar	0.95	0.79	0.11	0.10	2.71	3.64	0.98	0.07
Bijnor	1.85	0.93	0.12	0.11	3.06	4.14	1.94	0.98
Moradabad	2.82	2.24	0.16	0.09	2.42	3.87	1.06	0.35
Rampur	5.98	2.48	0.15	0.13	3.32	4.45	3.32	2.88
Jyotiba Phule Nagar	1.86	1.63	0.00	0.13	3.60	3.98	1.73	1.57
Meerut	1.23	0.35	0.23	0.12	3.89	5.36	1.06	0.06
Baghpat	-	0.08	0.17	0.16	3.85	3.85	-	0.08
Ghaziabad	0.03	0.26	0.12	0.07	1.91	4.14	0.39	-
G.B.Nagar	2.93	1.46	0.25	0.20	3.27	4.51	2.10	1.86

**Table A6b: Statistics related to Cooperatives, Southern Upper Ganga Plains**

District	No. of cooperative agricultural marketing centres per lakh of population		No. of cooperative marketing societies per lakh of population		No. of primary agricultural credit societies per lakh of rural population		No. of joint agricultural cooperative societies per lakh of population	
	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09
Bulandshahr	3.79	3.37	0.37	0.28	4.96	6.67	1.33	-
Aligarh	2.50	1.24	0.23	0.14	3.41	5.31	0.90	0.08
Hathras	3.14	2.38	0.23	0.22	6.97	7.68	-	-
Mathura	2.56	1.21	0.19	0.17	3.72	5.31	1.11	-
Agra	0.80	0.56	0.13	0.09	2.85	5.01	0.80	0.63
Firozabad	1.46	1.01	0.10	0.08	3.91	5.62	0.44	0.40
Etah	3.90	3.47	0.17	0.16	3.72	4.43	0.57	0.03
Mainpuri	3.76	2.51	0.25	0.17	3.76	4.48	1.44	0.50
Badaun	6.32	3.95	0.13	0.11	5.27	6.45	0.19	0.03
Bareilly	2.97	1.72	0.08	0.07	3.94	5.85	0.91	0.60
Pilibhit	9.61	5.08	0.30	0.16	4.31	5.63	2.37	1.50
Shahjahanpur	6.19	4.44	0.16	0.13	4.54	5.64	1.56	0.07
Kheri	3.65	3.95	0.21	0.18	4.03	4.55	1.06	0.52
Farrukhabad	4.18	3.68	0.31	0.22	4.43	5.66	1.26	0.17
Kannauj	2.95	3.04	0.28	0.19	3.46	4.17	1.01	0.97
Etawah	3.43	3.84	0.29	0.20	4.47	5.82	1.11	0.13
Auraiya	5.08	3.85	0.25	0.31	6.69	7.82	0.17	0.08

**Table A6c: Statistics related to Cooperatives in Central Region**

District	No. of cooperative agricultural marketing centres per lakh of population		No. of cooperative marketing societies per lakh of population		No. of primary agricultural credit societies per lakh of rural population		No. of joint agricultural cooperative societies per lakh of population	
	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09
Sitapur	1.79	1.40	0.13	0.12	5.64	6.41	0.80	0.57
Hardoi	2.64	1.49	0.11	0.13	5.76	6.55	0.73	0.52
Unnao	1.70	0.91	0.11	0.07	6.62	7.82	0.77	0.42
Lucknow	0.76	0.56	0.05	0.04	2.58	7.62	0.07	1.44
RaeBareli	2.15	1.59	0.13	0.15	6.44	7.12	0.73	0.64
KanpurDehat	4.41	2.35	0.37	0.17	6.12	6.70	1.57	1.29
KanpurNagar	0.72	0.68	0.02	0.08	2.17	6.59	0.07	0.02
Fatehpur	2.81	1.12	0.17	0.15	4.98	5.56	1.21	1.00
Barabanki	1.75	1.91	0.07	0.06	5.72	6.31	0.63	0.45

**Table A6d. Statistics related to Cooperatives in Southern Region**

District	Southern Region							
	No. of cooperative agricultural marketing centres per lakh of population		No. of cooperative marketing societies per lakh of population		No. of primary agricultural credit societies per lakh of rural population		No. of joint agricultural cooperative societies per lakh of population	
	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09
Jalaun	1.78	2.16	0.41	0.37	14.35	6.10	1.09	0.99
Jhansi	1.31	0.81	0.34	0.30	3.37	5.73	1.71	1.52
Lalitpur	1.84	2.07	0.20	0.17	4.19	4.91	2.04	1.38
Hamirpur	1.34	0.87	0.67	0.35	4.70	5.41	1.05	–
Mahoba	0.84	1.00	0.42	0.37	5.50	7.58	–	–
Banda	0.93	0.78	0.26	0.18	3.19	3.74	1.59	0.36
Chitrakoot	1.24	1.34	0.12	0.10	4.99	5.66	2.87	1.85

**Table A6e. Statistics related to Cooperatives in Eastern Region**

District	No. of cooperative agricultural marketing centres per lakh of population		No. of cooperative marketing societies per lakh of population		No. of primary agricultural credit societies per lakh of rural population		No. of joint agricultural cooperative societies per lakh of population	
	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09
Pratapgarh	1.17	1.61	0.11	0.10	6.38	6.74	0.73	0.64
Kaushambi	0.23	1.31	0.15	0.15	5.94	5.32	–	–
Allahabad	0.97	0.73	0.14	0.10	3.92	5.56	0.60	0.51
Faizabad	1.91	1.83	0.14	0.04	3.78	4.37	0.67	0.17
Ambedkar Nagar	2.07	2.77	0.10	0.09	5.23	5.74	0.25	0.13
Sultanpur	0.75	0.79	0.06	0.05	5.79	6.09	0.37	0.11
Bahraich	2.68	2.20	0.16	0.14	6.50	5.13	0.83	–
Shrawasti	1.44	1.68	0.09	–	4.99	3.94	–	–
Balrampur	1.24	1.72	0.18	0.16	4.00	4.00	0.18	0.16
Gonda	2.09	2.13	0.21	0.09	8.20	6.46	0.68	0.50
Siddharth Nagar	1.86	2.37	0.20	0.17	6.22	6.47	0.15	0.08
Basti	3.19	2.07	0.24	0.04	5.22	5.94	0.87	0.17
Sant Kabir Nagar	3.22	3.47	–	0.06	5.82	6.28	–	–
Mahrajganj	4.70	4.49	0.14	0.16	4.43	4.67	–	–
Gorakhpur	2.72	2.55	0.18	0.12	5.04	6.27	0.44	0.35
Kushinagar	3.07	1.38	0.21	0.18	4.97	5.22	–	0.09
Deoria	3.58	4.10	0.14	0.29	6.81	7.56	0.76	0.67
Azamgarh	0.98	0.99	0.02	0.13	7.03	6.90	0.58	0.02
Mau	2.16	2.95	0.21	0.23	5.67	6.17	0.70	0.60
Ballia	1.67	1.26	0.18	0.16	5.99	6.65	1.08	0.87
Jaunpur	1.20	0.97	0.12	0.11	5.31	6.27	0.84	0.74
Ghazipur	0.85	1.24	0.13	0.20	5.96	6.46	0.95	0.34
Chandauli	1.15	2.90	0.06	0.16	5.06	5.65	–	0.52
Varanasi	0.69	0.41	0.19	0.11	2.98	5.00	1.20	0.66
Sant Ravidas Nagar	0.66	0.70	0.07	0.06	3.84	4.41	0.07	–
Mirzapur	1.60	1.70	0.23	0.12	4.11	4.70	1.51	0.85
Sonbhadra	1.02	1.45	0.14	0.11	4.16	5.39	–	0.11

**Table A7a. Statistics related to Rural Development in Northern Upper Ganga Plain**

District	No .of cooperative agricultural and rural development banks per lakh population		No. of cooperative cold storages pert housandsq.km. area		No of Cooperative processing plants per lakh of population		No .of agricultural marketing centres per lakh hect. NSA	
	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09
Saharanpur	0.21	0.18	–	–	0.07	0.09	14.26	15.27
Muzaffarnagar	0.19	0.17	0.25	0.25	–	–	10.41	9.79
Bijnor	1.94	0.22	–	–	–	0.03	17.15	10.22
Moradabad	0.13	0.13	0.78	0.54	–	–	33.20	32.33
Rampur	0.31	0.27	–	0.42	0.10	0.09	59.92	28.98
JyotibaPhuleNagar	0.26	0.25	0.46	0.44	–	–	16.36	15.10
Meerut	0.13	0.12	0.17	1.16	–	–	11.83	6.03
Baghpat	0.17	0.16	–	–	–	–	..	0.91
Ghaziabad	0.15	0.12	0.50	0.87	–	0.02	20.25	7.64
G.B.Nagar	0.08	0.13	–	–	–	–	12.80	26.78

**Table A7b. Statistics related to Rural Development in Southern Upper Ganga Plains**

District	No .of cooperative agricultural and rural development banks per lakh population		No. of cooperative cold storages pert housandsq.km. area		No of Cooperative processing plants per lakh of population		No .of agricultural marketing centres per lakh hect. NSA	
	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09
Bulandshahr	0.23	0.22	0.87	0.69	0.03	0.03	38.74	36.63
Aligarh	0.23	0.20	1.08	0.82	0.03	—	24.98	14.56
Hathras	0.29	0.30	—	0.54	—	0.07	28.84	21.60
Mathura	0.28	0.25	0.30	0.30	—	0.04	19.68	10.75
Agra	0.22	0.21	—	—	—	—	10.05	8.50
Firozabad	0.14	0.24	—	—	—	—	17.05	13.81
Etah	0.25	0.31	0.67	0.67	—	0.06	33.80	33.71
Mainpuri	0.25	0.28	0.73	0.72	—	0.11	32.28	24.66
Badaun	0.32	0.28	0.39	0.19	0.03	0.14	46.86	33.57
Bareilly	0.25	0.24	0.24	0.24	0.03	0.10	32.42	22.01
Pilibhit	0.24	0.31	0.57	0.57	0.12	0.16	70.88	41.00
Shahjahanpur	0.39	0.37	0.22	0.22	0.04	0.03	43.43	38.00
Kheri	0.21	0.23	0.26	0.26	—	0.05	24.29	31.33
Farrukhabad	0.19	0.22	2.33	1.83	—	0.11	39.99	44.41
Kannauj	0.21	0.19	—	0.48	—	0.13	28.23	32.73
Etawah	0.29	0.27	1.31	1.30	0.07	0.07	31.27	39.10
Auraiya	0.16	0.15	—	—	—	—	42.46	34.67

**Table A7c: Statistics related to Rural Development in Central Region**

District	No. of cooperative agricultural and rural dev. banks per lakh population		No. of cooperative cold storages pert housandsq.km. area		No of Cooperative processing plants per lakh of population		No .of agricultural marketing centres per lakh hect. NSA	
	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09
Sitapur	0.22	0.21	0.17	0.17	–	0.02	15.07	13.41
Hardoi	0.17	0.18	0.33	0.33	–	0.08	21.04	13.38
Unnao	0.18	0.16	0.22	0.22	–	0.07	15.41	9.19
Lucknow	0.10	0.09	–	–	–	–	19.69	17.90
RaeBareli	0.24	0.21	0.43	0.43	0.03	0.06	21.26	19.37
KanpurDehat	0.25	0.22	0.32	0.33	0.06	0.11	32.52	18.79
KanpurNagar	0.09	0.08	–	–	0.02	0.02	15.54	17.83
Fatehpur	0.17	0.15	0.48	0.48	0.13	0.19	22.16	10.04
Barabanki	0.22	0.19	0.51	0.45	–	–	18.58	23.19

**Table A7d. Statistics related to Rural Development in Southern Region**

District	No. of cooperative agri. and rural dev. banks per lakh pop.		No. of cooperative cold storages pert housandsq.km. area		No of Cooperative processing plants per lakh of population		No .of agricultural marketing centres per lakh hect. NSA	
	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09
Jalaun	0.27	0.25	–	–	0.14	0.19	7.54	11.02
Jhansi	0.22	0.20	–	–	0.06	0.05	6.97	5.27
Lalitpur	0.30	0.26	–	–	–	–	7.11	9.42
Hamirpur	0.28	0.26	–	–	0.10	0.09	4.31	3.89
Mahoba	0.28	0.25	–	–	–	–	2.75	4.28
Banda	0.19	0.18	–	–	–	–	4.12	3.87
Chitrakoot	0.12	0.10	–	–	–	–	5.74	7.59

**Table A7e: Statistics related to Rural Development in Eastern Region**

District	No .of cooperative agricultural and rural development banks per lakh population		No. of cooperative cold storages per thousandsq.km. area		No of Cooperative processing plants per lakh of population		No .of agricultural marketing centres per lakh hect. NSA	
	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09	2000-01	2008-09
Pratapgarh	0.18	0.16	0.81	0.81	_	_	14.47	22.95
Kaushambi	0.15	0.22	_	0.56	_	0.07	2.40	13.43
Allahabad	0.14	0.10	3.84	1.09	0.02	_	13.01	13.68
Faizabad	0.09	0.08	1.20	1.28	_	0.04	23.12	25.82
Ambedkar Nagar	0.14	0.13	0.40	0.43	_	_	25.06	39.48
Sultanpur	0.15	0.14	0.23	0.23	0.06	0.05	8.33	10.02
Bahraich	0.12	0.11	_	_	0.08	0.07	22.67	19.01
Shrawasti	0.08	0.07	_	_	_	0.07	9.94	17.08
Balrampur	0.17	0.16	_	_	_	0.05	10.46	15.52
Gonda	0.18	0.19	_	_	0.04	0.03	20.59	23.26
Siddharth Nagar	0.14	0.13	_	_	_	_	15.33	23.31
Basti	0.09	0.08	0.72	0.74	0.05	0.08	31.73	23.43
Sant Kabir Nagar	0.07	0.06	_	_	_	_	35.34	46.17
Mahrajganj	0.13	0.16	_	_	_	_	50.05	56.86
Gorakhpur	0.10	0.09	_	_	0.08	0.07	39.45	44.23
Kushinagar	0.10	0.09	_	_	_	_	39.96	20.90
Deoria	0.10	0.10	0.78	0.79	0.04	0.03	48.95	67.28
Azamgarh	0.17	0.15	1.18	0.49	_	_	12.86	14.86
Mau	0.16	0.14	_	1.75	0.05	0.09	31.02	51.08
Ballia	0.14	0.13	0.34	0.34	0.04	0.10	20.94	17.43
Jaunpur	0.12	0.11	0.99	0.99	_	0.07	16.13	15.41
Ghazipur	0.13	0.11	1.18	1.18	0.06	0.11	9.87	17.27
Chandauli	0.12	0.10	_	_	_	0.10	13.76	41.30
Varanasi	0.06	0.06	0.39	1.30	0.03	_	19.14	15.67
Sant Ravidas Nagar	0.07	0.06	_	_	_	_	12.77	16.29
Mirzapur	0.09	0.12	0.44	0.44	_	0.04	15.62	21.95
Sonbhadra	0.13	0.11	_	_	_	_	7.78	18.73