

**DISPARITY IN THE LEVELS OF
SOCIO-ECONOMIC DEVELOPMENT
IN THE NATIONAL CAPITAL REGION**

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MASTER OF PHILOSOPHY

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Dedicated

To

God

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Chapter –1
Introduction

CHAPTER – 1

INTRODUCTION

1.1 Statement of the Problem

Post-independence India has been witnessing a massive increase in urban population, of the 1028 million people in India in 2001; about 286 million are now living in urban areas. The net addition to the urban population during 1991-2001 has been 68 million. This addition in a decade is higher than the population of any country in Europe except Russian Federation and Germany, or any country in Africa except Nigeria and Egypt.

The urban population of the country now stands at 27.8 percent as compared to 26.1 percent at the time of the 1991 census. The decadal urban growth rate has declined successively in the last two decades for various reasons. It declined from 46.1 percent in 1971-81 to 37.5 percent in 1981-91 and 31.5 percent in 1991-2001¹The urban population of India was 25.9 million in 1901-just 10.8 percent of the total population. It increased to 286.1 million in 2001,accounting for 27.8 percent of the country population. The change in the total and urban population over this period is the result of the various historical, economic and demographic factors-famines, epidemics, industrial growth, country's partition into India and Pakistan in 1947, and the decline in crude death rate especially since the beginning of the planning process in the country, more so in the urban areas.

According to experts the urbanization levels would stabilize at around 50 percent between 2011 and 2020 by which time there will be at least three mega cities of over 20 million population.² Looking at the present grim status of infrastructure in cities generally and metropolitan ones particularly, such a massive increase would create catastrophic conditions calling for massive public investment in physical and social infrastructure including shelter, even if basic minimum standards of quality of life were to be maintained. Mobilization of such huge resources seems to be impossible, apart from encountering the unmanageable implications of such massive concentrations.

¹ Premi, K.M(2006), India's urbanization and its Future Implications, Man and Development

² R.C Gupta(1999),Environment and Infrastructural sustainability:Major Challenges facing Indian Metropolitan cities,Spatio-Economic Development Record.

This would call for a radical departure from present day monocentric urban development related policies to a firmly rooted regional development approach, enabling a poly-nodal urban pattern for the balanced development at large, made possible through a multi-pronged policy of metropolitan and large cities containment and acceleration development of small and medium sized secondary cities, in a bid to imbibe sustainability in urban development programmes.

Generally speaking, in developing countries context particularly, 'Sustainability' appears to have a negative correlation with size scale and intensity of urban development programmes. This is amply borne out in respect of large cities and metropolises, by the increasing environmental and ecological disorders, housing and infrastructure shortages, traffic and transportation problems, socio-economic dichotomies and their implications on socio-cultural environments, proliferations of slums and squatter settlements and informal sector, and overall unmanageability of the urban metropolitan functions. The net result is the deterioration in the overall quality of life and bio-physical, socio-economic and spatio-physical aspects of sustainability.

It is now universally recognized that as cities explode into metropolitan giants, the traditional economic argument that they concentrate labour and resources resulting in increased productivity, sustaining the increasing population, is no longer true. Environmental degradation, resources depletion, shrinking availability of land and acute shortages, particularly water and power, and an eroding quality of life seem to have stretched them to breaking point, rendering such form of development environmentally and infrastructurally unsustainable both in short and long run.

³ As a result of this, a large number of developing countries mega-cities have adopted spatial strategies designed to promote a polycentric structure as a means of slowing down the growth of the metropolitan region.

In Bombay, for example, planners have attempted to promote an ambitious second metropolitan region across Thane Creek, in New Bombay. In two other, mega cities in India, Calcutta and Madras, ambitious decentralization strategies have failed to take

³ Brennan, Ellen (1995), Mega-city management and innovation strategies: Regional views, Mega-city and the future, edited by Fuchs, J Roland, Brennan, E, Chamie, J, Chen Lo, Fu and Uitto, I. Juha, United Nations University Press, 1995

into account the very slow growth of these metropolitan areas and the very fact that economic stagnation does not create the right climate for effective and efficient decentralization. Delhi has experienced difficulties in implementing its decentralization programme of 18 growth centers including 6 ring towns.

The NCT- Delhi, which had recorded an extra – ordinary growth during 1941-1951, practically doubling its population with lakhs of immigrants thronging to Delhi to take refuge aftermath of the partition of the country. From a settlement of 0.7 million in 1947, its population increased to 13.8 million in 2001, at a growth rate around 4.6 percent (1991-2001). Delhi is emerging as one of the largest cities of the world. As a result, there is a phenomenal pressure on land, housing, transportation network and services. In order to restrict the growth of Delhi, National Capital Region (NCR), has been delineated so that the surrounding regions could be developed and help in lessening the pressure on the city. But ⁴⁴the phenomenon of disparity can be observed in case of Metropolitan region and the hinterland. While the city keeps on growing, the surrounding regions lag behind putting tremendous pressure on the city and later leading congestion and unplanned growth.

The vast hinterland of NCR, which lies mostly outside the Delhi Metropolitan Area (DMA) [now central National Capital Region (CNCR)], continues to experience a very slow state of economic development even while the case sub-region of NCT-Delhi is witnessing a phenomenal surge of physical and economic growth. Moreover, it has been observed that regions lying close to the city are comparatively more developed than those away from it.

The basic objective of the study will be thus to find out what are the levels of development in the National Capital Region and has the disparity (in context of the socio-economic parameters), increased or decreased over the decade 1991-2001. It will try to see whether there is disparity between the various class size of towns in the National Capital Region and how has been the pattern of growth in these towns over the decade. The pattern of growth of the towns will be beneficial in understanding whether the settlements near Delhi are having high population growth or not.

⁴ Regional Plan — 2021, National Capital Region, National Capital Region Planning Board , Ministry of Urban Development, Government of India, 2005.

1.2 Review of Literature

The basic objective of the study will be thus to find out what are the levels of development in the National Capital Region and has the inequalities and disparities time in relation with the socio-economic parameters, increased or decreased over the decade 1991-2001. In this section an attempt has been made to review the available literature from various sources. These have been arranged thematically as those pertaining to (i) Housing Amenities (ii) Sex-Ratio(0-6) (iii) Work Participation Rate (iv) Literacy

1.2.1 Housing Amenities

Shah Farida and Jaishwal Rashmi (2002), provides a brief account related status of housing and related amenities in Rajasthan and reveals that housing sector isn't developed in Rajasthan due to poor agricultural performance, except in few districts and low industrial developments. The housing amenities are also not satisfactory. The conditions are were in less developed districts like Banswara, Durgapur revealing that regional disparities in housing sector are very sharp, urban-rural disparity is also very high.

Kaundu Amitabh, Bagchi Soumen and Kundu Debolina (1999) discussed a state and class wise analysis of the level of urban basic amenities extremely high in the nineties. They observe that socio-cultural factors also affect the amenities being availed by the population. The percentage of household having flush toilets would exhibit the strongest relationship and positive association between per capita income and level of the amenities. The average level of amenities are reasonably satisfactory in the developed states in all the size classes, although the metropolitan and class I cities have an edge over the others. In the backward states, however, the level of amenities in larger towns is high, while the smaller towns exhibit a very high level of deficiency and deprivation. The government has not exhibited sensitivity in favor of backward states, small and medium towns and the poor.

Nayar (1997) says that an examination of data from 10 states in India indicates a definite contribution of housing conditions, including sanitary facilities and in health improvement. This is evident from better housing conditions in Kerala and Goa an extremely poor housing conditions in Orissa and Madhya Pradesh. However, data on type of housing support the contention that housing alone doesn't beget good health.

Tiwari, and Parikh (1999) suggested that owners spend more on housing than renters at given income levels, but fees owners expenditure on housing is also an investment. He also examined that most policy documents in India emphasize the importance of housing. Despite this, no concerted effort has been made to estimate housing demand in India. In fact, non-availability and intractability of the minimum necessary data required to undertake a meaningful study in this field account for the lack of work on the estimation of elasticities of demand for housing in India, the housing demand functions as well as the price and income elasticities of housing demand for urban India.

Katakey, N and Sharma (2002) discussed that housing patterns have changed considerably with time reflecting a changing density of population, households and life styles. Inter-district migration as well as a steady influx of non-indigenous population have added a new dimension to the socio-economic aspect of housing in urban Jorhat. Inadequate civic amenities like good roads; sewage etc, with growing population has been noticed.

Sivashanmugam(1987) opines that though housing is a primary need but still majority of the population cannot afford even basic housing on their own and they have to depend on external assistance. The vast competition from the sectors like agriculture, industry and defense prevents sufficient budget allocation as a result of which a large part of our population are either un-housed or under-housed.

Nangia and Thorat (2002) examines the quality of people (slum in the Metropolis South Delhi) examines the quality of people in terms of their socio-economic status; on the other hand they highlight the deficiencies of the living environment, in terms of basic infrastructure facilities and housing conditions. With the growing urbanization of Delhi, there has been a simultaneous expansion of slums as well the number of such settlements has expanded by nearly twenty times between 1951 and 1991.

Dietrich(1963) states that some studies have also placed emphasis on the amenities which should be provided to all the housed in a city. Water supply is a very critical problem in most of the developing countries. According to WHO survey of 75 developing countries in 1962, only 32 per cent of the urban population in these countries and less than 10 per cent of the total population were supplied with piped

water was available and here too, the service was often intermittent, lasting only a few hours each day and regulated by very simple technical and health standards without suitable supervision of water quality. About 41 per cent of the urban population and probably 70 per cent of the total population had no access to piped water within reasonable distances. Such people rely for drinking water on wells, rivers and other sources that are open to contamination.

Singh(1972) in his work on Kanpur, examines the various factors of slum growth and he also analyze various categories of slum and their associated problems. The common problems that he identifies include overcrowding, congestion poor sanitary conditions and consequently deteriorating living conditions.

1.2.2 Sex-Ratio(0-6) or Juvenile Sex-Ratio

Krishnamoorthy. S(2003), points that sex selective abortion is prevalent among women off all levels of education and the incidence increases with rising level of education. Further, the incidence of sex selective abortion is high among women enjoying high standard of life. This suggests an undesirable rising trend in sex selective abortions in the future. As the younger generation of women is better educated and the economy is improving providing better standard of living to people in the country, there is a possibility that the past declining trend in sex selective abortion may soon revert and an increasing trend in sex selective abortion may set. Further research and programme interventions are badly needed to counter this possible rise in sex-selective abortions without affecting rate of improving in women's education and standard of living. Greater attention has to be paid to Punjab, Haryana, Delhi, Rajasthan, Uttar Pradesh, Arunachal Pradesh and Meghalaya where the incidence of sex-selective abortions is particularly high.

Siddhanta.S, Nandy.D and Agnihotri B.S(2003) state that the association between sex-ratio and prosperity has been a subject of some debate. On the one hand there is the prosperity optimism that prosperity may improve women's lot within the household and the society; you do not need to discriminate if there is enough for everyone. On the other hand there is the stark reality of many regressive practices associated with prosperity.

Arnold.F, Kishor.S and Roy..T.K(2002), stated in their study that the census 2001 of India showed an unexpectedly high and growing sex-ratio of young children, has

sparked concern about the widespread use of ultrasound and amniocentesis, followed by sex-selective abortions. However, there is a critical need to go beyond the census result to establish both the magnitude and the nature of the problem. As the information available from NFHS-2 on sex ratios at birth, abortions, the use of ultrasound and amniocentesis and the degree of son preference in India presents a consistent and compelling picture of widespread use of sex-selective abortions based on the outcome of sex-determination testes in India in recent years. Situation will not improve unless basic changes take place in the underlying conditions that promote sex-selective abortions in India-conditions such as a strong and persistent preference for sons, the generally low status of women, wide spread expectations of large dowry payments at the time of marriage and considerable acceptance of practice of sex-selective abortion.

Das Gupta (1987) looking at family life in Punjab, reports that discrimination against girls is not general, but closely related to individual family building strategies. Using data from 11 villages in Ludhiana district, Das Gupta points out that excess female mortality is seen in girls who are born to a woman who already has one or more surviving daughters. The educational attainment of mothers is an important effect modifier, such that mortality of daughters is 50 percent higher if mothers have no education (relative to mothers with some education). Among women who already have one or more surviving daughters, land holding size makes no difference to female child mortality. He suggests that state policies or propaganda campaigns providing women the right to hold property may be a primary way to, redress the high female mortality. The flow of resources is unidirectional from the woman's father to the man; a man inherits property and the wealth acquired from his wife's parents. These practices strongly reinforce son preference.

Das Gupta also reports a gender differential in the allocation of food, clothing and medical care to children, especially during the first two years of life; people who owned land seemed to discriminate less in terms of food allocation and health care expenditure than the landless.

Kumar.G. (1989) also emphasizes the importance of exploring the influence of women's political and economic power to regional variation in sex ratios. Reporting that excess female mortality in Kerala does not decrease with increases in life expectancy, Kumar emphasizes that sex differentials stem from factors other than

overall level of well being. In particular, Kumar argues that Kerala disturbs some of the convenient North-South topology described by others; existing theories are not easily applicable to the case of Kerala. It is the only state in India that has historically shown an absence of sex bias. Kumar dismisses arguments that attribute this positive sex ratio to male emigration; Kerala has shown this positive sex ratio consistently over the past century. Relative to other regions of India, Kerala also has other characteristics that suggest better gender equity: it has generally had the lowest fertility rates, the highest level of female literacy, a high age at marriage and fairly good receptivity to contraception. Kumar points to the preponderance of matrilineal inheritance as a possible explanatory reason for both the positive sex ratio and the greater gender equity that set Kerala apart.

1.2.3 Work Participation

Harish(1991) focuses attention on the analysis of patterns of women participation in economic activity in relation to their occupational structure and educational attainment. She concludes that the variation in female participation rates vests on non-economic factors in urban areas. The generally held view that presence of scheduled component of population would influence the female participation rate holds true in few regions(rural/urban)which strength the belief that scheduled communities do not behave in total vacuum.

Lebra(1984) points that Indian statistics on female work force nevertheless reflect a low rate and further more declining rate of economic participation. Moreover, of those women who are gainfully employed, the great majority works in the unorganized sector means working without legal protection, without job security and for low wages. Lack of training and literacy programs for woman remain a significant obstacle to improvement.

Moser(1993) states that majority of low-income women dominated by the necessity to generate an income ,one fundamental problem faced is the lack of adequate skills. The provision of training, therefore, meets an important practical gender need allowing access to employment. How far, it reaches more strategic gender needs depends upon not only on whether it increases women economic independence but also on the type of the training. The training of women in areas traditionally identified

as men's work may not only widen employment opportunities for women, but may also break the existing occupational segregation.

Kundu(1997) states that increase in the workforce participation of women cannot by itself be taken as the objective of development strategy without considering the pattern of employment ,nature of job ,duration and work conditions. One can make a definite assessment of the socio-political impact of the strategy –say the new economic policy – on the welfare of women, only when its impact on these characteristics of the workforce are analyzed in detail.

Further, in urban areas ,the socio-cultural prejudices against female employment are expected to be less strong ,due to higher rate of literacy, industrialization, modernization etc. Surprisingly, however, the male- female gap in workforce participation here is larger than that in rural areas.

1.2.4 Literacy rate

Balachandirane.G(2003),points that clear correlation between literacy levels and gross national product(GNP) per capita have also been established. Not a single country has been able to achieve significant growth in the last century without first attaining an enrolment from 10 per cent at the primary level. When literacy levels increased from 20 to 30 per cent, real gross domestic product (GDP) levels rose by 8 to 16 percent for number of countries.

The inequalities between men and woman extend from the gaining of literacy to access to school and to prospects for completing school. In Asia, Women are 60 per cent more likely than men to be illiterate. He further says that the gender gap in literacy in India is largely due to the differentials in enrolment and retention rates for boys and girls.

Ghose ,M.(2002) discusses that the findings of the census 2001 announced the increase in female literacy rates and the fact that female literacy rates were rising faster than male, this was widely highlighted as an indicator of an improvement in women's status.

Azim,S.(2005) discusses that literacy is an important indicator of socio-economic and cultural development .It is regarded as means and an end of development and has instrumental as well as intrinsic significance in the dynamic process of development. In fact, literacy is the foundation of all the other developmental processes. Literacy

has several valuable features for the enlistment of the society, community and people at large. He observed the gender gap in the various districts of Karnataka and concluded that girl child should get special incentives to improve educational status.

Parikh,K.S(2002) states literacy is first step to empowerment and that even after fifty years of Independence a large number of Indians are illiterate. In fact, with a literacy rate of 65, we have 296 million illiterates, as per census 2001. An illiterate person cannot participate in the new, knowledge –based society driven by information technology. Her/his exclusion will be total. The digital divide between literates and illiterate should not become a deep chasm What is even more disturbing is that for women the situation is worse than that for men and in some states most depressingly so.

Haldipur,K(1997) while discussing women literacy discussed that there are social hurdle like the purdah system and caste consciousness. Apart from this generally classes for women under the literacy programmes are held at night to enable working people to attend. Psychologically, it is a time ,when it is difficult to hold the attention especially of women. Their minds wander to their various chores which they have left unfinished .The men folk also get disturbed at a woman remaining out of the house after dark. Hence, it much better to change the time to afternoons. And literacy should form a part of the total whole of the basic needs –of food, clothing, shelter and lifer style.

Menon,L.N(1996) asserts that there is no need to have any set programme for uplifting women. Give them education and leave them free. They will work out the solutions of problems themselves. It is not difficult to understand the relationship between women’s literacy and social progress. The most backward states are those where literacy is low. Infant mortality rates are high because they lack knowledge of sanitation, hygiene, nutrition etc. Development plans cannot flourish or succeed where women, roughly half of the population, are kept out of the mainstream of participation. The government is yet to realize that the strength of a nation is not the army, navy or the air –force. The strength of the nations the people and the national will can be expressed only when people can be aroused to actions by means of developing their understanding. This is impossible if women are not made aware of their contribution by means of education. Literacy is the first step towards that.

Chaubey, G. (1997) discusses the literacy rates in India and its growth over the years.

She points out that when our performance is compared with China, our performance would be regarded as dismal. Some people would agree that this difference owes to the difference in the nature of the state that the Chinese and we had and, therefore, comparison is not valid. We hold that the comparison is valid because both of us started our present phase of development from equally low levels of the economy and literacy and we claim to be a welfare state interested in building up and socialistic pattern of society. We also claim to be the largest democracy in the world.

If we do not want to compare our performance with that of China where (adult) literacy about 80 percent, the analysis would require us to devise some minimum rate of progress in literacy, otherwise any rate would be regarded as satisfactory or even unsatisfactory.

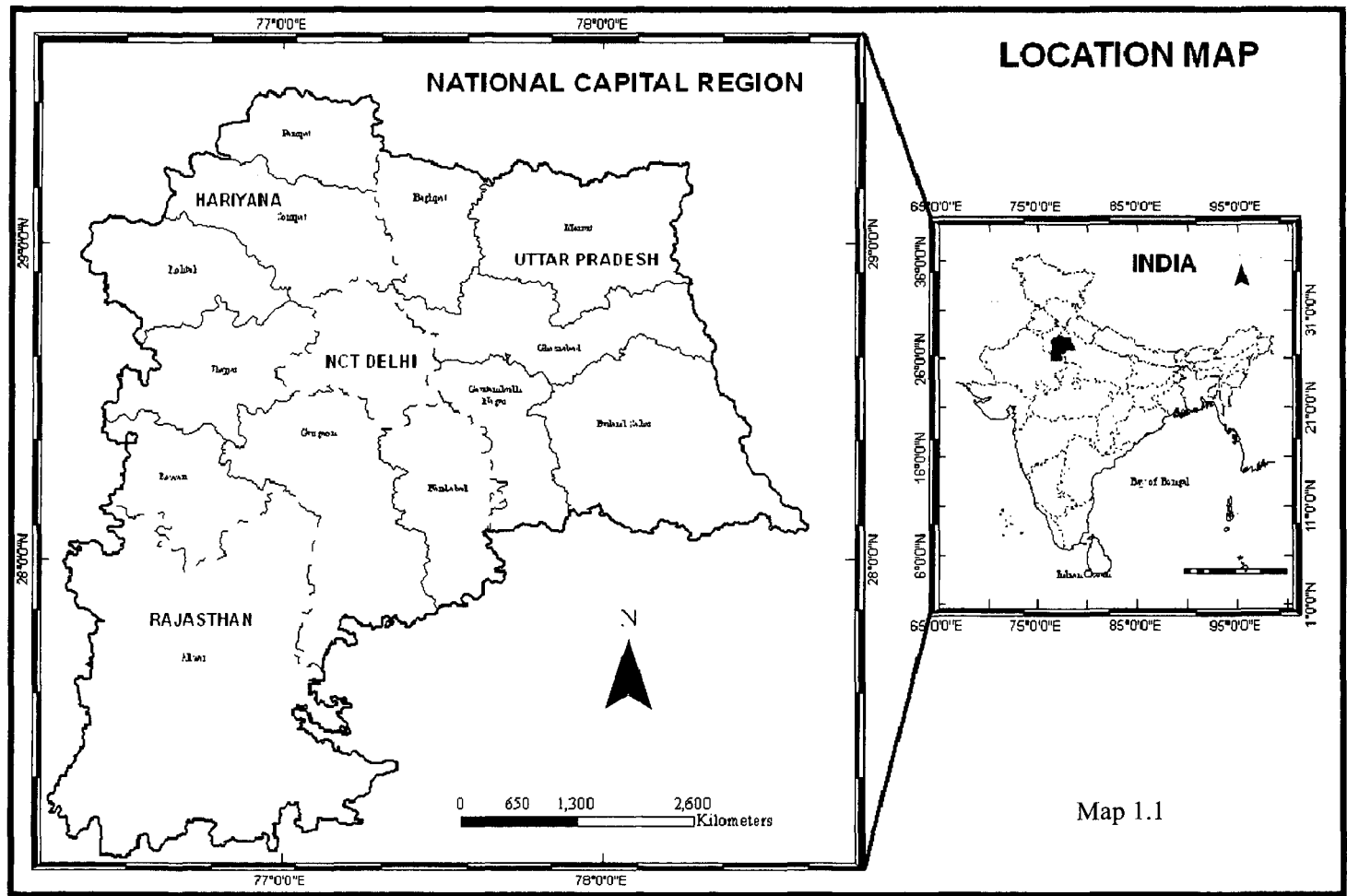
Ghosh,P.K(1998) points that females in the country are lagging behind males in terms of literacy in all states since the beginning of this century. Between 1971 to 1991 highest disparity is observed in Rajasthan and the lowest in Kerala. The growth of literacy is influenced by number of factors. These factors are economic factors, socio-cultural factors, demographic factors etc.

McDougall,L.(2000) states that in the study of gender differences in literacy attainment in Uttar Pradesh,1951-1991, reveals significant regional variations in female achievement and gender gap. There is strong correlation between regions with narrowing gender gaps and those with rising female literacy attainment This suggests that increased attention to female education is an effective means of improving educational equality. Another correlate of the gender gap is population density. Indeed, population density has been found to have a relatively greater impact on raising female literacy rates than male literacy rates.

1.3 Study Area

The region lies between 27⁰03' and 29⁰29' north latitude 76⁰07' and 78⁰29' east longitude the region includes the NCT of Delhi(1,483 sq. kms.) and parts of Haryana(13,413 sq.kms.), Rajasthan(4,493 sq. kms.) and Uttar Pradesh (10,853 sq.kms.).It covers seven district of Haryana namely,Panipat ,Sonipat, Gurgaon, Rewari, Jhajjar, Faridabad,Rohtak and five district of Uttar Pradesh namely Merrut, Baghpat, Ghaziabad, Gautam Budh Nagar, Bulandshahr and one district of Rajasthan that is Alwar. As can be seen in the location map 1.1. The total population of the

National Capital region increased from 1,98,83,168 in 1981 to 3,71,00,266 in 2001. The percentage of urban population of the region increased from 45.87 percent in 1981 to 56.39 percent in 2001 whereas the rural population decreased from 54.13 percent to 43.61 percent over the decades. The density increased from 634 persons per sq. kms in 1981 to 1,105 persons per sq in 2001.



1.4 Objectives of the study

- (i) To analyze the pattern and changes in population growth in National Capital Region.
- (ii) To study the levels of socio-economic development and disparities in the towns of the National Capital Region in 1991 and 2001.
- (iii) To find whether the disparity has reduced or not over the decade and to find the possible causes for the existence of the disparities.
- (iv) To suggest measures to reduce them.

1.5 Database

For the purpose of the study data has been collected from the secondary sources:

- (i) Primary Census Abstract, Census of India 1991 and 2001, for collecting information about the total population, total workers, male workers, female workers, 0-6 population, literate population of male and female of the towns of the National Capital Region.
- (ii) Household information at the town level has been collected from “Tables on Houses, Household Amenities and Assets for 1991 and 2001. The information is collected on
 - Household having safe drinking water
 - Household having electricity
 - Household having toilet facility
 - Household using cooking gas as a fuel for cooking.

Several other secondary sources like Rural-urban distribution series of the Census of India have been consulted.

1.6 Methodology

The methodology followed in the study is as follows :

$$1 \quad \text{Decadal Growth Rate: } \frac{P_2 - P_1}{P_1} \times 100$$

Where, P_1 = Total Population of the previous census /decade

P_2 = Total Population of the recent census/decade.

2 . Housing Amenities of the have been shown in percentage for 1991 and 2001.so that comparison can be made over the decade. Four housing amenities have been taken for the purpose of study:

(i) Household having safe drinking water

(ii) Household having electricity

(iii) Household having toilet facility

(iv) Household using cooking gas as a fuel for cooking.

3.Work participation rate and literacy rates for male and females have been calculated .

$$\text{W.P.R. (male)} = \frac{\text{No. of total male (main+marginal)Workers}}{\text{Total male population}}$$

$$\text{W.P.R. (female)} = \frac{\text{No. of female(main+marginal) Workers}}{\text{Total female population}}$$

4. For showing the regional variation in terms of the various socio-economic indicators taken in the study over the decade 1991 and 2001,the coefficient of Variation has been used. This will show whether the disparity has increased or decreased.

$$\text{Coefficient of Variation} = \frac{\sigma}{X} \times 100$$

$$\text{Standard Deviation} = \sigma$$

$$\text{Mean} = X$$

5.Composite Index is used to show the levels of socio-economic development of the towns for 1991 and 2001.The following variables are used to calculate the composite index:

(i) Household having safe drinking water

(ii) Household having electricity

(iii) Household having toilet facility

(iv) Household using cooking gas as a fuel for cooking.

(v) Male Literacy rate

(vi) Female literacy rate

(vii) Sex-ratio (0-6)

(viii) Male work Participation Rate

(ix) Female work Participation Rate

The values are standardized using the given formula:

$$Z \text{ score} = \frac{x - \bar{x}}{\sigma}$$

Where

X= value of the variable

\bar{X} = mean

σ = Standard deviation

Then the standardized value for each variable is added for each town and a over all composite value of the town is shown for 1991 and 2001.

6 .To show the disparity between male literacy and female literacy and also between male work participation rate and female participation rate. Sopher's Disparity Index modified version by Kundu and Rao (1986) has been used. The index is calculated as follows:

$$D = \text{Log}(x_2/x_1) + \text{Log} [(Q-x_1)/(Q-x_2)]$$

Where x_1 and x_2 are the variables between whom disparity is to be measured. In study X_2 = male literacy when disparity was measured between the male –female literacy rates and later for measuring disparity between male work participation rate and female participation rate, it is taken as male work participation rate .

Similarly , X_1 was the female literacy and and later female work participation.

$$Q=200.$$

7 The correlation and regression method also have been used. The correlation method shows the relation between the variables; either it is positive or negative. In regression method the socio-economic development was taken as the dependent

variables and all the above variables as independent, this shows how these variables explain socio-economic variable over the decade (1991 and 2001).

Apart from these, different cartographic and statistical techniques (like Choroplething , bar graph, line graph) have been used to explain .

1.7 Limitations

At the town level the available data are not adequate. Moreover, the town directory 2001 been not released by the census was a major constraint. Has the town directory been released other infrastructural and social indicators like number of hospitals per lakh of population, number of primary, secondary schools per thousand of population would have been incorporated in the present study. Along with these for a number of variables data are not available for many towns. That restricts one to include more variables. If more detail information is given at the town level, it would be easier to understand the process of development of the towns. In the present study the data constraints are felt that restrict the study within a certain limit

1.8 Organization of Chapters

The study has been divided into six chapters,**Chapter I**, is the introduction to the study,where urban growth, urban crisis,need for metropolitan cities management have been discussed.It alsogives clear picture of the choice of the study areas,Objectives of the study,sources of data and methodology used in the study.

The chapter II – is titled “Urban Settlements”, where it has been shown how population in urban areas varies over space and time in India and also across the metropolitan cities and other class size towns. The basic aim of this chapter is to start from a broader area and narrow down to the study area, by showing how he urban population is growing in developing word then coming down to India, from (state-level) to showing the rate at metropolitan cities are growing and occupying major chunk of the urban population.And then the population growth in the towns of the study area.

Chapter III is titled as “Levels of Socio-Economic Development”. This chapter is basically and interpretation of the available data from the tables on houses, house holds amenities and assets, sensuous of India, primary sensuous abstract. The chapter aims to analyze and compare the quality of housing amenities and other socio-economic indicators across the towns, at two point of time i,e 1991 and 2001.

Regional variation each of the socio-economic indicator is worked out using coefficient of variation.

Chapter IV is also interpretation of the level data of the literacy and work participation for 1991 and 2001. This chapter is titled as “Social Development and concerning gender issues”. Chapter deals with gender gap and gender disparity in the literacy in its work participation rates, in the towns.

Chapter V is titled as Correlation and Regression-Bivariate analysis is done in this chapter along with regression. This is done to find out how each socio-economic variable in the study effect the overall development of the region.

Finally, the **Summary and Conclusions** focuses on the overall findings of the study and it also reviews the policy followed for achieving socio-economic development.

Chapter –2

Urban Settlements

Chapter-2

Urban Settlements

2.1 Introduction

Cities are viewed as engines of economic growth. But rapid growth of urban population also brings problems along with opportunities. The process of urbanization has far reaching consequences on both the rural and urban settlement. Urbanization is often referred as the process of change from rural to urban population. But it is not only a process of demographic growth of villages leading to formation of towns and cities; it involves many other social and economic changes, both qualitative and quantitative.

The new millennium is primarily urban. While in 1950, only 16 percent of the world population was urban, today almost half of the world's people (47 percent) live in cities. The rate of urbanization is much more higher in developing country than developed countries. It is expected to continue.

The temporal and spatial distribution of large cities of the world has also changed rapidly. While in 1920's there were only 24 million plus cities in the world, the number rose to 198 in 1980s. Today there are 350 cities with more than one million population.(table 2.1).

While industrialized, countries are already mostly urban; developing countries are rapidly becoming urban with 40 percent urban population. By 2020, 52 percent of people in these areas will be living in cities. The growth of urban population in developing countries has been rapid since 1945. Besides, there has also been a rapid increase in the number of very large cities or mega – cities in these countries since 1975. In 1990, 6 mega-cities were in developed countries and 14 in developing countries.

Table: 2.1 Number of million cities in the world.

Years	No. of million cities	Percent of world population Living in Million cites
Early 1920s	24	2.06
Early 1940s	41	4.00
Early 1960s	113	8.71
Early 1980s	198	11.36

Source: Potter, R.B and Unwin, T, (eds) (1992) Teaching the Geography of Developing Areas, Monograph 7, Developing Areas Research Group of the Institute of British Geographers.

The most important, aspect of world urbanization is the striking difference in the emerging trends between world's developed and developing regions. Urban growth is accompanied by industrialization in developed countries but in developing countries demographic growth has preceded economic development. The unprecedented urban growth in these regions has been driven by lack of employment opportunities in rural areas rather than pull of prospective jobs in town and cities.

2.2 Urbanization Trends and Pattern in India

Urbanization is a process of population concentration, which proceed in two ways: the multiplication of points of concentration and the increase in size of individual concentration or in other words, it can be measured in terms of percentage of urban population to total population or the rate of growth of urban population. Presently the urban population of India is larger than the urban population of all countries in the world except China. Thus in absolute terms India's urban population is quite large (27.78%). Thus, though more than $\frac{1}{4}$ of the total population of India is urban. Total urban population increased eleven fold, from 25.85 million in 1901 to 285.35 million in 2001, which is quite rapid as can be seen in table 2.2.1. The number of urban

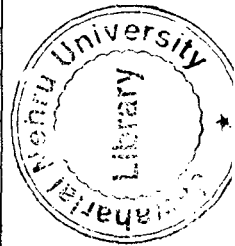
settlement have increased from 2843 in 1951 to 4689 in 1991 to more than 5000 in 2001. Urban India is undergoing a radical transition. According to the census 2001, India has a population of 102.86 crores, of which the share of urban increased from 23.34 percent in 1981 to 25.71 percent in 1991 and 27.78 percent in 2001.

Through urbanization rates have slowed down in 1980 s, the magnitude of urban population in India is second in the world, first being china

Table 2.2 Trends in Urbanization in India from 1901-2001

Year	No. of Towns	Urban population (in ' 000)	Percentage of total population	Decennial Growth (%)
1901	1827	25851.9	10.84	
1911	1815	25941.6	10.29	0.35
1921	1949	28086.6	11.18	8.27
1931	2072	33456	11.99	19.12
1941	2250	44153.3	13.86	31.97
1951	2843	62443.7	17.29	41.42
1961	2365	78936.6	17.97	26.41
1971	2590	109113.9	19.91	38.23
1981	3378	159462.5	23.34	46.14
1991	4689	217611	25.71	36.47
2001	5161	285354.9	27.78	31.13

TH-14963



Source: Census of India

This poses an unprecedented challenge of coping with enormous demand for housing, infrastructure services and facilities and controlling unregulated urbanization.

⁵The pressure is even more on metropolitan centers where urbanization of population. The challenge of urban management is not to fight the urban growth but accept it as an inevitable outcome of economic change. Local government have to work out what they can do and facilitate what others can accomplish. They have to ensure that the citizens are provided with basic services at an affordable price.



⁵ A. K Jain, A. K, (1999), The challenges of Urban finance for 21st century cities, spatis – Economic Development Record, Vol 6 No. 6, Nov- Dec – p- 46.

2.2.1 Regional Trends and Dynamics of Urban Population Growth

The spatial dimension of urbanization shows that among the major states, Tamil Nadu Maharashtra (42.4%), Gujarat (37.35%) followed by Karnataka and Punjab have more than 30% of their population living in urban area. Surprisingly, Maharashtra and Gujarat, which had a lead role in the urbanization process in 1991 census have been pushed down to second and third position. Among the smaller states, Delhi tops the rank with 93.01% urban population followed by Goa (50%).

Urban population in the country as a whole has slowed down during the decade 1991-2001. From 36.19% during the decade 1981-91, the growth rate has declined to 31.39% almost by 5%. Among the major states, highest growth rate of urban population has occurred in Haryana (51.15%) followed by Tamil Nadu (43.17%) and Maharashtra. Haryana's urban growth can be attributed to its nearness to Delhi. Among the small states Arunachal Pradesh has been ranked the highest with 112.47% growth in its urban population. Being a hilly state, this may not be a surprise as most of the activities get concentrated in plains within hilly terrain. However, in the plains, Goa records the highest urban growth with 37.17% during 1991-2001.⁶ One has to look beyond these urban growth figures to understand the regional urban growth dynamics in India. High urbanized states spend more than 5 times on urban Capital expenditure as compared to low urbanized states. Small and medium towns get paltry sum and appear insignificant on the investment map of the center as well as state government

2.3 Types of Urban Settlement

The classification of India's urban places poses several major problems. First and foremost, the number of urban places in India is indeed very large, as many as 3,245 in 1981, that was at least three times as large as the number of towns in U.S., which had a total urban population nearly equal to that of India in 1981 though, now the number increased to 5161 as reported in census 2001. Secondly, unlike towns and cities in the U.S., most Indian cities have long urban history, and are far more complex in terms of their economic, social and cultural structure. As a result, few

⁶ N. Sridhran and V. Yadav (2001), Regional dimension of urbanization: A quick analysis of the census 2001, Spatio – Eco. Devmt. Record.

attempts have been made by the Indian geography to classify urban places taking the country as a whole, apart from simple classification on the basis of population.

There are four bases of classification of Indian urban places. In most cases, a complete classification of all urban places in Indian is not possible. The four bases of classification are;

1. Physical
2. Historical
3. Social and cultural
4. Economic or functional

2.3.1 Demographic Dimension: Apart from the above, the simplest and most widely used criteria for distinguishing urban places are related to demographic dimension. In particular the size of a settlement is used as a definite yardstick. In India, census 2001 identifies two types of towns. And the different types of towns according to the size class is given in table 2.2.4.

A. Statutory Towns:

All places which have municipal, or corporation, or cantonment board, or a notified town area committee.

B .Census town:

All other places which satisfy by the following criteria.

- i. A minimum population of 5,000 persons.
- ii. At least 75% of male working population engaged in non-agricultural pursuits, and
- iii. A density of population of at least 400 persons per sq. kms.

Urban agglomeration:

The physical expansion of Indian cites is more or les haphazard, unplanned and unregulated. Given this situation, it is natural that towns, in the process growth, spill over the administrative boundaries into adjoining areas.

Urban agglomeration (UA) at the 1971 census covered the followings.

- (i) A city with continuous outgrowth

- (ii) One town with a similar outgrowth
- (iii) A city and one or more adjoining towns with their on together all of which formed a continuous spread.

⁷The tendency for the development of an urban agglomeration is strongest among the million cities, the industrial cities. In a sense, the larger city, the greater its tendency to expand into an urban agglomeration.

The growth of large urban agglomeration in India has aggravated the problems of big cities. In particular, these cities have the chronic problems of mass transportation, drainage, sewage and water supply system.

Urban clusters:

An even more revealing pattern of urbanization in India in recent decades is the emergence of urban clusters. A classic example of an un urban cluster is that of Delhi. Outside of Delhi urban agglomeration, there were as many as one lakh cities within a radius of 75km from Delhi. In addition, had equal no. of class II towns. The NCR plan envisaged the strengthening of as many as 18 ring towns around Delhi.

Another major urban cluster occurs around the city of Dhanbad. This is really a cluster of industrial cities, with a major focus on the iron and steel and metallurgical industry. The Dhanbad cluster had 8-one lakh cities.

Urban Shadow:

The anti thesis of an urban cluster. The main feature of an urban shadow is the absence of cities and towns within a radius of 75km from a large city. Here the growth of city somehow tends to inhibit further urbanization of its hinterland. Bombay had on urban shadow effect in Raigad District. Indeed, a common feature of the hinterland of these cities is their low level of socio-eco development. The cities stand out as islands of urban exuberance within a sea of poverty and under development .

Table 2.3: Towns and cities based on population size census of India classifies urban centers into six classes

⁷ Ramachandran. R, (1997) urbanization and urban systems in India, Oxford University Press.

Class	Population size
I	100000 and more
II	50000 – 99999
III	20000 – 49999
IV	10000 – 19999
V	5000 – 9999
VI	Less than 5000

The population in millions and in percentage according to the size classes from 1901-2001 for whole India is given in the table 2.4.(Bar Diagram).

Percentage Distribution of urban population by size class India 1901-1991							
Census Year	All Classes	I	II	III	IV	V	VI
1901	100	26	11.29	15.64	20.83	20.14	6.1
1911	100	27.48	10.51	16.4	19.73	19.31	6.57
1921	100	29.7	10.39	15.92	18.29	18.67	7.03
1931	100	31.2	11.65	16.8	18	17.14	5.21
1941	100	38.23	11.42	16.35	15.78	15.08	3.14
1951	100	44.63	9.96	15.72	13.63	12.97	3.09
1961	100	51.42	11.23	16.94	12.77	6.87	0.77
1971	100	57.24	10.92	16.01	10.94	4.45	0.44
1981	100	60.42	11.63	14.33	9.54	3.58	0.5
1991	100	65.2	10.95	13.19	7.77	2.6	0.29
2001	100	61.48	12.3	14.99	8.08	2.86	0.29

Source: Census of India.

India - Proportion of Urban population by size class 1901-2001

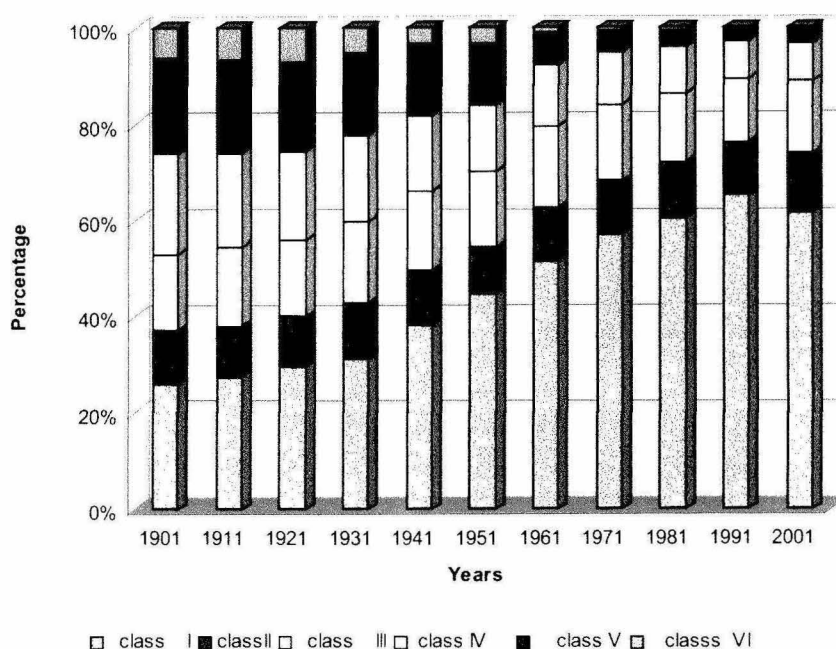


Fig 2.1 percentage of urban population by size class

The population in class I has increased from 25.62 million i.e. (26 percent) in 1901 to 279.82 millions i.e. around 61.48 percent in 2001. Though, this has decreased as compared to the 1991 where, the population in class I was 65.2 percent. This decrease is well shifted or reflected by increase in percent of population in class II from 10.95 percent in 1991 to 12.30 percent in 2001. Like wise the percent of population increased though marginally in the rest three classes i.e. from 13.19 percent in 1991 in class III to 14.99 percent in 2001, 7.77 percent in 1991 in class IV to 8.08 percent in 2001, 2.6 percent in 1991 V to 2.86 percent in 2001. But the population percentage in class VI remained unchanged 0.29 percent in 1991 and also in 2001. Though, in absolute figures it too increased from 0.61 millions in 1991 to 0.80 million in 2001.

The table 2.3 also reveals that the bigger towns, having a population of more than 100 thousand have dominated the urban scenario. Their share of urban population has remained the highest in each census since 1901. 1901, Till 1931, class IV and class V occupied the next two positions and trend changed lightly in 1941 when class III occupied the second position. This trend has continued till 2001. Thus, majority of urban population live in 423 cities i.e. only 8.2 percent of all urban places..

Table 2.5 - India: -Class-wise number of towns and cities and their population, 2001.

Class	Pop. Size	Number	Population (millions)	Percentage	% Growth
All		5161	285.35	100	31.13
I	100000 and more	423	172.04	61.48	23.12
II	50000-99999	498	34.43	12.3	42.45
III	20000-49999	1386	41.97	15	46.19
IV	10000-19999	1560	22.6	8.08	32.44
V	5000-9999	1057	7.98	2.85	41.49
VI	Less than 5000	227	0.8	0.29	21.21

Source: Census of India, 2001.

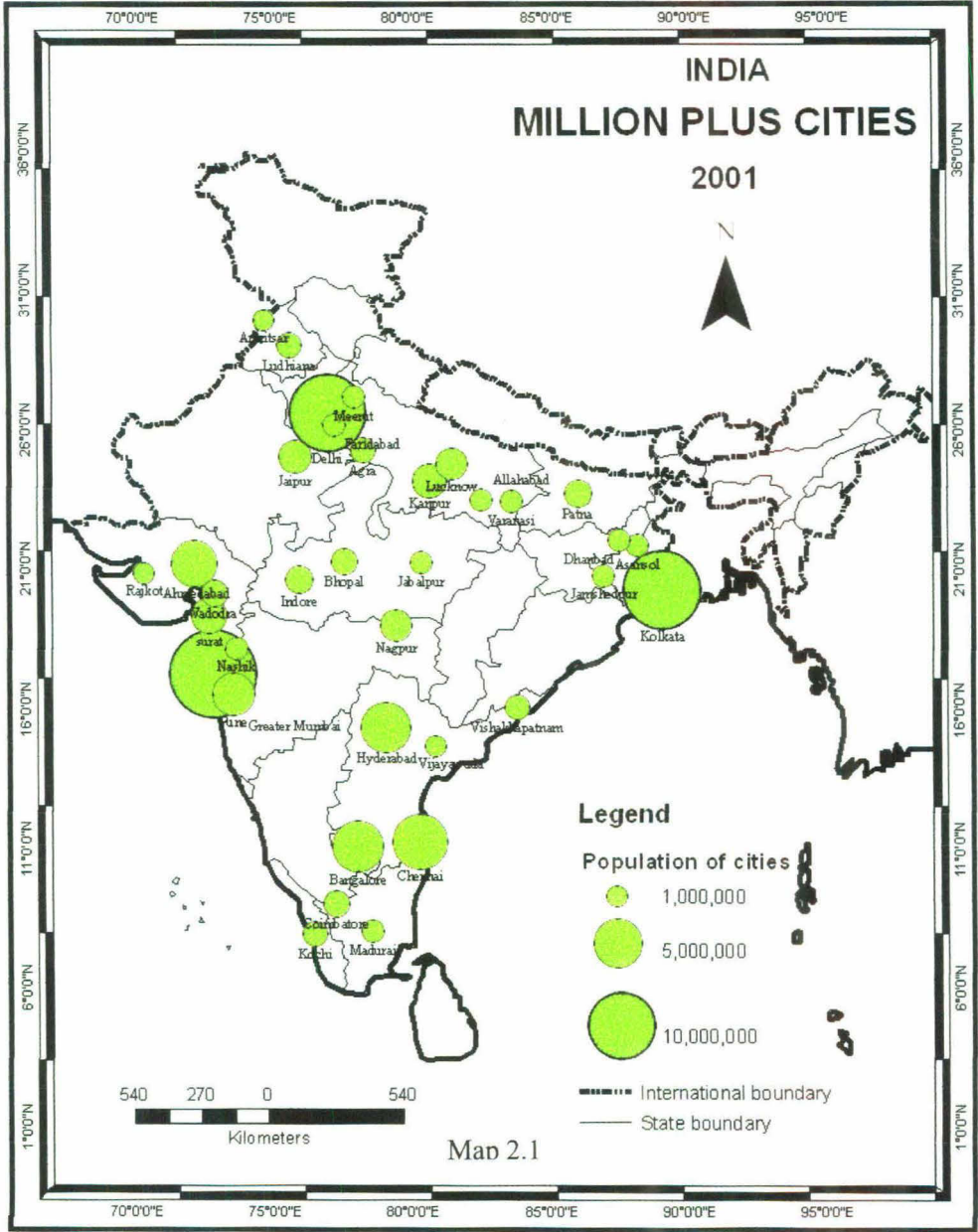
Out of 423 cities, 35-cities/ urban agglomerations have population more than 1 million each. Thus they are metropolitan cities. Six of them are mega cities with population over 5 million each. More than 1/5th (21 percent) of urban population lives in these mega cities.

More than half (55.2 percent) of the towns (with population less than 20,000 each) accommodate only 11.0 percent of urban population. One – fourth (1/4th) (26.78 percent) of urban population lives in middle-sized towns of the country. These medium towns recorded highest growth during the last decade, raising their share in total urban population from 24.3 percent to 26.8 percent.

2.3.2 Metropolitan Cities:

With the increasing urban population, the number of UA and cities having a population over one million increased from 23 to 35 in just one decade (1991-2001). The increase in the number of metropolitan cities from 1901-2001 reveals that number of million plus cities has almost tripled over the last three decades, jumping from a mere 12 in 1981 to 23 in 1991 and 35 in 2001. Among all the metropolitan cities in India, Greater Mumbai (in Figure 2.2) is the largest agglomeration with 16.4 million people; Kolkata (13.22 million), Delhi (12.79 million), Chennai (6.42 million), Bangalore (6.42 million), Hyderabad (5.69 million), Ahmedabad (5.53 million), Pune, Surat, Kanpur, Jaipur, Lucknow and Nagpur have more than 2 million population each. Total population living in these cities was 107.88 million in 2001. Thus, they supported more than 37.8 percent to total population of the country in 2001 as against

32.5 percent in 1991. These cities recorded the highest growth (52 percent) of population among all classes of towns and cities. Continuing concentration of population in these cities without corresponding increase in economic activities has resulted in the development of slums.



2.3.3 Mega Cities

The rapid rate of increase in population of urban areas led to the introduction of new term called Mega cities, which accommodates population more than 5 million but in most of the case it taken as 8 million. In India, if we go by the definition of 8 million, there are 3 mega cities Bombay(16.4 million in 2001 and was 12.57 million in 1991), Kolkata (12.57 million in 1991 and 13.22 million in 2001)and Delhi,8.375 million in 1991 and increased to 12.79 in the next decade.But if we take 5 million as the criteria they mega cities in India are 6 in numbers. Out of them Delhi which has at present 12.79 million population is the National Capital.

2.4 Delhi

The British Government developed Delhi their Capital when they decide to shift their administration form Calcutta. Delhi is the most rapidly growing metropolitan areas in the country. It has consistently shown high growth of population since independence as per the 1881 census, Delhi had a population of 183,944 by 1911 if had a population of 237,994. It was besides the area of city was also extended from 43km² to 168 km². Thereafter, there had been rapid population growth from 304,420 in 1921 to 447,442 in 1931 with decadal in of population growth from 46.98 percent during 1921-31 to 55.48 percent during 1931-41. There has been some fluctuation in the population growth during 1941-51 due to large-scale population movement, which started in the wake of partition of the country. The city recorded a decadal population growth rate of 106.58 percent and population 1,437,134 in 1951. The population growth rate remaining high during 1951-61 (64.17) but it came down to 54.5 percent during 1961-81and remained more or less at that level during 1971-81. The corresponding population grew from 2,359,408 in 1961 to 3,647,023 in 1971 and to 5,729,283 in 1981. During the decade 1981-91 the annual growth rate of population in this metropolitan cities was 46.18 percent .As per the 1991, census the population of Delhi U.A. is 8,375,188 and it increased to 12.79 millions in 2001.

Delhi consists of 3 statutory towns and 23 census towns in 1991 and as many as 8 new CT have emerge in 1991 censuses. Delhi UT at the time of 1991 Census comprises of one district having two tehsils Delhi and Mehrauli and 32 towns at the 1981 census Delhi U.T. had 3 statutory towns New Delhi municipal, Delhi Cantt. and Delhi

Municipal Corporation and 27 C.T. but in 1991 census, there were 3 statutory towns and 29 Census Towns.

Table- 2.6 Population of different districts of Delhi(1991-2001)

	District	Population 2001	% to the total population of state	Population 1991	% to the total population of state
1	North-Western	2847395	20.66	1778268	18.88
2	South	2258367	16.38	1502878	15.95
3	West	2119641	15.38	1434008	15.22
4	North-Eastern	1763712	12.8	1085250	11.52
5	South-western	1749492	12.69	1084705	11.51
6	East	1448770	10.51	1023078	10.86
7	North	779788	5.66	688252	6.97
8	Central	644005	4.67	656533	6.97
9	New-Delhi	171806	1.25	167672	1.78

Source:Census of India

But in 2001, the districts have increased to nine as shown in the table and the number of towns increased to 59 . Highest population in the North -western in 1991 (18.88 percent) and 2001 (20.66 percent). Because of this extra-ordinary growth with lakhs of immigrate Delhi experience growth rate which is higher than the rest of the three metropolitan as can be seen in the table 2.7. This population growth had led congestion phenomenal pressure on land, housing, transportation network and services. This has occurred, to a large extent, due to lack of planned development of surrounding areas. An integrated planning approach could still retrieve the situation.

In view of the fact that the sources of many of the problems of city and their solutions lie beyond the city and their solutions lie beyond Delhi, the need for a regional approach for the planned development was approach was felt as early as 1959, when the Master Plan for Delhi was under preparation. The original intention was to prepare a Delhi Regional Master Plan but legal tools at hand and other exigencies limited the efforts to identification of Ring Towns and Urban Villages.

The NCR Planning Board Act, was passed by the parliament in 1985. The objective of the Act is to prepare a National Capital Regional Plan in order to deal with the problems of rapidly of growth of Delhi and the urgency of the problems related.

1542333			1744072	
1944502	26.08		2658612	52.44
3169930	63.02		4065698	52.93
4289347	35.31		6220406	53
5421985	26.41		9420644	51.45
6424624	18.49		13850507	47.02
Average	33.86			51.37

Decadal Growth Rate in the Four Metropolitan Cities of India 1961-2001

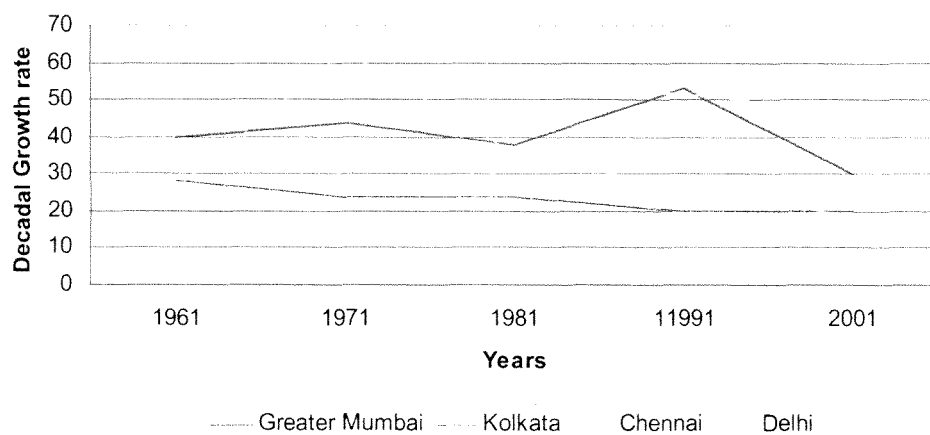


Fig 2.2

The NCT- Delhi, which had recorded an extra – ordinary growth during 1941-1951, practically doubling its population with lakhs of immigrants thronging to Delhi to take refuge aftermath of the partition of the country, continue to experience overage decadal growth rate of above 50% since 1951 except in the last decade (1991-2001) when it was 47.02% This is higher than experienced by any of the four largest mega cities in India. If this growth rate is allowed to continue even greater Mumbai by 2021.

Share of population in the National Capital Region 1981

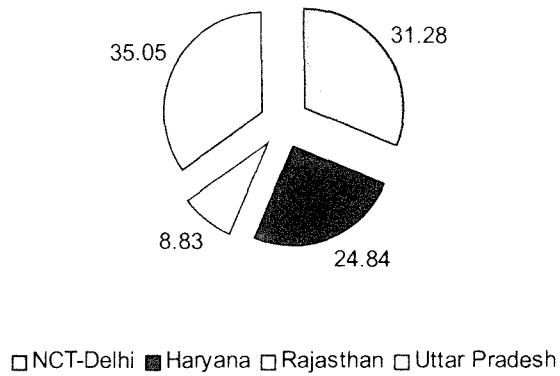


Fig 2.3

Share of Population in the National Capital Region 2001

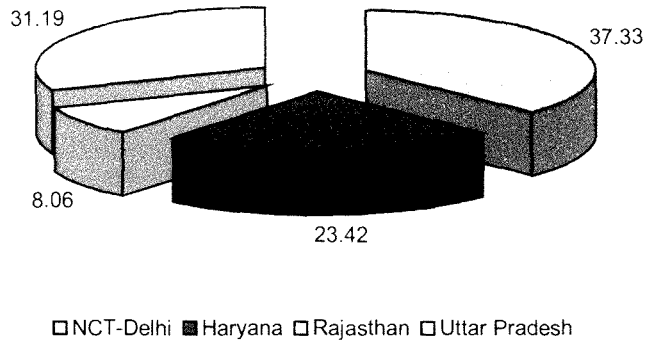


Fig 2.4

The NCR comprising the sub region of NCT-Delhi, Haryana, Rajasthan, U. P accommodate 37.33 percent, 23.42 percent , 8.07 percent and 31.1 percent of NCR'S. population.as can be seen in table 2.9 The land –man ratio for NCR can be seen (table2.8)will indicate how much is the pressure on the NCT of Delhi which has only 4.41% of the total N.C.R area. This give rise to problems of Housing, congestion.

Table 2.8: showing Percentage share of population and area in the National Capital Region

Regions	Area(%) of NCR	Share of Population(%)
NCT_Delhi	4.41	37.33
Haryana Sub-region	39.95	23.42
Rajasthan Sub region	23.32	8.06
Uttar Pradesh Sub-region	32.32	31.19

Table 2.9 showing Population of the sub-regions of National Capital Region

	Population			Decadal Growth Rate(%)		Share of Population (%)		
	1981	1991	2001	1981-1991	1991-2001	1981	1991	2001
NCT-Delhi	6220406	9420644	13850507	51.45	47.02	31.28	34.43	37.33
Haryana	4938541	6643604	8687050	34.53	30.76	24.84	24.28	23.42
Rajasthan	1755575	2296580	2992592	30.82	30.31	8.83	8.39	8.06
Uttar Pradesh	6968646	9001704	11570117	29.17	28.53	35.05	32.9	31.19
NCR	19883168	27362532	37100266	37.62	35.59	100	100	100

Source: Census of India 1981,1991,2001.

Migration plays an important role in the population of NCT – Delhi. During 1971-81, there was net addition of 21.54 lakhs to the population of Delhi, of which 12.30 lakhs were in – migrants. Between 1981-91, of the total 32 lakhs addition to the population, net – migration population accounted for 13.05 lakhs.

About 68% of migrants to Delhi belong to the states of U. P., Haryana and Rajasthan. U. P. alone accounts for nearly half of the total migrants.

Table 2.10 shows the urban growth of Haryana, Rajasthan and U. P. sub-regions from 1961 to 2001

	Haryana Sub-Region		Rajasthan Sub-region		Uttar Pradesh Sub-region	
	Population	Decadal Growth	Population	Decadal Growth	Population	Decadal Growth
1961	461210		87892		778676	
1971	677372	46.87	126882	44.36	1088470	39.78
1981	1206704	78.14	196201	54.63	1949067	79.06
1991	1835260	52.09	320287	63.24	3117612	59.95
2001	2964678	61.54	434939	35.8	4614677	48.02

Source: Census of India 1961,1971,1981,1991,2001

2.5.1 Towns in National Capital Region

After analyzing the towns according to their size classes, we have come to know that more than 80 percent of the population lives in the class-I towns in the N.C.R. The no. of towns in Delhi itself has increased from 32 in 1991 to 59 in 2001. it was 80.23 percent of population which was living in class I towns in 1991, which increased to 82.09 percent in 2001 and number of class-I towns increased from 15 to 25 in 2001. The population in class II towns was 6.89 percent in 1991 living in 13 towns whereas it decreased to 6.30 percent spreading in 18 towns in 2001. Though the percent of population in class VI varied form 0.12 percent in 1991 to 0.07 percent in 2001 but the no. of class VI remained 4 only. The overall number of towns has increased from 129 in 1991 to 164 in 2001.

	1991 Population	Size class
Class I		
Panipat	191212	I
Sonepat	143922	I
Rohtak	216096	I
Faridabad	617717	I
Gurgoan	135884	I
Merrut	849799	I
Ghaziabad	511759	I
Modinagar	123279	I
Bulandshaher	127201	I
Alwar	210146	I
Hapur	146262	I
Noida	146514	I
N.D Muncipal Corp	301297	I
Delhi Muncipal corp.	7206704	I
Sultan Pur Majra	111567	I
Total	11039359	
Class II		
Bahadurgarh	57235	II
Palwal	59168	II
Rewari	75342	II
Mawana	51701	II

Baraut	67705	II
Pilhau	50162	II
Khurja	80305	II
Sikandarabad	60992	II
Delhi Cant.	94,393	II
Bhalswa Jahangir Pur	95065	II
Nangloi Jat	76063	II
Nasir Pur	81366	II
Palam	98975	II
Total	948472	
Class III		
Ganaur	20952	III
Jhaggar	27693	III
Hodal	25635	III
Sardhana	42980	III
Khekada	35191	III
Baghpat	24939	III
Modipur	123279	III
Loni	36561	III
Behta Hajipur	30360	III
Muradpur	44395	III
Garhmukteshwar	25241	III
Dadri	32883	III
Jewar	21376	III
Jahangirabgad	37981	III
Guloathi	33982	III
Siyana	29888	III
Debai	27721	III
Shikarpur	29197	III
Khairthal	22741	III
Rajgarh	20223	III
Gokal Pur	49186	III
Babar Pur	47451	III
Gharanda Neemka Bangar alias Patpar Ganj	22945	III
Binda Pur	36148	III
Tigri	34416	III
Deoli	33214	III
Total	916578	
Class IV		

Samalkha	18384	IV
Kharkhoda	13151	IV
Maham	15083	IV
Kalanaur	14524	IV
Beri	14508	IV
Sohna	16348	IV
Firozpur Jhirka	12413	IV
Taora	12534	IV
Hailiy Mandi	13263	IV
Pataudi	11278	IV
Dharuhera	10848	IV
Kithaur	19270	IV
Hastinapur	15081	IV
Sewal Khas	14402	IV
Lawar	14471	IV
Parikshitgarh	13677	IV
Phalauda	13970	IV
Karnawal	11047	IV
Kharkhoda	10550	IV
Daurala	10025	IV
Chhaprauli	16008	IV
Tikri	12784	IV
Doghat	12310	IV
Aggarqwal Mandi	10871	IV
Dasna	16963	IV
Faridabad	10940	IV
O.F.Muradnagra	12792	IV
Rabupura	10769	IV
Anupshahr	19684	IV
Naraura	15652	IV
Aurangabad	15402	IV
Pahasu	13127	IV
Khanpur	11420	IV
Bugrasi	11093	IV
Bhiwadi	15285	IV
Behror	16238	IV
Tijara	15399	IV
Kherli	12263	IV
Jaffara Bad	17492	IV

Roshan Pura Alias Dichaon Khurd	13870	IV
Mundka	17380	IV
Rajokri	11766	IV
Pulpehlad	14343	IV
Molar Band	19629	IV
Bawana	18999	IV
Total	637306	
Class V		
Hathin	7863	V
Hasanpur	7130	V
Punhana	8697	V
Nuh	7492	V
Dundahera	6767	V
Farukknagar	8046	V
Bawal	9010	V
Behsuma	9060	V
Aminagar sarai	8274	V
Niwadi	8841	V
Patla	9181	V
Dankaur	9531	V
Jhangirpur	8206	V
Bilsapur	6127	V
kakod	5838	V
Chhatari	8202	V
Bhawan Bahadur Nagar	9101	V
Govindgarh	7991	V
Nangal Dewat	7657	V
Ghitomi	6254	V
Sultan Pur	8365	V
Tajpul	5882	V
Alipur	9256	V
pooth Khurd	8293	V
Kanjhawala	6100	V
Asola	5061	V
Total	202225	
Class VI		

Babugarh	3581	VI
Malikpur Kohi Alias Rangpuri	3251	VI
Yahya Nagar	4405	VI
Pehladpur Bangar	4832	VI
Total	16069	

Table:2.12 Percentage of Population in each class size in NCR in

1991	Population	% of pop.	No of towns
Class I	11039359	80.23	15
Class II	948472	6.89	13
Class III	916578	6.66	26
Class IV	637306	4.63	45
Class V	202225	1.47	26
Class VI	16069	0.12	4
TOTAL POPULATION	13760009	100.00	129

But the pressure on class I towns remained, even increased a bit more over that decade besides, this class II towns have not showed much progress with respect to releasing the pressure on class I towns and give rise to balance development of the region, instead few growth foci.

Table: 2.13 showing the Distribution of Towns by size class in NCR

	Towns in NCR , according to size class,2001						
	No of towns	I	II	III	IV	V	VI
Panipat	3	1		1		1	
Sonipat	4	1		1	1	1	
Rohtak	3	1			2		
Jhajjar	5	1		1	1	2	
Faridabad	6	2		1	1	2	
Gurgaon	10	1		1	7	1	
Rewari	4	1			2		1
Alwar	9	1		4	3	1	
Merrut	15	1	1	3	8	2	
Baghpat	8		1	2	5		
Ghaziabad	15	4	3	3	2	3	
Gautam Buddha Nagar	9	1	1	1	3	3	
Bulandshahr	16	1	3	7	4	1	

The economic potential of Delhi has hardly flown down to other regional urban centers specially those located beyond the DMA. These towns continue to remain comparatively undeveloped with poor living environment underdevelopment of the areas outside Delhi, is primarily a problems of relationship rather than a problem of scarcity. For example the total travel time from Delhi to the farthest point in the region is so short that no big centers of transportation and trading activity have developed in the outer areas of N.C.R.

Table 2.14 Population of towns of each size class

Towns According to Class size 2001	Population	Class size
Panipat	354148	I
Sonepat	225074	I
Rohtak	294577	I
Bahadurgarh	126746	I
Faridabad	1054981	I
Palwal	100528	I
Gurgoan	228820	I
Merrut	1161716	I
Ghaziabad	968256	I
Hapur	211983	I
Modipur	120945	I
Loni	139929	I
Noida	305058	I
Bulandshaher	176425	I
Alwar	266203	I
N.D Munci Council	294783	I
Delhi Cant.	124452	I
Delhi Munci Corp	9817439	I
Bhalswa Jahangir Pur	151427	I
Kirari suleman nagar	153874	I
sultan pur majra	163716	I
karawal nagar	148549	I
dallo pura	132628	I
nagloi jat	150371	I
Deoli	119432	I
Rewari	100684	
Total	17092744	
Mawana	69191	II

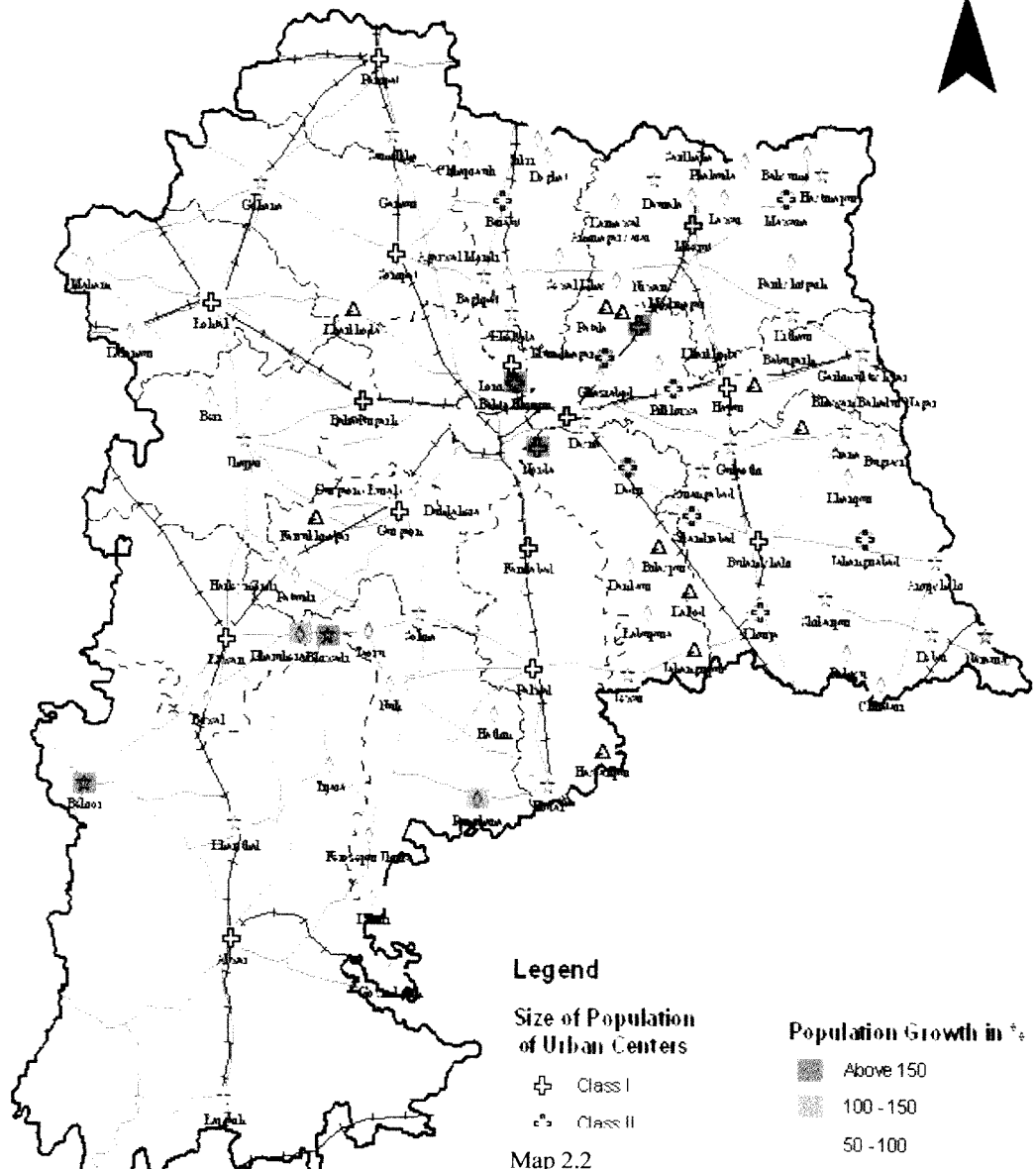
Baraut	85708	II
Behta Hajipur	94298	II
Muradpur	74151	II
Pilhau	66907	II
Dadri	57416	II
Khurja	98610	II
Sikandarabad	69867	II
Jahangirabgad	51394	II
Pooth Kalan	50587	II
Burari	69182	II
mustafabad	89117	II
Gokul Pur	90564	II
Jaffrabad	57460	II
Ghorali	68978	II
Chilla Saroda Bangar	65969	II
Hastsal	85848	II
Taj PUL	58220	II
Total	1303467	
Samalkha	29866	III
Gohana	48532	III
Jhajjar	39002	III
Hodal	38306	III
Sohna	27570	III
Sardhana	48314	III
Kithaur	23614	III
Hastinapur	21249	III
Khekada	40335	III
Baghpat	36384	III
<i>Dharoti Khurd</i>	34044	III
Garhmukteshwar	33847	III
Dasna	24434	III
Jewar	27016	III
Guloathi	42903	III
Siyana	38999	III
Debai	34877	III
Shikarpur	33187	III
Anupshahr	23795	III
Naraura	20407	III
Aurangabad	20097	III

Bhiwadi	33877	III
Khairthal	32005	III
Rajgarh	25009	III
Behror	22856	III
BANKNER	21085	III
Bawana	23095	III
Libas PUR	27935	III
Sahibabad DAULAT pur	35977	III
Begum Pur	22828	III
Jiwan Pur alias Johri Pur	20765	III
Khajoori Khas	45090	III
Sadat Pur Gurrjan	42564	III
Mirpur Turk	28257	III
Ziauddin Pur	48028	III
Babar Pur	43364	III
Gharonda Neemka Bangar alias Patpar Ganj	34409	III
Kondli	27983	III
Mundka	43898	III
Roshan Pura alias Dichaon Khurd	38580	III
Kapas Hera	21595	III
Tigri	44895	III
Molar Band	39267	III
Mithe Pur	41243	III
Pul Pehlad	47336	III
Total	1498719	
Ganaur	29006	IV
Maham	18174	IV
Kalanaur	16853	IV
Beri	16162	IV
Hathin	10913	IV
Firozpur Jhirka	17755	IV
Taora	17328	IV
Hailiey Mandi	17081	IV
Pataudi	16085	IV
Punhana	13179	IV
Nuh	11039	IV
Dundahera	10626	IV
Dharuhera	18892	IV

Bawal	12144	IV
Sewal Khas	18451	IV
Lawar	18035	IV
Parikshitgarh	17369	IV
Phalauda	17206	IV
Karnawal	12609	IV
Kharkhoda	12593	IV
Daurala	10685	IV
Behsuma	10561	IV
Chhaprauli	17798	IV
Tikri	13427	IV
Doghat	13263	IV
Aggarqwal Mandi	12405	IV
Aminagar sarai	10112	IV
faridnagar	11272	IV
O.F.Muradnagra	10756	IV
Rabupura	13046	IV
Dankaur	11999	IV
<i>Salarpur Khadar</i>	10750	IV
Pahasu	17122	IV
Khanpur	13761	IV
Bugrasi	12789	IV
Chhatari	10903	IV
Tijara	19921	IV
Kherli	15506	IV
Govindgarh	10089	IV
Alipur	16623	IV
Siras Pur	14558	IV
Pehlad Pur Bangar	10548	IV
Jharoda Majra Burari	13301	IV
Dayal Pur	12994	IV
Quammruddin Nagar	10240	IV
Nangal Dewat	13168	IV
Sambhalka	11064	IV
Rajokri	12758	IV
Sultan Pur	11336	IV
Saidul Ajaib	14075	IV
Total	708330	
<i>Asan Khurd</i>	8066	V

Kharkhoda	18763	V
<i>Ladrawan</i>	8008	V
<i>sankhol</i>	5179	V
Hasanpur	9089	V
<i>Tilpat</i>	6377	V
Faruknagar	9521	V
<i>Aminagar urf Bhurbaral</i>	5500	V
<i>Mohiuddinpur</i>	4890	V
Niwadi	9921	V
Patla	9733	V
Babugarh	5939	V
Jahangirpur	9510	V
Bilaspur	6127	V
kakod	5838	V
Bhawan Bahadur Nagar	9322	V
<i>Kishangarh</i>	9473	V
Pooth Khurd	8167	V
<i>Khera Khurd</i>	8813	V
<i>Kanjhawala</i>	8700	V
<i>Gheora</i>	5920	V
<i>Ghitorni</i>	9123	V
	181979	
Rewari(rural)	4454	VI
<i>Ghoga</i>	3766	VI
<i>Sanoth</i>	2909	VI
<i>Nangal Thakran</i>	3558	VI
Total	14687	

NATIONAL CAPITAL REGION GROWTH OF URBAN CENTRES 1981 - 1991



Legend

Size of Population of Urban Centers

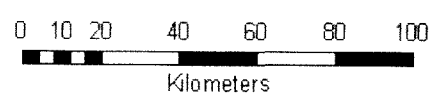
- ⊕ Class I
- ⊙ Class II
- Δ Class V

Population Growth in %

- Above 150
- ⊘ 100 - 150
- ▨ 50 - 100
- ▩ Below 50
- Loss

Map 2.2

- NCR Boundary
- - State Boundary
- - - District Boundary
- Road
- +— Railway



NATIONAL CAPITAL REGION GROWTH OF URBAN CENTRES 1991 - 2001

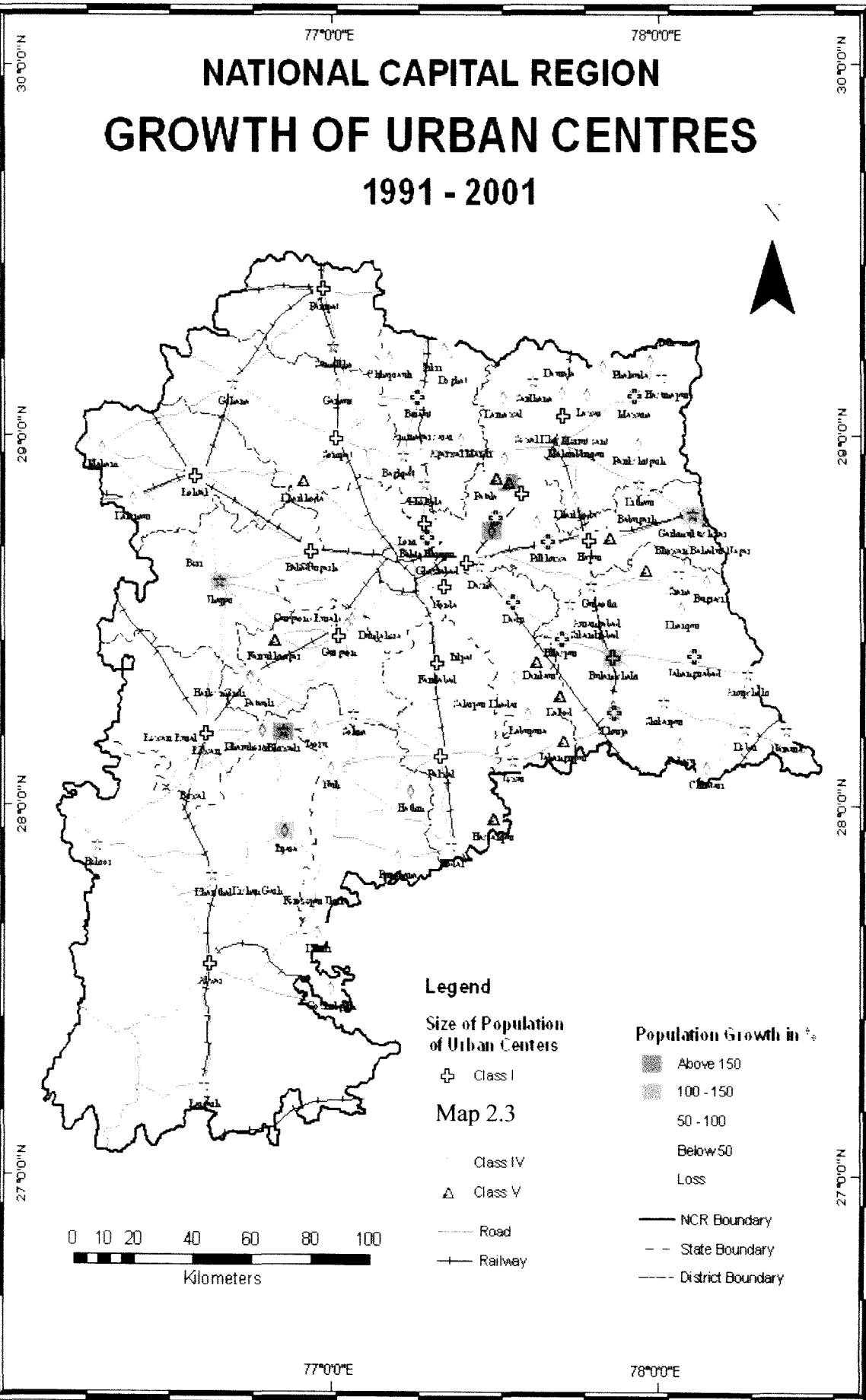


Table : 2.15 Percentage of Population in each class size in NCR in 2001

	Population	% of pop.	No of towns
Class I	17092744	82.18	25
Class II	1303467	6.27	18
Class III	1498719	7.21	45
Class IV	708330	3.41	50
Class V	181979	0.87	22
Class VI	14687	0.07	4
TOTAL POPULATION	20799926	100.00	165

Thus, the entire region outside NCR, is still registering a relatively slow growth rate reading to a lopsided development of the region characterized by the “Metropolis-Satellite” syndrome, where part of economic surplus of the periphery is extracted by the core without any plough back and whatever development take place in the periphery mostly reflects the expansion needs of the core.

Few towns have grown tremendously like Loni which has growth rate of 230.80% in 1991-2001 and its growth rate was even higher in 1981-91 i.e. 256.3 percent Behta Hazipur, which is classII town recorded growth rate 210.60 percent in 1991-2001 whereas the decadal growth rate in the earlier decade was as high as 648.15 percent the population being 4,058 in 1981 then 30,360 in 1991. Bhiwadi too doubled itself.(The decadal growth rate is shown in appendix 1).

Of all the towns in N.C.R. ordinary factory Muradnagar in Ghaziabad district is the only town (Class IV) which recorded a negative growth rate in 1991-2001 (-15.92 percent) other towns recording low growth are Tikri (Class IV) (5.03 percent), dohat (7.74 percent) in Bahpat district of O.P., Bhawar Bhadu Nagar (Class V) in Bulandshahar district in U.P., Patala 6.01 percent in Ghaziabad, in the year 1991-2001

2.6 Conclusion

- (1) The percentage decadal growth registered is still high but is showing signs of slowing down the decadal population growth was as high 24.8 percent in the decade 1961-71 which slightly came down to 23.5 percent in 1981-91. It has further declined to 21.34 percent in 1991-2001.
- (2) The pace of urbanization in India, was picking up and reached its maximum during 1971-81, after which it showed down substantially.
- (3) Increasing concentration of urban population in large cities is due to progressive increase in the number of both the cities and the million – plus cities, increase in administration boundaries of the cities, natural increase and rural – urban migration are also reasons for high population growth.
- (4) The absolute increase in the urban population has been the main factor putting pressure on urban infrastructure greater Mumbai, Kolkata, Delhi, Chennai, are the most popular metropolitan cities. Their population taken together, accounts for nearly 17 percent of the urban population in 2001.
- (5) Due to 12 new cities getting the status of metropolitan cities in the census of India, 2011, nearly 13.1 million people (4.59 percent) were added to the total urban population of 2001.
- (6) In the NCR, more than 80 percent of population is in class I town in 1991, which increased to 82 percent in 2001.
- (7) Other towns though increase in number but the percentage of population over the decade 1991-2001, living in these towns remained more or less same.
- (8) And the number of towns increased in NCR with substantial increase in the number of towns in Delhi from 32 in 1991 to 59 in 2001.

Chapter –3

Levels of Socio-Economic
Development

Chapter-3

LEVEL OF SOCIO-ECONOMIC DEVELOPMENT

3.1 Introduction

The concept of development has been narrowly conceived as a major domain of economists because its definition hitherto has highlighted mostly the economic development or components at the expense of other related aspects of society. Nevertheless, around the middle of this century, with increasing realization of the expanding scope of the meaning of development, new parameters have been slowly added, leading, to diversification of the dimensions of development. In this context, one classification has divided development into its primary, secondary and tertiary sectors. The well-known economist, Todoro (1985) has further expanded the scope of development. He defined development in terms of three equally important aspects:

1. Raising people's living levels, i.e., their incomes and consumption levels of food medical services, education etc, through 'relevant' economic growth processes,
2. creating conditions conducive to the growth of people's self-esteem through the establishment of social, political and economic systems and institutions which promote human dignity; and
3. increasing people's freedom to choose by increasing varieties of consumer goods and services.

But in 1992, another effort was made recently to rationalize the meaning of development by a group of four authors (Mahadevan, B.R.Abu Laban, S.M. Abu Laban and Sumangala). According to them 'development is conceived as a multidimensional, diverse and a presumably ameliorative upward movement of the entire socio-economic system, giving, a differential emphases to improving appropriate sectors of society on a flexible basis, over time. it may ultimately result in an increase in levels of income, improvement in quality of life, stabilization of population, and it may also pay the way towards a more egalitarian society '. Thus, development is not viewed merely as increase GDP or economic growth but has 'social' development attached to it. Thus, from economic

development a new term socio-economic development came in being. And Prof. Sen has “brought home to us that growth and development are ultimately about entitlements of people,” arguing for universal literacy, compulsory education and provision of basic amenities like water, sewage and sanitation.

3.2 Indicators of Development

Physical Quality Life Index (PQLI) of Overseas Development Corporation (USA) cannot be considered as a universal acceptable and comprehensive level of measurement of development. A recent model, viz, “Third World Development and Quality of Life : Towards a Holistic Model” (Mahadevan, et al 1992) conceptualized overall development in a holistic framework. Under this model the core dimensions of development has been characterized as infrastructural facilities, social development, economic development and population regulation. And this model focuses on four indicators, they are literacy from social development, per capital net domestic product from economic development, road length per 100 km², representing the infrastructural facilities and IMR from population parameters. Thus, these four indicators together reflect the overall development.

For studying development and disparity in India, studies have been done from time to time involving various parameters for example, 1961, Asok Mitra - Level of Regional Development in India, V.Nath, Hemlata Rao's taking 24 variables, Ganguli and Gupta and others. Each study had different set of indicator and which indicators should be chosen? This is a very difficult question to decide upon. The choice will inevitably have to depend upon – some value judgment about what is an important indicator and what is an unimportant indicator and availability of data. There may be indicator which according to our value judgment are important but for which comparable data for different units (states, districts, towns, as the case may be) are not available. Then, there may be some indicators that don't seem very important but are included in the study because data for them are easily available.

This chapter deals with the levels of development of the towns surrounding the National Capital Region (excluding the towns in Delhi). The towns of the NCT-Delhi haven't been included as they are bound to be better off than the surrounding (being situated in the National capital and they are too large in number (1991-32), (2001-59)]. So, the study will only focus on the towns surrounding the NCT-Delhi, which

are included in the National Capital Region. The levels of development are being studied by using composite Index. The disparity among these towns are also studied over the decade using coefficient of variation, which shows whether disparity has increased among the towns during 1991-2001 or reduced. A reduction in the disparity shows balanced growth, which in turn is the precondition for the harmonious development of an area as well as of the nation.

There are many indicators to study development but for the study following indicators have been chosen, keeping in mind the purpose of the study and most importantly the availability of data at town level.

The study focuses on the social aspects with indicators showing the availability of housing amenities like, percentage of household having toilet facilities, percentage of household having access to safe drinking water, percentage of household having electricity facility and percentage of household having cooking gas as fuel for cooking food.

Besides studying the housing amenities, some other indicators of social development have been taken like sex-ratio (0-6), female literacy rate, and male literacy rate.

For studying the economic conditions of the town's work force participation rate is used. But instead of taking the work force participation for the whole population, its gender aspect is studied taking both female work participation rate and male work participation rate. As there is a big gap between these two.

3.3 Development of Housing Amenities 1991 – 2001

The single most important change in human settlement in the 20th century is manifested in the growing proportion of population living, in urban centres and cities as compare to those in rural areas as construction technology .The access of quality of housing and urban basic service directly influence the quality of life of the people, their productivity levels and growth potentials. Housing and housing amenities are basic necessities of life. Housing on one hand provides security and minimum civic facilities and privacy to human beings for decent living. On the other hand housing

also has a positive impact on the individuals, physical and mental health and happiness and enhances their productivity.

Housing reflects the level of living of the people, since food shelter, and clothing are the three requirements of human beings. The space per person in the dwelling unit, status, occupancy, age and structural conditions are some important aspects of the internal housing environment. The site conditions, drainage, water, supply, electricity facilities and other amenities like education facilities, hospitals etc. constitute external housing environment.

3.3.1 Access to safe drinking water supply

Water is one of the basic necessities of life. Safe drinking water facilities include tap and hand pump. Other sources like wells, are excluded. In urban areas, there is shortage of water and the municipality keeps fixed hours to provide water even in posh colonies. The availability of safe drinking water facilities have direct link to the physical well-being of individuals in society as lack of it will pressurize or compel people to use other sources which could eventually spread water borne diseases. At the time of house listing, each household is asked to specify the source of drinking water supply to the household, i.e. whether the household obtained its drinking water supply from a well or a tap, hand-pump, tube well or any other source. If the household has access to drinking water supplied from a tap or a handpump / tubewell situated within or outside its premises it is considered as having access to safe drinking water.

At the national level the percentage of household having safe drinking water facility increased from 62.72percent in 1991 to 77.9percent in 2001.

In the surrounding towns of NCR, the average percent of household having safe drinking water facility is 89.66percent. As all towns report high percentage and the

Table 3.1 Showing the percentage of household having the various housing amenities

	1991	2001	1991	2001	1991	2001	1991	2001
town	Electricity	Electricity	Safe drinking water	Safe drinking water	Toilet Facility	Toilet Facility	Cooking Gas	Cooking Gas
Panipat	94.17	97.40	92.7	94.30	78.4	90.57	47.85	68.45
Samalkha	92.31	94.68	94.36	90.87	54.53	77.22	34.87	70.93
Sonipat	93.39	95.31	94.06	83.33	68.23	86.00	49.86	72.13
Gohana	90.87	93.57	91.99	95.07	46.13	73.92	44.73	63.30
Ganaur	93.32	93.93	93.32	94.07	50.21	72.77	39.64	65.95
Kharkhoda	87.47	92.09	84.05	96.55	23.23	59.54	20.05	47.42
Rohtak	94.6	96.11	92.22	95.11	72.55	86.86	55.69	74.80
Maham	86.88	91.06	47.08	81.58	46.88	61.83	23.13	42.08
Kalanaur	85.59	91.30	78.29	96.96	44.05	58.45	30.27	51.40
Bahadurgarh	96.21	96.79	95.95	96.72	68.18	85.68	58.22	73.92
Jhajjar	94.95	96.37	82.73	91.75	48.65	78.41	39.72	61.11
Beri	93.4	92.36	77.87	95.62	25.32	63.77	6.38	36.19
Faridabad Complex	78.22	86.06	94.5	93.68	57.84	78.41	35.47	59.38
Palwal	87.45	90.17	93.75	97.78	59.43	74.61	43.16	60.82
Hodal	76.23	82.67	93.67	82.83	48.32	58.48	6.59	49.72
Hathin	73.44	86.19	83.82	90.07	27.8	42.78	6.64	28.84
Hassanpur	61.57	80.62	92.13	88.33	36.11	47.26	7.87	31.34
Gurgaon	95.19	97.97	94.79	93.18	83.33	94.37	72.75	84.59
Gurgaon Rural	86.37	96.89	94.24	86.57	28.41	84.00	34.74	74.98
Sohna	82.94	90.62	92.66	89.99	52.11	69.72	46.61	65.26
Ferozepur Jhirka	80.42	86.98	81.22	93.83	43.92	50.93	25.93	35.81
Taoru	86.8	86.05	98.42	93.06	61.26	63.41	25.11	47.32
Haileymandi	77.78	88.49	96.38	93.43	32.61	63.13	16.91	47.69
Pataudi	78.7	88.91	97.93	92.58	26.04	64.74	13.02	40.54
Punahana	83.87	86.86	90.68	97.61	46.59	61.61	13.98	36.91
Nuh	92.62	89.18	93.03	99.43	54.92	63.52	23.77	54.97
Dundahera	92.75	97.79	82.61	96.42	35.87	89.86	36.96	57.34
Farruknagar	73.41	88.90	98.41	98.21	24.21	63.11	15.08	35.35
Rewari	93.04	95.82	92.61	96.89	64.96	85.81	41.91	74.03
Dharuhera	91.83	95.20	96.77	95	23.23	63.21	9.25	52.22
Bawal	78.19	93.43	90.6	93.95	37.25	53.47	9.4	36.70
Alwar	89.41	93.47	84.53	94.78	74.57	83.09	44.25	71.83
Bhiwadi	79.36	98.21	92.94	90.25	26.84	68.31	8.24	33.93
Khairthal	76.22	85.11	78.46	79.28	50.63	60.32	14.41	45.97
Rajgarh	80.23	92.55	80.38	85.94	42.88	57.08	9.74	35.27
Behror	82.29	93.99	89.69	93.17	49.76	80.56	8.21	36.82
Tijara	63.12	77.70	85.03	75.58	31.67	50.73	13.45	38.69
Kherli	85.35	88.23	93.26	82.80	68.14	78.00	22.33	46.04
Govindgarh (Rj)	64.2	86.06	60.61	82.10	43.94	55.15	15.53	35.68
Meerut	83.52	88.77	92.17	97.95	78.26	87.65	36.9	57.34
Mawana	78.67	86.84	96.31	99.67	83.78	87.19	23.64	36.33

Sardhana	72.18	88.43	95.55	99.58	70.73	93.38	23.36	18.84
Kithaur	48.94	53.10	93.64	92.72	78.21	86.97	2.54	30.26
Hastinapur	39.8	51.11	95.43	92.77	38.34	54.46	14.52	53.45
Sewal Khas	47.65	22.92	92.52	99.60	50.69	70.58	3.6	18.59
Lawar	39.09	41.83	90.61	96.97	57.87	75.95	2.28	26.74
Parikshitgarh	64.12	71.24	95.17	97.71	64.12	80.80	8.4	20.31
Phalauda	52.7	57.81	89.46	97.01	57.84	71.76	4.11	36.65
1991	1991	2001	1991	2001	1991	2001	1991	2001
town	Electricity	Electricity	Safe drinking water	Safe drinking water	Toilet Facility	Toilet Facility	Cooking Gas	Cooking Gas
Kharkhoda	60.87	60.60	94.65	99.29	47.83	68.77	4.68	7.52
Daurala	34.01	77.67	94.56	97.62	15.99	61.13	3.74	5.60
Behsuma	39.34	62.48	91.54	96.54	37.5	53.83	5.51	55.56
Baraut	85.77	87.90	96.11	97.09	77.65	88.02	39.04	8.46
khekada	71.2	82.33	91.79	91.84	39.71	76.29	14.85	12.92
Baghpat	64.14	81.60	87.9	98.03	60.48	81.18	25.18	17.89
Chhaprauli	53.81	59.73	91.07	97.05	28.98	60.82	7.41	16.06
Tikri	33.89	29.62	60.83	99.54	10.83	50.94	1.39	6.99
Doghat	33.98	29.97	81.89	98.62	13.65	44.47	1.11	3.67
Agarwal Mandi	75.38	88.57	92.49	97.26	39.34	55.97	13.51	15.29
Aminagar Sarai	72.54	55.32	94.26	98.49	58.2	83.48	15.91	34.63
Ghaziabad	80.44	92.51	93.82	96.22	70.44	90.59	40.7	72.62
Hapur	75.28	82.38	92.44	98.16	73.25	81.96	30.71	49.74
Modinagar	95.12	69.38	95.97	99.27	87.19	93.58	48.2	32.20
Loni	64.12	80.00	91.81	97.79	60.06	93.85	11.93	80.00
Behta Hajipur	55.17	63.42	97.56	97.47	36.53	77.75	10.17	39.05
Muradnagar	77.29	85.33	96.88	99.01	70.81	89.88	26.52	59.82
Pilkhua	79.68	85.07	95.06	98.18	75.02	86.58	30.42	52.98
Garhmukteshwar	46.64	48.98	91.99	96.71	50.88	69.66	4.95	10.41
Dasna	71.1	83.93	93.02	98.15	71.26	73.66	4.15	19.43
Faridnagar	43.17	55.71	89.57	97.49	56.47	65.11	5.76	6.27
Ordinance Fty. Muradnagar	88.11	99.36	98.05	99.95	97.47	91.02	79.73	94.67
Niwadi	64.39	80.32	93.17	95.32	29.27	64.78	2.93	17.03
Patla	55.12	70.14	95.67	98.99	21.65	50	6.69	13.70
Babugarh	74.76	93.80	99.03	99.63	50.49	59.55	16.5	46.77
Noida	70.1	91.42	92.89	98.21	60.42	78.65	40.99	68.63
Dadri	76.75	87.82	92.7	99.65	62.65	85.70	24.38	54.72
Jewar	53.2	50.16	79.79	95.94	50.26	67.45	5.01	13.17
Rabupura	56.9	58.89	83.84	97.78	57.24	50.66	7.41	13.72
Dankaur	83.78	94.06	97.64	99.20	71.28	94.80	12.5	40.72
Jahangirpur	45.92	46.63	93.56	99.33	47.64	62.78	3.43	12.99
Bilaspur	68.07	73.57	86.14	98.48	87.23	73.19	8.43	18.06
Kakod	48.03	42.07	92.79	98.75	49.34	55.53	7.24	16.08
Bulandshahr	89.45	94.85	87.77	98.95	86.03	94.59	34.93	66.90
Khurja	83.71	92.81	92.77	96.35	85.76	91.82	23.95	49.58
sikandarabad	84.75	87.13	93.14	98.84	79.06	85.69	20.59	40.50

Jahangirabad	67.14	74.58	92.28	99.26	63.28	76.51	10.08	40.83
Gulaothi	77.3	80.15	87.93	95.15	71.56	85.78	17.44	42.90
siyana	58.45	68.90	90.71	97.69	69.64	80.63	6.67	22.24
Debai	64.55	73.35	86.68	99.21	67.27	78.98	19.02	37.56
Shikarpur	54.89	55.31	96.49	97.07	67.79	72.39	10.53	25.72
Anupshahr	68.65	67.03	90.43	98.19	71.29	72.38	27.56	49.99
Naraura	68.25	82.66	93.12	99.71	58.22	64.33	45.13	55.14
Aurangabad (59.53	34.08	80.72	75.08	66.95	69.19	2.33	14.98
Pahasu	68.49	59.49	90.96	97.94	80.55	75.73	2.19	19.98
Khanpur	59.54	49.81	77.3	96.98	72.7	93.10	9.21	9.71
Bugrasi	66.78	66.80	91.45	99.76	64.8	73.72	2.3	10.22
1991	1991	2001	1991	2001	1991	2001	1991	2001
town	Electricity	Electricity	Safe drinking water	Safe drinking water	Toilet Facility	Toilet Facility	Cooking Gas	Cooking Gas
Bhawan Bahadurnagar	45.26	47.29	65.69	99.15	40.51	58.07	5.11	16.79
Merrut cant.	89.9	95.25	93.19	98.65	79.09	86.53	51.92	69.00
Begumabad Budhana	71.06	83.03	95.29	96.43	34.35	66.48	7.76	40.09
Bisokhar	63.54	77.07	97.11	99.00	22.74	47.48	3.97	30.28

Source:Census of India 1991.

low being in 70percent of few small towns like Beri (77.87percent), and Khanpur (77.3percent) among few others.

In 2001, the average value of (of household having safe drinking water facility) increased to 95percent and only Khairthal (79.28percent) and Aurangabad (75.08percent) have percent of safe drinking water facility less than80percent but the other towns have value lies between 80percent to 90 percent.

3.3.2 Provision of Electricity

One of the incredible inventions of mankind is electricity. It has helped no only in factories, production houses but also makes life comfortable for people living in houses. It is used for lightening houses, fans, air-conditions, and other household appliances. Earlier, people used kerosene oil for lighting houses at night, which had serious impact on health. Electrification has also helped in other sectors like heath, transportation, and railways.

The picture regarding the provision of electricity is not very good as towns like Hastinapur reports only 39.80 percent household having electricity, Daurala (34.01 percent), Tikri (33.89 percent), Doghat (33.98 percent) in 1991.

But in 2001, the situation improved as Hastinapur reported 51.11 percent but Tikri reported 29.97 percent, Doghat 29.97 percent, which shows decrease. In spite of the average being increased from 74.70 percent to 77.56 percent in 2001, which shows that though of household having electricity but that happened in big towns. Gurgaon had 95.19 percent but increased to 97.97 percent, whereas Gurgaon rural increased from 86.37 percent in 1991 to 96.89 percent in 2001.

3.3.3 Availability of Toilet Facilities

Percentage of household having toilet facilities reflect the social development as toilet being given a prominent place in houses, unlike earlier when open spaces were used. Moreover, it also ensures that people are becoming health and hygiene conscious and are giving due importance to sanitation. In India, there are 122 million (63.6 percent) households do not have latrine within the house, according to census 2001. As compared to the electricity facility or safe drinking water facilities discussed above, the condition (availability) of toilet facility in the towns is poor. As the percent of household having toilet are as low as low as 14.33 percent in Karnawal, 15.99 percent in Daurala. But it improved in the next decade.

3.3.4 Availability of cooking gas used as fuel for cooking

There are different fuels used for cooking like wood, cow-dung, kerosene and cooking gas. Each has its own calorific value. But in India it's the availability (in general) that decides which fuel to be used rather than the calorific value. Out of all the available fuel, cooking gas is considered the most desirable as it is convenient use and has on no side effects on health of people using it or around, unlike wood which on burning gives less heat but emit gases which leads to many respiratory completion.

For the first time in 1991 census, an enquiry on the type of fuel used for cooking was introduced. Eight types of fuel, viz. cow dung cake, electricity, coal / coke / lignite, charcoal, cooking gas, wood, biogas and kerosene.

But only cooking gas is taken into consideration for the study. In India, LPG as a fuel for cooking is used by 34 million (17.5 percent) households only, according to census, 2001.

Similarly, the percentage of households using LPG as fuel for cooking in the study area as low as 6.59 percent (Hodal), 6.64 (Hathin), Behror (8.21), 2.28 percent in Lawar and 1.22 percent in Karnawal, in 1991. But in 2001, it increased in case of Hodal it was reported 49.72 percent, Hathin (28.84 percent), Lawar (26.74 percent), Behror (36.82 percent), Lawar (26.74 percent). Though percentage of household have increased but still a lot has to be achieved as cooking gas, affects the health of women and children and it is best fuel from health as well as efficiency point of view.

3.4 Social Development

3.4.1 Sex-Ratio (0-6) : It shows the number of females population in the age group (0-6) years and thus reflects the condition prevailing in the society related to women status. Sex-ratio is affected by sex-ratio at birth, sex-ratio of deceased persons and sex-ratio of Net migrants. Economically better off state not necessarily mean that social development is also attained as can be seen in case of Haryana.

Sex ratio has a profound effect on other demographic features like growth of population, marriage rates, occupational structure etc. For reasons unknown, male births exceed female births in almost all societies. In our country women being given a subordinate role in the society often suffer high mortality rates in childbirth. It leads to unfavorable sex-ratio.

It is commonly understood that males and females in the population balance each other in number. According to United Nations estimates, the world had 986 females against 1000 males in 2000.

Except Indonesia and Japan, all other Asian countries have low sex-ratio. However, most of the developed European countries have high sex ratio. Interestingly, the sheer weight of the population of the four Asian countries, particularly China (944) and India (933) with low-sex-ratio contributes to the preponderance of male over females

in the world. Migration of males to urban areas is the reason for lower sex-ratio in urban areas This low sex-ratio affects the child sex ratio.

Sex-ratio of children (0-6) is considered as an better indicator of social development and for studying the demographic trends of young population, its future patterns and particularly, the status of the girl child. The child sex ratio is primarily influenced by sex-ratio at birth and mortality in early childhood. The natural sex ratio at birth usually has higher male births. It ranges between 943 and 954. But the advantage of higher sex-ratio at birth (SRB) is neutralized due to higher male infant mortality in the normal population. Prior to 2001 the child sex-ratio was close to sex-ratio at birth but due to rapid decline this has fallen even below (SRB) in census 2001. This reflects a grim picture of the status of the girl child in the country.

Table3.2 Number of villages and urban Agglomeration (UAs) / Towns by child sex ratio (0-6) years : India.

Sex-Ratio Ranges	No. of Districts	No. of Villages	No. of UAS / Towns
Less than 800	14	122,520	236
800 - 849	35	55,021	454
850 - 899	69	65,175	921
900 - 949	217	70,468	1,457
950 - 999	250	53,544	939
1000 or above	8	221,856	370
Total :	593	588,584	4,377

SOURCE: Primary census abstract, India, census of India, 2001.

The bias against the girl child can be curbed with education of the female and education of the whole society. The low child sex-ratio is indicative of sex selective births due to female foeticide. The situation is very in the towns of the study area especially in the towns of Haryana and there are cases where one woman is married

more than one male in the house. The government has banned the tests used to detect the sex of the child.

Table 3.3 showing the various social development indicators

	1991	2001	1991	2001	1991	2001
Town	sex-Ratio0-6	Sex-Ratio	Female lit	Fem lit	Male lit	M lit(%)
Panipat	919.64	802.84	53.61	62.63	65.18	71.82
Samalkha	792.95	763.09	49.86	60.24	65.16	72.77
Sonipat	895.16	765.07	54.92	65.50	70.34	76.35
Gohana	898.53	769.23	49.25	59.84	66.51	72.85
Ganaur	902.34	805.12	49.86	58.80	68.22	73.98
Kharkhoda	851.77	790.91	43.48	55.21	62.49	70.00
Rohtak	875.56	784.51	57.24	65.91	71.40	75.62
Maham	848.77	770.77	45.87	57.47	64.13	71.37
Kalanaur	901.50	785.76	45.12	57.09	65.78	71.38
Bahadurgarh	882.85	806.82	56.79	62.76	72.12	75.85
Jhajjar	870.87	800.13	50.60	61.06	71.15	75.39
Beri	883.44	814.38	42.74	55.05	69.10	74.93
Faridabad Complex	901.85	848.48	51.36	58.77	68.93	73.40
Palwal	863.48	838.84	48.64	56.11	65.93	70.93
Hodal	850.19	856.64	34.33	45.22	60.86	65.95
Hathin	845.10	879.89	33.79	46.55	58.78	67.74
Hassanpur	820.24	853.04	34.76	40.97	54.44	61.24
Gurgaon	895.78	787.44	65.83	71.68	76.65	79.27
Gurgaon Rural	892.35	744.50	50.01	62.63	69.91	75.51
Sohna	921.45	833.58	44.03	53.52	63.00	69.14
Ferozepur Jhirka	861.53	913.66	36.93	39.55	58.68	60.55
Taoru	790.46	835.45	49.97	57.79	69.08	72.86
Haileymandi	951.11	786.83	44.36	61.14	66.59	75.32
Pataudi	868.17	801.41	36.96	47.52	59.58	63.64
Punahana	879.96	906.50	36.11	40.13	58.90	62.93
Nuh	848.82	940.55	39.93	43.65	60.45	62.95
Dundahera	797.99	770.11	46.86	64.38	71.28	81.35
Farruknagar	1016.17	828.13	39.48	53.47	66.31	70.97
Rewari	908.95	818.78	55.88	66.20	73.26	78.78
Dharuhera	907.05	790.08	38.00	55.13	71.92	73.87
Bawal	928.57	855.76	43.43	53.40	69.46	74.22
Alwar	884.04	829.92	51.11	63.02	71.97	78.48
Bhiwadi	858.95	805.45	30.55	52.03	68.44	75.23
Khairthal	915.36	856.01	44.65	54.82	67.61	71.03
Rajgarh	966.07	833.71	35.11	50.00	68.60	75.42
Behror	905.42	852.63	40.94	59.53	68.36	77.04
Tijara	940.04	901.28	32.43	50.59	59.99	71.69
Kherli	914.23	843.09	56.58	64.23	75.83	79.99

Govindgarh	903.34	888.66	40.50	51.11	65.39	72.10
Meerut	929.91	861.01	41.43	51.00	56.59	62.54
Mawana	905.79	862.96	26.71	43.87	43.34	59.95
Sardhana	942.11	902.52	28.88	35.03	45.75	51.10
	1991	2001	1991	2001	1991	2001
Town	sex-Ratio0-6	Sex-Ratio	Female lit	Fem lit	Male lit	M lit(%)
Hastinapur	990.40	907.78	37.65	47.12	56.86	66.99
Sewal Khas	890.88	876.50	15.52	21.17	38.34	41.21
Lawar	934.44	855.97	18.71	33.88	42.57	54.11
Parikshitgarh	925.11	865.48	36.60	47.67	57.34	66.38
Phalauda	932.93	829.38	22.42	37.31	44.59	57.88
Karnawal	903.70	871.61	33.79	45.40	61.26	69.20
Kharkhoda	877.69	800.33	34.34	47.23	59.41	63.97
Daurala	926.85	747.83	29.92	44.23	54.66	64.82
Behsuma	1003.68	836.86	31.13	48.43	54.76	65.81
Baraut	901.07	838.04	43.23	53.44	62.65	66.93
Khekada	879.55	824.09	33.48	48.60	56.42	66.71
Baghpat	949.11	864.17	22.23	35.18	39.86	50.35
Chhaprauli	880.68	850.17	29.38	42.56	53.98	65.00
Tikri	911.42	834.10	24.15	37.04	50.90	63.06
Doghat	890.33	809.76	27.24	43.10	52.50	65.23
Agarwal Mandi	990.35	895.28	42.11	56.17	67.95	75.72
Aminagar Sarai	931.38	945.32	41.96	47.52	62.48	66.64
Ghaziabad	884.48	836.65	45.82	61.18	60.40	73.77
Hapur	831.53	871.72	37.79	49.19	54.71	64.18
Modinagar	529.38	865.74	54.07	39.36	71.90	55.82
Loni	890.00	799.97	24.97	66.73	46.31	79.02
Behta Hajipur	874.75	857.71	34.18	48.08	59.06	66.44
Muradnagar	891.19	838.25	32.49	43.38	51.77	60.28
Pilkhua	898.28	851.01	38.35	51.14	59.64	68.55
Garhmukteshwar	953.61	846.49	21.64	39.15	39.69	55.77
Dasna	884.51	902.92	18.59	31.11	42.38	54.60
Faridnagar	906.92	863.64	20.27	33.25	38.18	52.17
Ordinance Fty. Muradnagar	906.71	832.03	64.61	69.59	79.01	83.59
Niwadi	1000.00	810.23	27.74	53.40	36.07	67.56
Patla	883.72	790.14	38.95	50.02	64.52	69.20
Babugarh	855.72	879.28	42.34	52.12	62.13	72.77
Noida	877.94	862.02	40.60	61.29	63.09	73.13
Dadri	871.85	843.83	35.26	45.09	53.35	61.11
Jewar	887.56	897.22	22.85	36.76	44.09	56.05
Rabupura	879.90	844.22	20.72	29.99	46.44	52.96
Dankaur	855.53	853.87	32.69	45.28	59.31	65.09
Jahangirpur	878.48	836.20	25.27	35.90	47.04	56.62
Bilaspur	886.84	807.11	25.05	37.24	46.41	55.40
Kakod	972.76	896.88	17.55	32.42	38.96	51.91
Bulandshahr	927.57	826.22	43.57	53.84	60.74	66.81
Khurja	903.57	874.09	33.03	44.35	50.78	58.47

sikandarabad	906.30	888.38	26.82	41.57	46.85	57.29
Jahangirabad	910.10	846.57	28.91	38.77	51.42	59.56
Gulaothi	893.23	891.61	35.91	43.06	55.58	61.70
Siyana	944.63	884.31	27.76	42.50	48.25	61.31
Debai	856.86	907.58	30.58	39.87	48.48	57.09
Shikarpur	905.24	842.69	23.79	39.40	47.31	59.28
Anupshahr	869.54	876.75	37.44	48.61	51.10	62.95
Naraura	912.50	830.33	37.57	45.70	59.81	62.04
	1991	2001	1991	2001	1991	2001
Town	sex-Ratio0-6	Sex-Ratio	Female lit	Fem lit	Male lit	M lit(%)
Pahasu	896.48	900.06	22.20	36.07	39.61	54.13
Khanpur	847.70	900.53	17.89	12.53	41.90	24.66
Bugrasi	871.21	857.43	16.68	34.21	44.32	54.89
Chhatari	898.07	813.22	23.79	33.74	43.13	53.27
Bhawan Bahadumagar	895.31	818.72	33.88	46.94	58.71	69.96
Merrut cant.	909.73	835.66	61.38	64.42	71.00	75.29
Begumabad Budhana	906.45	895.14	29.08	49.60	54.10	71.17
Bisokhar	826.13	846.15	24.17	42.42	45.15	62.17

Source:Census India 1991,2001

NOTE*: Excludes villages and towns with no males and females aged 0-6 years.

The child sex ratio of towns have not increased during the decade. Class I towns like Panipat, Gurgaon registered, decrease in their child sex-ratio. Panipat had child sex-ratio 919.64/000 males in 1991 but decreased to 802.84 in 2001. Similarly, Gurgaon 895.78 in 1991 but decreased to 787.44 in 2001. Towns outside Haryana, like Ghaziabad decreased from 884.48 to 836.65 in 2001.

3.4.2 Literacy

Literacy is that qualitative attribute of population, which is a fair by reliable index of the socio-economic development of an area. It reflects the social aspect of population by which its quality can be ascertained. There is a wide variation over the world in the literacy and also in India. Major factors affecting this rate are levels of economic development, urbanization and standard of living, social status of females; availability of educational facilities and the policies of the government level of economic development is both a cause and a consequence of literacy. The developed and urban economics reflect higher literacy rate and high standards of education. Spread of

literacy is generally associated with important traits of modern civilization such as modernization, urbanization industrialization, communication and commerce. It forms an important input in overall development of individual enabling them to comprehend their social, political and cultural environment better and respond to it appropriately. Higher levels of education and literacy lead to greater awareness and also contributes in improving the economic and social conditions. It acts as a catalyst for social upliftment enhancing the returns on investment made in almost every aspect of development effort, be it population control, health, hygiene, environmental degradation control, employment of weaker sections of society. Here in the study emphasis is on the gender gap.

Female literacy has improved over the decade .Daurala had 29.92 percent female literacy in 1991 and and 54.66 percent male literacy but increased to 44.23 percent and 64.82 percent in 2001. Other towns have also shown improvement.

3.5 Economic Development

The study of the economically active population or labor force occupies an important position in the field of population studies as the economic and social development of a nation depends on the number of persons who are economically active and the quality of their employment. Labor force participation rates are useful for an understanding of the extent to which women, children and the aged participate in economic activity. Several questions can be answered through and analysis of labor force statistics, form the point of view of social welfare. For example: what proportions of women are economically active? Thus, also provide information about the social development of the society besides giving information about the economical well being (gives insight about women status in the society which further reflects development of the society)

Sex differential among the number of male and female workers in the total work force is significant. Out of total 402 million workers, 275 million are males and 127 million females. This would mean that 51.7 percent of the total males and 25.6 percent of the total females are workers, according to census 2001.

Table 3.4 shows the work participation rate of male and female for 1991 and 2001. The highest male work participation is recorded in Bhiwadi 69.33 percent in 1991 but decreased to 65.41 percent in 2001, Dharuhera as 60.77 percent in 1991, followed by 58.68 percent in Niwari, Noida 54.19 percent in 1991. 57.54 percent is recorded in Meerut in 2001 and Bhiwadi though decreased over the decade but it is still high comparatively. Dundaheera male work participation increased from 42.66 percent in 1991 to 56.92 percent in 2001.

The female work participation has increased over that decade. In fact the female participation increased more than the male work participation for example in Panipat it increased from 5.90 percent in 1991 to 16.13 percent in 2001, that is nearly three times. In Samalkha, it increased from 2.85 percent to 9.622 percent and in Bawal it increased from 13.14 percent to 28.02 percent. Although it has been seen that female participation has increased by what kind of jobs these females are involved is not clear.

Table 3.4 Showing male-Female work Participation rate, 1991 and 2001

	1991	2001	1991	2001		1991	2001	1991	2001
town	male_wPR	Male_wpr	Female_wpr	fwpr	towns	male_wpr	m_wpr	Female_wpr	fwpr
Panipat	52.11	54.11	5.90	16.13	Meerut	46.99	44.42	3.78	4.70
Samalkha	46.61	48.18	2.85	9.62	Mawana	47.23	45.63	3.76	5.24
Sonipat	46.62	45.26	5.78	10.50	Sardhana	48.35	42.35	3.84	3.23
Gohana	45.46	46.29	3.38	7.92	Kithaur	45.09	42.02	5.24	6.94
Ganaur	46.44	46.33	4.88	13.64	Hastinapur	48.32	46.08	6.97	8.38
Kharkhoda	45.81	47.21	3.77	16.20	Sewal Khas	44.65	37.95	2.76	4.59
Rohtak	46.93	46.40	5.87	9.82	Lawar	51.19	42.42	11.44	9.16
Maham	46.22	48.52	6.72	19.83	Parikshitgarh	46.70	42.79	3.51	3.45
Kalanaur	46.23	47.64	2.85	12.37	Phalanda	50.63	45.29	8.35	10.39
Bahadurgarh	47.55	48.62	5.43	9.59	Karnawal	49.86	50.68	6.57	11.66
Jhajjar	45.36	46.51	4.01	19.89	Kharkhoda	46.30	46.98	3.40	6.27
Beri	40.35	44.80	2.48	12.65	Daurala	50.08	49.04	6.12	7.35
Faridabad Complex	51.02	49.41	4.87	8.67	Behsuma	52.34	46.56	4.76	5.61
Palwal	46.51	44.69	3.96	8.13	Baraut	47.15	43.94	2.95	3.94
Hodal	47.68	47.13	2.23	21.09	khekada	46.44	45.42	6.76	9.41
Hathin	47.14	44.49	3.92	17.90	Baghpat	46.37	42.39	2.90	6.65
Hassanpur	46.04	46.41	14.26	22.27	Chhaprauli	48.37	47.09	8.77	15.48
Gurgaon	48.33	50.61	8.18	11.34	Tikri	48.15	48.88	12.53	10.47
Gurgaon Rural	44.20	47.17	2.63	8.32	Doghat	47.80	48.07	11.49	28.37
Sohna	48.42	48.14	7.06	12.10	Agarwal	50.09	45.46	4.31	4.40

					Mandi				
Ferozepur Jhirka	45.96	46.13	6.14	14.37	Aminagar Sarai	48.20	45.82	3.86	3.80
Taoru	47.62	47.60	6.67	13.94	Ghaziabad	48.67	46.16	6.01	5.88
Haileymandi	45.16	47.79	3.13	15.66	Hapur	45.60	44.29	4.20	3.68
Pataudi	45.56	45.19	3.26	8.45	Modinagar	47.28	41.60	8.29	3.14
Punahana	45.62	45.09	2.88	16.47	Loni	45.79	45.10	6.18	5.20
Nuh	44.69	42.32	7.93	12.57	Behta Hajipur	46.76	44.39	3.75	6.12
Dundahera	42.66	56.92	2.08	10.29	Muradnagar	45.75	44.09	4.69	3.77
Farruknagar	47.62	49.06	2.39	14.82	Pilkhua	45.10	46.24	4.42	4.42
Rewari	46.25	47.16	3.81	7.20	Garhmuktes hwar	46.32	44.66	5.22	11.90
Dharuhera	60.77	52.29	3.31	7.21	Dasna	49.01	42.87	5.85	4.43
Bawal	45.46	49.60	13.14	28.02	Faridnagar	49.09	44.19	3.63	4.67
Alwar	47.08	45.28	5.08	8.02	Ordinance Fty. Muradnagar	45.42	45.03	4.56	6.01
Bhiwadi	69.33	65.41	6.50	14.89	Niwadi	58.68	47.46	0.93	4.50
Khairthal	44.86	49.00	8.47	18.63	Patla	50.95	46.38	3.81	9.47
Rajgarh	44.10	45.75	10.49	12.62	Babugarh	44.53	41.51	1.61	2.26
Behror	47.73	50.13	13.29	18.21	Noida	54.19	52.43	10.80	13.16
Tijara	44.57	52.14	12.48	32.48	Dadri	46.78	44.76	7.09	4.37
Kherli	45.23	46.91	2.77	5.70	Jewar	44.24	45.08	1.79	5.75
Govindgarh	38.14	51.52	6.58	22.73	Rabupura	46.73	44.20	4.61	6.60
Dankaur	44.53	44.11	1.08	2.25	Jahangirabad	46.72	48.22	3.10	12.59
Jahangirpur	50.26	44.86	4.59	7.63	Gulaothi	42.46	45.24	2.35	5.89
Bilaspur	47.52	39.91	5.41	3.39	Siyana	46.69	47.85	3.57	9.91
Kakod	46.03	44.42	3.43	6.54	Debai	44.92	44.96	2.12	7.55
Bulandshahr	45.58	43.91	3.84	6.04	Shikarpur	45.82	50.67	3.15	21.27
Khurja	47.26	47.52	5.72	7.44	Anupshahr	46.33	47.55	3.87	12.45
sikandarabad	48.07	48.65	7.21	14.49	Naraura	46.74	39.71	2.80	10.07
Khanpur	48.38	46.61	8.67	10.49	Aurangabad	44.46	45.91	1.38	16.00
Bugrasi	47.17	48.57	2.08	19.29	Pahasu	44.06	46.94	1.54	15.97
Chhatari	46.90	52.21	3.97	22.62	Merrut cant.	54.76	57.54	5.48	5.50
Bhawan Bahadurnagar	47.43	45.43	5.03	6.48	Begumabad Budhana	50.43	48.09	7.46	7.23
Bisokhar	44.81	47.73	2.36	9.07					

Source:Census Of India

The 3.5 table shows the Coefficient of Variation of each indicator taken in the study for year 1991 and 2001. Only Female Literacy rate, toilet facility and cooking gas have shown significant decline in the variation. The Male work Participation and percentage of household having electricity do not show any decline in the variation

over the decade. Female work participation, sex-ratio(0-6)and male literacy showed very less decline in the variation.

Table 3.5 Coefficient of Variation

Year	Male Work Participation	Female Work Participation	Sex-Ratio	Female literacy	Male Literacy	Electricity	Safe Drinking Water	TOILET	Cooking Gas
1991	7.94	55.93	6.17	32.04	18.84	23.40	9.66	36.60	84.62
2001	7.94	58.55	5.09	23.11	14.47	23.93	5.60	19.76	54.90

3.6 Socio-Economic Development in the towns of Study Area -A composite index has been computed by taking all the above nine indicators. On the basis of the composite index's value as given in table3.5 and 3.6 for year 1991 and 2001, five categories have been worked out by class interval method to show the level of development in the study area.

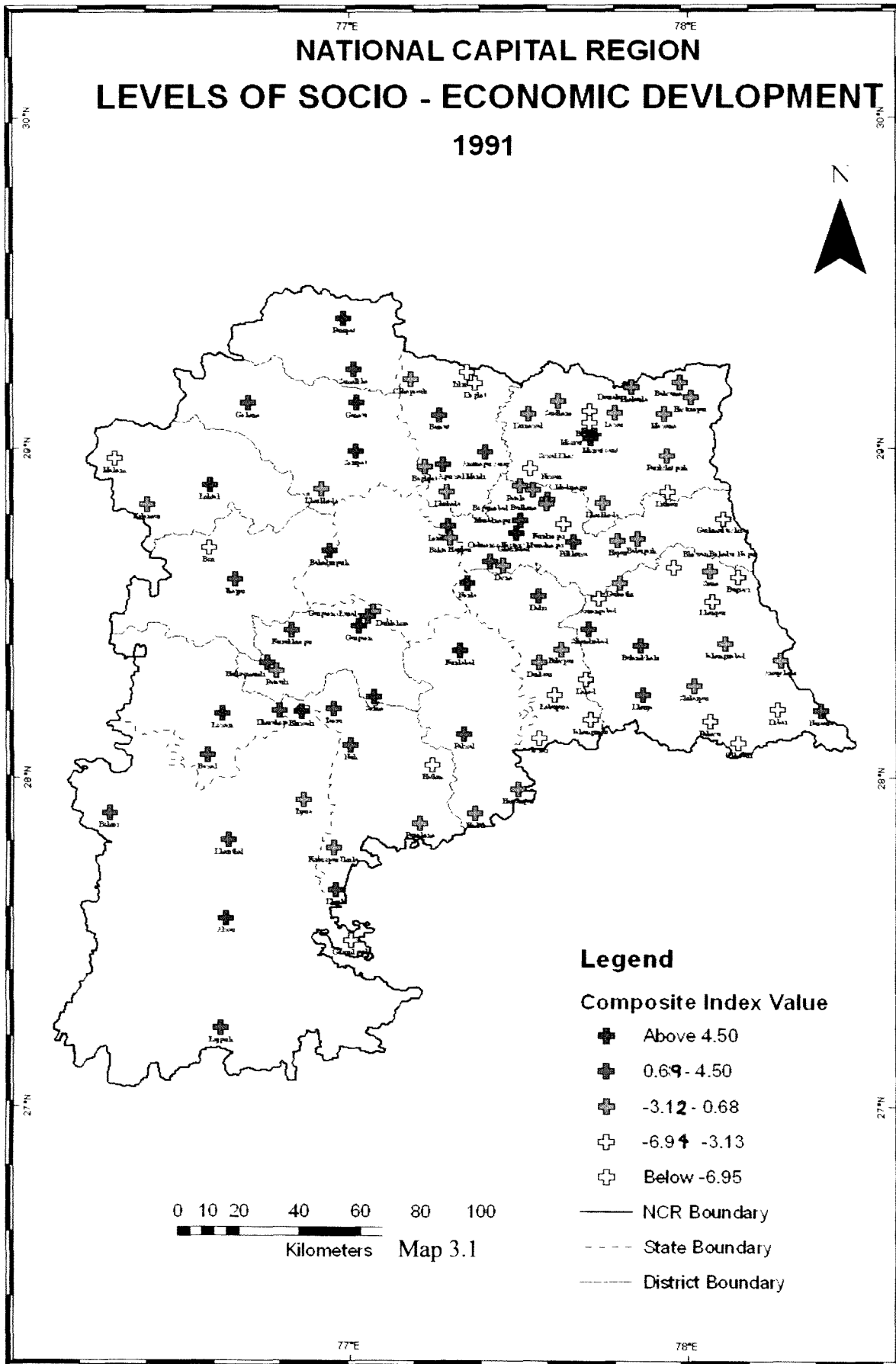
1. Below - 6.95 - Very low development
2. -6.94 to -3.13- Low Development
3. -3.12 to 0.68 - Medium Development
4. 0.69 to 4.50 - High Development
5. Above 4.50 - Very High Development

Table3.6 Composite Index of Socio-Economic Development (1991)

Town	1991		Composite Index Value	Composite Index Value
Panipat	8.62	Kharkhoda (UP)		-2.53
Samalkha	1.61	Daurala		-3.78
Sonipat	6.97	Behsuma		-0.98
Gohana	3.26	Baraut		4.17
Ganaur	4.52	khekada		-1.18
Kharkhoda (Ha)	-1.93	Baghpat		-2.97
Rohtak	7.45	Chhaprauli		-2.62
Maham	-3.42	Tikri		-7.50
Kalanaur	0.08	Doghat		-5.36
Bahadurgarh	8.07	Agarwal Mandi		2.98

Jhajjar	2.50	Aminagar Sarai	1.87
Beri	-3.76	Ghaziabad	4.49
Faridabad Complex	5.31	Hapur	-0.02
Palwal	3.58	Modinagar	2.64
Hodal	-2.00	Loni	-2.58
Hathin	-4.22	Behta Hajipur	-2.65
Hassanpur	-0.97	Muradnagar	0.82
Gurgaon	12.06	Pilkhua	2.28
Gurgaon Rural	1.45	Garhmukteshwar	-4.40
Sohna	4.98	Dasna	-2.18
Ferozepur Jhirka	-1.16	Faridnagar	-5.47
Taoru	3.43	Ordinance Fty. Muradnagar	11.43
Haileymandi	1.06	Niwadi	-1.58
Pataudi	-1.89	Patla	-1.61
Punahana	-1.36	Babugarh	-0.93
Nuh	1.82	Noida	6.09
Dundahera	-1.46	Dadri	0.90
Farruknagar	1.65	Jewar	-7.87
Rewari	5.98	Rabupura	-5.16
Dharuhera	4.39	Dankaur	-1.01
Bawal	3.53	Jahangirpur	-4.06
Alwar	5.14	Bilaspur (UP-1)	-1.68
Bhiwadi	4.88	Kakod	-4.93
Khairthal	0.91	Bulandshahr	3.84
Rajgarh (Rj-1)	1.40	Khurja	2.27
Behror	4.16	sikandarabad	1.73
Tijara	-0.12	Jahangirabad	-1.94
Kherli	4.39	Gulaothi	-1.71
Govindgarh (Rj)	-5.35	siyana	-2.12
Meerut	3.55	Debai	-3.92
Mawana	0.39	Shikarpur (UP)	-3.05
Sardhana	0.63	Anupshahr	-0.52
Kithaur	-5.26	Naraura	1.46
Hastinapur	0.26	Aurangabad (UP)	-6.82
Sewal Khas	-7.45	Pahasu	-4.75
Lawar	-1.70	Khanpur (UP)	-4.28
Parikshitgarh	-0.23	Bugrasi	-5.06
Phalauda	-1.66	Chhatari	-8.24
Karnawal	-2.40	Bhawan Bahadurnagar	-6.06
Begumabad Budhana	-0.27	Merrut cant.	10.27
Bisokhar	-7.27		

NATIONAL CAPITAL REGION LEVELS OF SOCIO - ECONOMIC DEVELOPMENT 1991



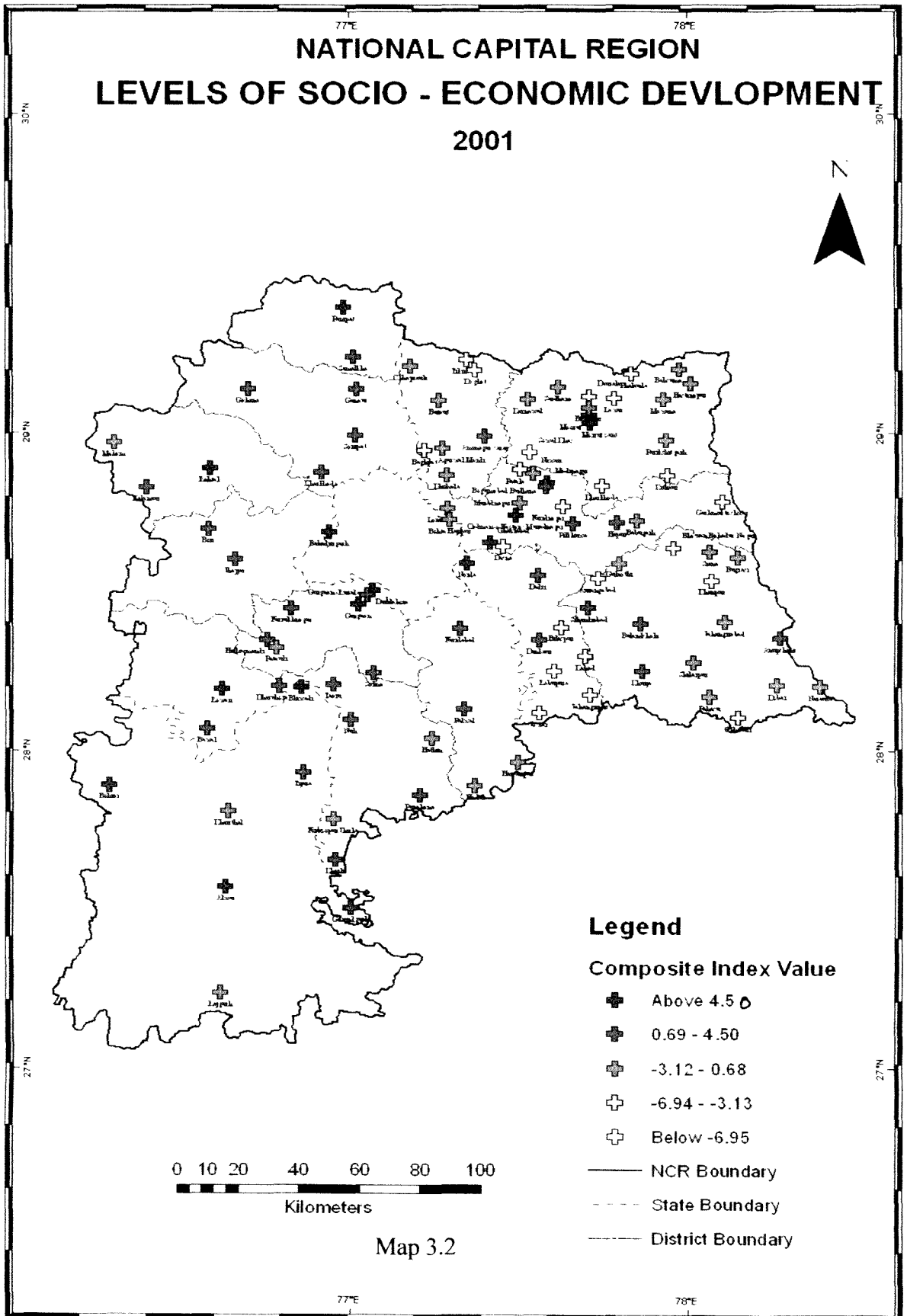


Table 3.7 Composite Index of Socio-Economic Development (2001)

	2001 Composite		2001 Composite
Panipat (M Cl)	7.37	Karnawal (NP)	-3.08
Samalkha (MC)	2.06	Kharkhoda (NP)	-3.77
Sonipat (M Cl)	1.61	Daurala (NP)	-4.46
Gohana (MC)	1.54	Bahsuma (NP)	-2.11
Ganaur (MC)	3.22	Baraut (MB)	-0.77
Kharkhoda (MC)	1.38	Khekada (NP)	-2.17
Rohtak (M Cl)	4.65	Baghpat (MB)	-3.73
Maham (MC)	-0.74	Chhaprauli (NP)	-2.03
Kalanaur (MC)	1.21	Tikri (NP)	-5.70
Bahadurgarh (M Cl)	5.69	Doghat (NP)	-3.57
Jhajjar (MC)	4.38	Agarwal Mandi (NP)	0.34
Beri (MC)	0.83	Aminagar sarai	1.04
Faridabad (M Corp.)	3.79	Ghaziabad (M Corp.)	4.72
Palwal (M Cl)	2.49	Hapur (MB)	0.76
Hodal (MC)	-0.69	Loni (NP)	-2.42
Hathin (MC)	-1.58	Modinagar (MB)	4.71
Hassanpur (MC)	-2.36	Behta Hajipur (CT)	-0.94
Gurgaon (M Cl)	7.72	Muradnagar (MB)	0.35
Gurgaon (Rural) (CT)	1.63	Pilkhuwa (MB)	2.18
Sohna (MC)	1.94	Garhmukteshwar (MB)	-4.91
Ferozpur Jhirka (MC)	-0.67	Dasna (NP)	-3.29
Taoru (MC)	1.98	Faridnagar (NP)	-6.72
Haileymandi (MC)	1.93	Ordinance Factory Muradnagar (CT)	8.22
Pataudi (MC)	-2.39	Niwari (NP)	-2.30
Punahana (MC)	1.03	Patala (NP)	-3.43
Nuh (MC)	2.19	Babugarh (NP)	0.30
Dundahera (CT)	7.45	Noida (CT)	7.42
Farrukhnagar (MC)	2.31	Dadri (MB)	0.73
Rewari (M Cl)	5.80	Jewar (NP)	-4.91
Dharuhera (CT)	2.03	Rabupura (NP)	-7.51
Bawal (MC)	4.40	Dankaur (NP)	1.13
Alwar (M Cl)	4.55	Jahangirpur (NP)	-5.99
Bhiwadi (CT)	5.83	Bilaspur (NP)	-6.44
Khairthal (M)	0.22	Kakod (NP)	-6.40
Rajgarh (M)	-1.19	Bulandshahr (MB)	3.17
Behror (M)	5.52	Khurja (MB)	2.17
Tijara (M)	1.95	Sikandrabad (MB)	2.89
Kherli (M)	1.12	Jahangirabad (MB)	0.26
Govindgarh (CT)	1.85	Gulaothi (MB)	0.30
Meerut (M Corp.)	1.76	Siana (MB)	-0.04
Mawana (MB)	0.53	Debai (MB)	-0.23
Sardhana (MB)	-1.78	Shikarpur (MB)	-0.16
Kithaur (NP)	-4.29	Anupshahr (MB)	1.51

Hastinapur (NP)	-1.50	Naraura (NP)	-1.63
Sewal Khas	-10.76	Aurangabad (NP)	-9.06
Lawar (NP)	-5.52	Pahasu (NP)	-1.17
Parikshitgarh (NP)	-1.84	Khanpur	-7.29
Phalauda (NP)	-3.44	Bugrasi (NP)	-1.13
Bhawan Bahadur Nagar (NP)	-4.19	Begumabad	1.85
Merrut	8.31	Bishokar	-2.30

- 1) **Very low development:** - In this category the composite index value is less-than -6.95. the towns index this category in 1991 are Jewar (-7.87), Tikri (-7.50), Bisokhar (-7.27), Sewal Khas (-7.45), Chhatsir 8.24). but in 2001, Khanpur (-7.45), Rabupura (-7.51), Aurangabad (-9.06), Sewal Khas (-10.76), have come index this category.
- 2) **Low Development Level :** In this category, the value rauges between 6.94 to 3.13. The towns under this in 1991 are Aurngabad (-6.82), Bhawan Bahadurnagar (-6.06), faridnagar (-5.47), Doghat (-5.36), Govidgarh (-5.35), Kithaur (-5.26), Rabupura (-5.16), Bugrasi (-5.06), Kakod (-4.93), Pahasu (-4.75), Garhmukteshwar (-4.40), Khanpur (-4.28), Hathin (-4.2), Jahangirpur (-4.06), Debai (-3.92), Daurala (-3.78), Beri (-3.76), Maham (-3.42). In 2001, the following towns are under this category Faridnagar (-6.72), Bilaspar (-6.44), Kakod (-6.40), Thangirpur (-5.99), Tikri (-5.70), Lawar (-5.52), Jewar (-4.91), Garhmuktes whar (-4.91), Daurala (-4.46), Kithaur (-4.29), Bhawan Bhadurnagar (-4.29), Bhawna Bhadurnagar (-3.77), Baghpat (-3.73), Doghat (-3.57), Phalaude (-3.44), patala (-3.43), Dasna (-3.29). So, altogether 18 in 2001 as well as in 1991.
- 3) **Medium Level Development** - In this category value ranges from -3.12 to 0.68. In 1991, there are around 36 towns under this category where as the number decreased to 32 in 2001. These towns showed relatively medium level of socio-economic development.
- 4) **High Level of Development** – In this category, the value of composite index ranges between 0.69 to 4.50. There are around 33 towns under this category in 2001 and in 1991 there were only 28 towns. So, five

towns were added or say become developed 2001, to come under this category.

- 5) **Very High Development** – It includes values more than 4.51, these are around 14 in 1991 and 14 in 2001, towns which come under this category in 2001, Alwar (4.55), Rohtak (4.65), Mahindergarh (4.71), Ghaziabad (4.72), Bihar (5.52), Bahadurgarh (5.69), Rewari (5.80), Bhiwadi (5.83), Panipat (7.37), Noida (7.42), Dhundera (7.45), Gurgaon (7.72), O.F. Nuraduagae (8.82), Merrut (8.31) are there and in 1991 Ganuar (4.52), Bhiwadi (4.88), Sohna (4.98), Alwas (5.14), Faridabad (5.31), Rewari (5.98), Noida (6.09), Sonipat (6.97), Rohtak (7.45), Bhadurgarh (8.07), Panipat (8.62), Merrut (10.27), O.F. Mudadurgarh (11.43), Gurgaon (12.06).

3.7 Conclusion :- So, there is regional variation in the levels of socio-economic development in the region. Towns are development which are near to Delhi for example Bahdurgarh, Gurgaon, Ghaziabad Noida or towns which are near to a developed class I city in the study area, as can be seen from maps 3.1 and 3.2 . In other towns though there is development but maximum number of towns lie in medium level development category. The National Capital Region Planning Board is looking in this direction and introduced many plans and programes in the Regional Plan 2021, so that the whole region is developed , instead of having development of few calss cities surrounding Delhi.

Chapter –4

Gender Issues

Chapter-4

Gender Issues.

4.1 Introduction

Socio-Economic Development concerns all nations, whether it be developed or developing. All nations are making effort for socio-economic development with best possible utilization of their manpower and resources. They may differ in their approach towards development, but not about the development as a goal.

Social- economic development is a process of planned institutional changes. It brings about a better adjustment between human needs and aspirations on the one hand social policy and programmes on the other hand. In short social development is aimed at improving the overall quality of life, human relations and living conditions of all individuals and social groups.

A very important aspects of social –economic development is to protect the interests of women in the society. Thus, in this chapter the disparity between the male and female literacy rates and male and female work participation rates are studied. Both the factor, literacy and work participation rate are key inputs for economic growth and human development. Any economy, whether it is developed or developing, can flourish only when human resources have been developed to the fullest extent.

4.2 Disparity in the literacy rates of males and females

One who can read and write in any language with understanding is called a literate person. Literacy is the base for receiving information, knowledge and training in building skills. As pointed out by Amartya Sen (2001), ‘the afflicted world in which we live is characterized by deeply unequal sharing of the burden adversities between men and womenIndeed, gender inequality is not one homogenous phenomenon, but collection disparate and interlinked problems.’ Sen identifies seven type of inequality in mortality, natality, basic facility, special opportunity, professional, ownership and household.

Table 4.1 Literacy Percentage 1991 and 2001

Year	Persons	Males	Females
2001	65.38%	75.85%	54.46%
1991	52.21%	64.13%	39.29%
Gap	13.17%	11.72%	15.17%

Sen A (2001), 'Many faces Gender Inequality', Frontline, Vol. 18, No. 22, 27 Oct – 9 Nov.

As can be seen from table.4.1, though the literacy rates have increased for both males and females and the gender gap has decreased from 24.89 percent in 1991 to 21.39 percent in 2001 but the gap is still wide. It is noticed that female literacy rate during the period 1991 – 2001 increased by 14.87 percent whereas the male literacy rate rose by 11.72 percent. Hence, the female literacy rate actually increased by 3.15 percent more compared to male literacy rate. But the gap being still large.

Factors Responsible for poor female literacy rate historically a variety of factors have been found to be responsible for poor female literacy rate

- Gender based inequality
- Social discrimination and economic explanation.
- Occupation of girl child in domestic chores.
- Low enrolment of girls in schools.
- Low retention rate and high dropout rate.

The main strategies adopted by the government for increasing female literacy in the country include.

- National literacy Mission for importing functional literacy.
- Universalization for Elementary Education
- Non-Formal Education.

The literacy rate for males and females have increased 1991 to 2001 and the disparity has decreased over the decade, as can be seen from table 4.2 and 4.3.

DISPARITY BETWEEN MALE AND FEMALE LITERACY RATES IN THE TOWNS

Table -4.2

town	1991			2001		
	Male Lit	Female lit	Male-female disparity	Male literacy	Female literacy	Male-female disparity
Panipat	65.18	53.61	0.12	71.82	62.63	0.09
Samalkha	65.16	49.86	0.16	72.77	60.24	0.12
Sonipat	70.34	54.92	0.16	76.35	65.50	0.10
Gohana	66.51	49.25	0.18	72.85	59.84	0.13
Ganaur	68.22	49.86	0.19	73.98	58.80	0.15
Kharkhoda	62.49	43.48	0.21	70.00	55.21	0.15
Rohtak	71.40	57.24	0.14	75.62	65.91	0.09
Maham	64.13	45.87	0.20	71.37	57.47	0.14
Kalanaur	65.78	45.12	0.23	71.38	57.09	0.14
Bahadurgarh	72.12	56.79	0.15	75.85	62.76	0.13
Jhajjar	71.15	50.60	0.21	75.39	61.06	0.14
Beri	69.10	42.74	0.29	74.93	55.05	0.20
Faridabad Complex	68.93	51.36	0.18	73.40	58.77	0.14
Palwal	65.93	48.64	0.18	70.93	56.11	0.15
Hodal	60.86	34.33	0.32	65.95	45.22	0.23
Hathin	58.78	33.79	0.31	67.74	46.55	0.23
Hassanpur	54.44	34.76	0.25	61.24	40.97	0.23
Gurgaon	76.65	65.83	0.10	79.27	71.68	0.07
Gurgaon Rural	69.91	50.01	0.21	75.51	62.63	0.12
Sohna	63.00	44.03	0.21	69.14	53.52	0.16
Ferozpur Jhirka	58.68	36.93	0.26	60.55	39.55	0.25
Taoru	69.08	49.97	0.20	72.86	57.79	0.15
Haileymandi	66.59	44.36	0.24	75.32	61.14	0.14
Pataudi	59.58	36.96	0.27	63.64	47.52	0.18
Punahana	58.90	36.11	0.28	62.93	40.13	0.26
Nuh	60.45	39.93	0.24	62.95	43.65	0.22
Dundahera	71.28	46.86	0.26	81.35	64.38	0.16
Farruknagar	66.31	39.48	0.30	70.97	53.47	0.18
Rewari	73.26	55.88	0.17	78.78	66.20	0.12
Dharuhera	71.92	38.00	0.38	73.87	55.13	0.19
Bawal	69.46	43.43	0.28	74.22	53.40	0.21
Alwar	71.97	51.11	0.21	78.48	63.02	0.15
Bhiwadi	68.44	30.55	0.46	75.23	52.03	0.23
Khairthal	67.61	44.65	0.25	71.03	54.82	0.16
Rajgarh	68.60	35.11	0.39	75.42	50.00	0.26
Behror	68.36	40.94	0.30	77.04	59.53	0.17
Tijara	59.99	32.43	0.35	71.69	50.59	0.22
Kherli	75.83	56.58	0.19	79.99	64.23	0.15
Govindgarh	65.39	40.50	0.28	72.10	51.11	0.22
Meerut	56.59	41.43	0.18	62.54	51.00	0.12

Mawana	43.34	26.71	0.25	59.95	43.87	0.18
Sardhana	45.75	28.88	0.24	51.10	35.03	0.21
Kithaur	34.42	17.08	0.35	49.37	29.99	0.27
Hastinapur	56.86	37.65	0.23	66.99	47.12	0.21
Sewal Khas	38.34	15.52	0.45	41.21	21.17	0.34
Lawar	42.57	18.71	0.42	54.11	33.88	0.26
Parikshitgarh	57.34	36.60	0.25	66.38	47.67	0.20
Phalauda	44.59	22.42	0.36	57.88	37.31	0.25
Karnawal	61.26	33.79	0.34	69.20	45.40	0.26
Kharkhoda	59.41	34.34	0.31	63.97	47.23	0.18
Daurala	54.66	29.92	0.33	64.82	44.23	0.23
Behsuma	54.76	31.13	0.31	65.81	48.43	0.19
Baraut	62.65	43.23	0.22	66.93	53.44	0.14
khekada	56.42	33.48	0.29	66.71	48.60	0.19
Baghpat	39.86	22.23	0.30	50.35	35.18	0.20
Chhaprauli	53.98	29.38	0.33	65.00	42.56	0.25
Tikri	50.90	24.15	0.40	63.06	37.04	0.31
Doghat	52.50	27.24	0.35	65.23	43.10	0.25
Agarwal Mandi	67.95	42.11	0.29	75.72	56.17	0.19
Aminagar Sarai	62.48	41.96	0.23	66.64	47.52	0.21
Ghaziabad	60.40	45.82	0.16	73.77	61.18	0.12
Hapur	54.71	37.79	0.21	64.18	49.19	0.16
Modinagar	71.90	54.07	0.18	55.82	39.36	0.20
Loni	46.31	24.97	0.32	79.02	66.73	0.12
Behta Hajipur	59.06	34.18	0.31	66.44	48.08	0.20
Muradnagar	51.77	32.49	0.26	60.28	43.38	0.19
Pilkhua	59.64	38.35	0.25	68.55	51.14	0.18
Garhmukteshwar	39.69	21.64	0.31	55.77	39.15	0.20
Dasna	42.38	18.59	0.42	54.60	31.11	0.31
Faridnagar	38.18	20.27	0.32	52.17	33.25	0.25
Ordnance Fty. Muradnagar	79.01	64.61	0.14	83.59	69.59	0.13
Niwadi	36.07	27.74	0.14	67.56	53.40	0.15
Patla	64.52	38.95	0.29	69.20	50.02	0.20
Babugarh	62.13	42.34	0.22	72.77	52.12	0.21
Noida	63.09	40.60	0.26	73.13	61.29	0.12
Dadri	53.35	35.26	0.23	61.11	45.09	0.18
Jewar	44.09	22.85	0.34	56.05	36.76	0.24
Rabupura	46.44	20.72	0.42	52.96	29.99	0.31
Dankaur	59.31	32.69	0.33	65.09	45.28	0.22
Jahangirpur	47.04	25.27	0.33	56.62	35.90	0.26
Bilaspur	46.41	25.05	0.32	55.40	37.24	0.22
Kakod	38.96	17.55	0.40	51.91	32.42	0.26
Bulandshahr	60.74	43.57	0.19	66.81	53.84	0.13
Khurja	50.78	33.03	0.24	58.47	44.35	0.16

sikandarabad	46.85	26.82	0.30	57.29	41.57	0.18
Jahangirabad	51.42	28.91	0.31	59.56	38.77	0.25
Gulaothi	55.58	35.91	0.25	61.70	43.06	0.21
siyana	48.25	27.76	0.30	61.31	42.50	0.21
Debai	48.48	30.58	0.25	57.09	39.87	0.21
Shikarpur	47.31	23.79	0.36	59.28	39.40	0.23
Anupshahr	51.10	37.44	0.17	62.95	48.61	0.16
Naraura	59.81	37.57	0.27	62.04	45.70	0.18
Aurangabad	41.81	20.05	0.38	53.17	29.90	0.31
Pahasu	39.61	22.20	0.30	54.13	36.07	0.23
Khanpur	41.90	17.89	0.43	24.66	12.53	0.32
Bugrasi	44.32	16.68	0.50	54.89	34.21	0.26
Chhatari	43.13	23.79	0.31	53.27	33.74	0.25
Bhawan Bahadumagar	58.71	33.88	0.31	69.96	46.94	0.24
Merrut cant.	71.00	61.38	0.09	75.29	64.42	0.10
Begumabad Budhana	54.10	29.08	0.34	71.17	49.60	0.22
Bisokhar	45.15	24.17	0.33	62.17	42.42	0.22

Class I		1991	2001
1)	Panipat	0.12	0.09
2)	Sonipat	0.16	0.10
3)	Rohtak	0.14	0.09
4)	Bahadurgarh	0.15	0.13

Other Towns

Other Towns		1991	2001
1)	Phalauda	0.36	0.25
2)	Karanwal	0.34	0.26

Table: 4.3 showing Disparity across the size classes during the decade.

This holds true for all class towns be class I or Class IV. For example the disparity was 0.12 in Panipat in 1991 but it decreased to 0.09 in 2001. Similarly Doghat being class VI, the disparity decreased from 0.35 to 0.25.

As can be seen, the decline in the disparity is sharp in other class of towns where as the class I towns, reporting low disparity is in 1991 comparatively low and the decline not that sharp.

Though disparity has decreased but it does exist and for any society that gap should be there. So, policies and programmes must be started to overcome this gender gap and remove the existing disparity as the disparity in literacy affects the disparity in the work participation rates of males and females.

4.3 Disparity in the Work Participation Rates of males and females.

After analyzing the (table 4.4) data of the study area, one observation can be made the over the decade the female work participation was highest in Hassanpur with value 14.26 percent , Panipat having 5.90 percent , Gurgaon 8.18 percent , Sohna 7.06 percent but in 2001 these figures increased and for Panipat it become 16.13 percent , Hassanpur 22.27 percent , Gurgaon 11.34 percent , Sohma 12.10 percent .

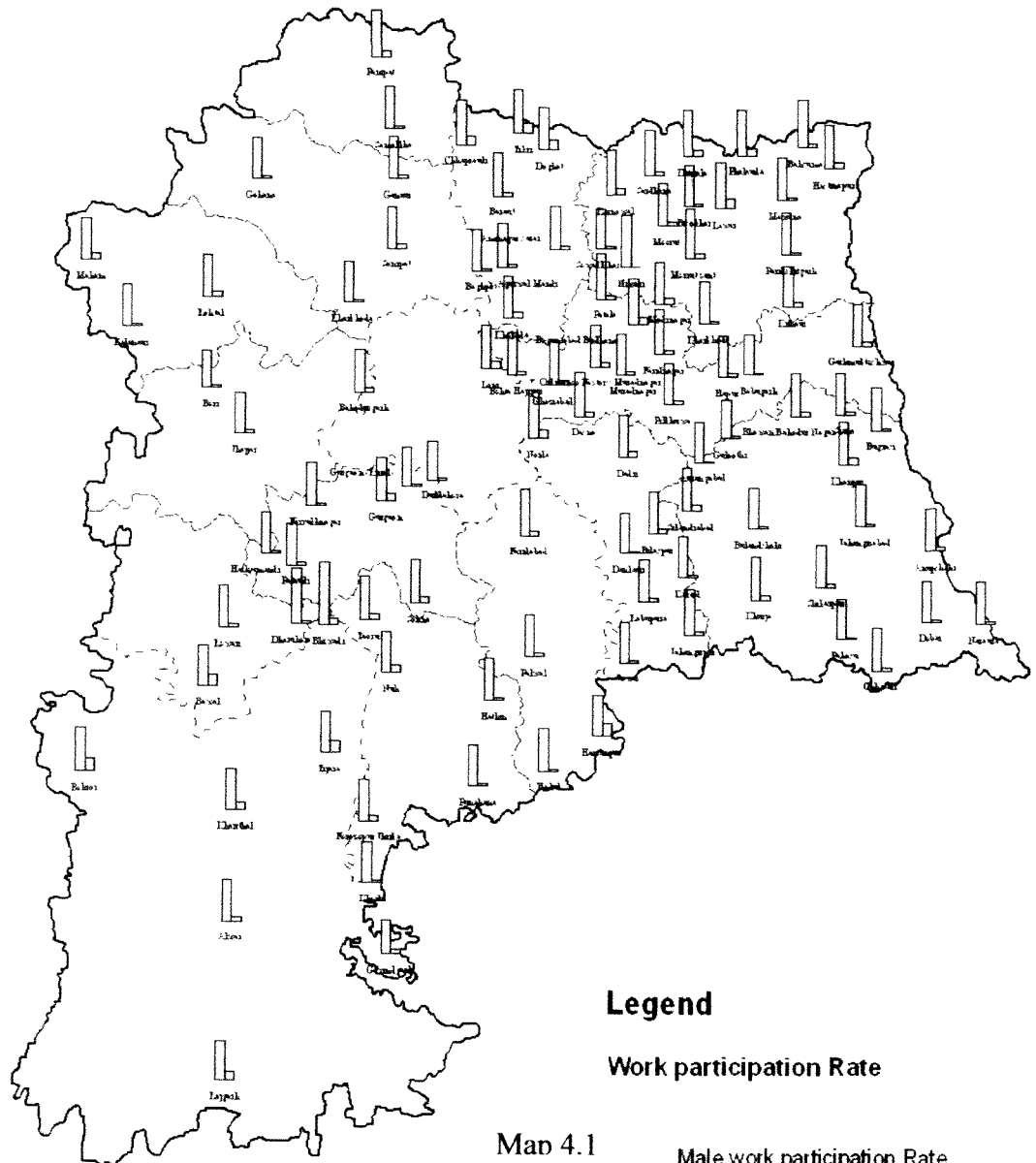
Table 4.4 showing Male –Female disparity in Work Participation Rate.

	1991			2001		
	Male work participation Rate	Female participation Rate	Male –Female Disparity	Male work participation Rate	Female work participation Rate	Male –Female Disparity
Panipat	52.11	5.90	1.06	54.11	16.13	0.63
Samalkha	46.61	2.85	1.32	48.18	9.62	0.80
Sonipat	46.62	5.78	1.01	45.26	10.50	0.72
Gohana	45.46	3.38	1.23	46.29	7.92	0.86
Ganaur	46.44	4.88	1.08	46.33	13.64	0.61
Kharkhoda	45.81	3.77	1.19	47.21	16.20	0.54
Rohtak	46.93	5.87	1.01	46.40	9.82	0.77
Maham	46.22	6.72	0.94	48.52	19.83	0.46
Kalanaur	46.23	2.85	1.32	47.64	12.37	0.68
Bahadurgarh	47.55	5.43	1.05	48.62	9.59	0.80
Jhajjar	45.36	4.01	1.16	46.51	19.89	0.44
Beri	40.35	2.48	1.30	44.80	12.65	0.63
Faridabad	51.02	4.87	1.14	49.41	8.67	0.86
Palwal	46.51	3.96	1.18	44.69	8.13	0.83
Hodal	47.68	2.23	1.44	47.13	21.09	0.42
Hathin	47.14	3.92	1.19	44.49	17.90	0.46
Hassanpur	46.04	14.26	0.59	46.41	22.27	0.38

Gurgaon	48.33	8.18	0.87	50.61	11.34	0.75
Gurgaon (Rural)	44.20	2.63	1.33	47.17	8.32	0.85
Sohna	48.42	7.06	0.94	48.14	12.10	0.69
Ferozepur Jhirka	45.96	6.14	0.97	46.13	14.37	0.59
Taoru	47.62	6.67	0.96	47.60	13.94	0.62
Haileymandi	45.16	3.13	1.26	47.79	15.66	0.57
Pataudi	45.56	3.26	1.25	45.19	8.45	0.82
Punahana	45.62	2.88	1.31	45.09	16.47	0.51
Nuh	44.69	7.93	0.84	42.32	12.57	0.60
Dundahera	42.66	2.08	1.41	56.92	10.29	0.87
Farrukhnagar	47.62	2.39	1.41	49.06	14.82	0.61
Rewari	46.25	3.81	1.19	47.16	7.20	0.92
Dharuhera	60.77	3.31	1.41	52.29	7.21	0.98
Bawal	45.46	13.14	0.62	49.60	28.02	0.31
Alwar	47.08	5.08	1.07	45.28	8.02	0.85
Bhiwadi	69.33	6.50	1.20	65.41	14.89	0.78
Khairthal	44.86	8.47	0.82	49.00	18.63	0.50
Rajgarh	44.10	10.49	0.71	45.75	12.62	0.64
Behror	47.73	13.29	0.64	50.13	18.21	0.52
Tijara	44.57	12.48	0.63	52.14	32.48	0.26
Kherli	45.23	2.77	1.32	46.91	5.70	1.02
Govindgarh	38.14	6.58	0.84	51.52	22.73	0.43
Meerut	46.99	3.78	1.20	44.42	4.70	1.07
Mawana (MB)	47.23	3.76	1.21	45.63	5.24	1.04
Sardhana (MB)	48.35	3.84	1.21	42.35	3.23	1.21
Kithaur (NP)	45.09	5.24	1.03	42.02	6.94	0.87
Hastinapur	48.32	6.97	0.95	46.08	8.38	0.84
Sewal Khas	44.65	2.76	1.31	37.95	4.59	1.00
Lawar	51.19	11.44	0.75	42.42	9.16	0.75
Parikshitgarh	46.70	3.51	1.23	42.79	3.45	1.19
Phalauda	50.63	8.35	0.89	45.29	10.39	0.73
Karnawal	49.86	6.57	0.99	50.68	11.66	0.74
Kharkhoda	46.30	3.40	1.24	46.98	6.27	0.98
Daurala	50.08	6.12	1.02	49.04	7.35	0.93
Bahsuma	52.34	4.76	1.16	46.56	5.61	1.02
Baraut	47.15	2.95	1.31	43.94	3.94	1.15
Khekada	46.44	6.76	0.94	45.42	9.41	0.77
Baghpat	46.37	2.90	1.31	42.39	6.65	0.89
Chhaprauli	48.37	8.77	0.84	47.09	15.48	0.56
Tikri	48.15	12.53	0.68	48.88	10.47	0.77
Doghat	47.80	11.49	0.71	48.07	28.37	0.28
Agarwal Mandi	50.09	4.31	1.18	45.46	4.40	1.12
Aminagar sarai	48.20	3.86	1.21	45.82	3.80	1.19
Ghaziabad	48.67	6.01	1.02	46.16	5.88	1.00
Hapur	45.60	4.20	1.14	44.29	3.68	1.18

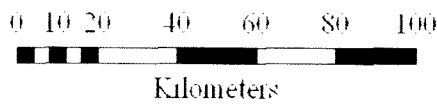
Loni	47.28	8.29	0.85	41.60	3.14	1.22
Modinagar	45.79	6.18	0.97	45.10	5.20	1.04
Behta Hajipur	46.76	3.75	1.20	44.39	6.12	0.96
Muradnagar	45.75	4.69	1.09	44.09	3.77	1.17
Pilkhuwa	45.10	4.42	1.11	46.24	4.42	1.12
Garhmukteshwar	46.32	5.22	1.05	44.66	11.90	0.66
Dasna	49.01	5.85	1.03	42.87	4.43	1.08
Faridnagar	49.09	3.63	1.25	44.19	4.67	1.07
Ordinance Factory Muradnagar	45.42	4.56	1.10	45.03	6.01	0.97
Niwari	58.68	0.93	1.95	47.46	4.50	1.13
Patala	50.95	3.81	1.25	46.38	9.47	0.78
Babugarh	44.53	1.61	1.55	41.51	2.26	1.36
Noida	54.19	10.80	0.81	52.43	13.16	0.70
Dadri	46.78	7.09	0.92	44.76	4.37	1.11
Jewar	44.24	1.79	1.50	45.08	5.75	0.99
Rabupura	46.73	4.61	1.11	44.20	6.60	0.92
Dankaur	44.53	1.08	1.72	44.11	2.25	1.40
Jahangirpur	50.26	4.59	1.16	44.86	7.63	0.86
Bilaspur	47.52	5.41	1.05	39.91	3.39	1.16
Kakod	46.03	3.43	1.23	44.42	6.54	0.93
Bulandshahr	45.58	3.84	1.18	43.91	6.04	0.96
Khurja	47.26	5.72	1.02	47.52	7.44	0.91
Sikandrabad	48.07	7.21	0.93	48.65	14.49	0.61
Jahangirabad	46.72	3.10	1.29	48.22	12.59	0.67
Gulaothi	42.46	2.35	1.35	45.24	5.89	0.98
Siana	46.69	3.57	1.22	47.85	9.91	0.78
Debai	44.92	2.12	1.43	44.96	7.55	0.87
Shikarpur	45.82	3.15	1.27	50.67	21.27	0.45
Anupshahr	46.33	3.87	1.18	47.55	12.45	0.67
Naraura	46.74	2.80	1.33	39.71	10.07	0.67
Aurangabad	44.46	1.38	1.61	45.91	16.00	0.53
Pahasu	44.06	1.54	1.56	46.94	15.97	0.55
Khanpur	48.38	8.67	0.85	46.61	10.49	0.74
Bugrasi	47.17	2.08	1.47	48.57	19.29	0.48
Chhatari	46.90	3.97	1.18	52.21	22.62	0.44
Bhawan Bahadur Nagar	47.43	5.03	1.08	45.43	6.48	0.94
Merrut M.B	54.76	5.48	1.13	57.54	5.5	1.15
Begumabad Budhana	50.43	7.46	0.94	48.09	7.23	0.93
Bisokhar	44.81	2.36	1.38	47.73	9.07	0.82

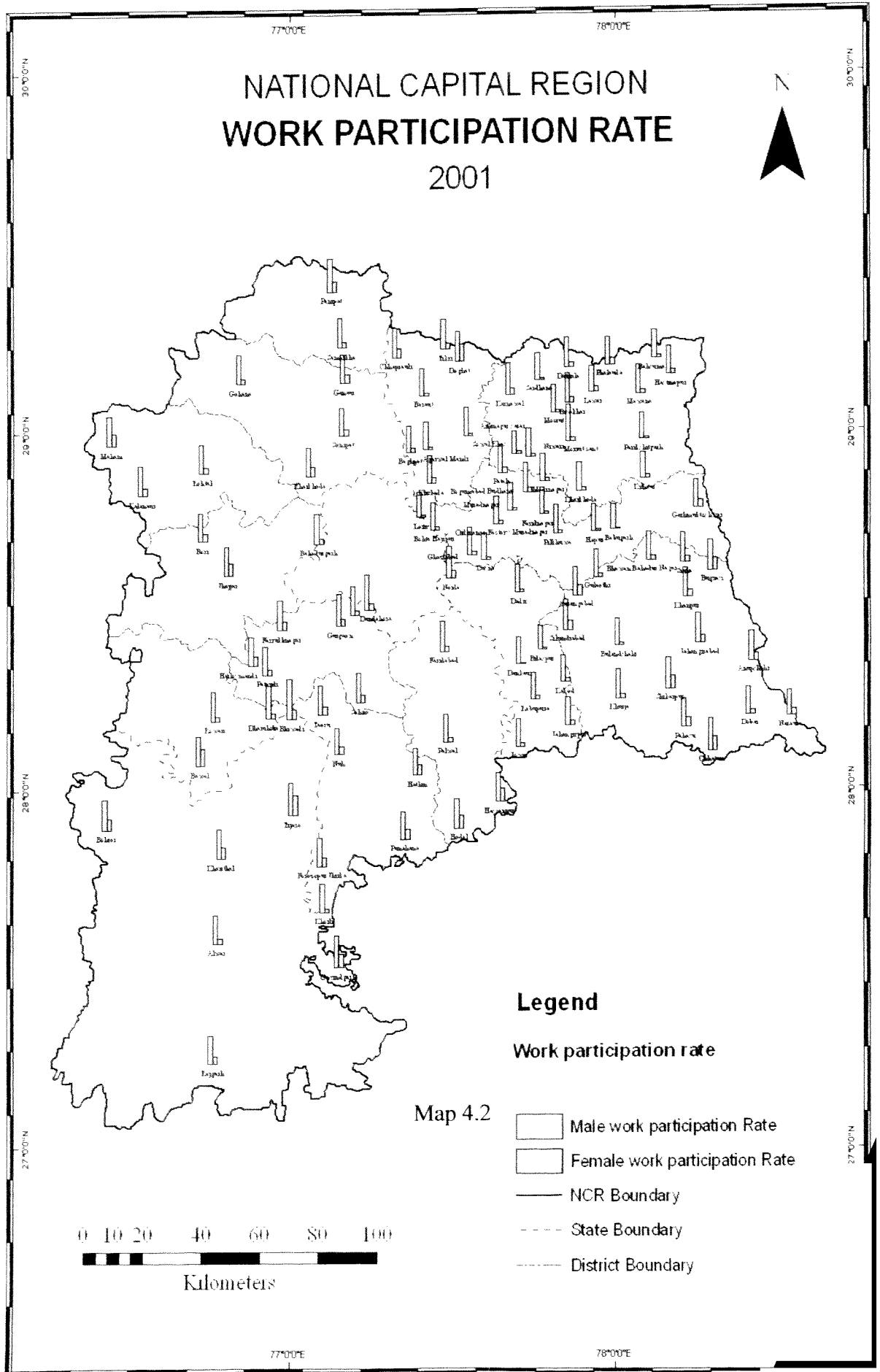
NATIONAL CAPITAL REGION WORK PARTICIPATION RATE 1991



Map 4.1

- Legend**
- Work participation Rate**
- Male work participation Rate
 - Female work participation Rate
 - NCR Boundary
 - State Boundary
 - District Boundary





In 1991, the low female work participation was in Aurangabad town in Bulandshas having female work participation rate as 1.38 percent and Pahasu (1.54 percent) the lowest being in Niwari (0.93 percent).

But in 2001, the low values reported for towns were 3.95 percent for Baraut, 3.80 percent for Amingar Sarai and high values reported in towns like Doghat 28.37 percent, Bawal 25.02 percent, Hodal (21.09 percent), Jhajjar (19.89 percent), Govindgarh in Alwar 22.73 percent.

The male work participation in general has not been affected much over the decade. There is only marginal change, for example Panipat reported male work participation as 52.11 in 1991 but in 2001, it became 54.11 percent, Faridabad was 49.41 percent in 1991 but in 2001 51.02 percent, Gurgaon was 48.33 percent in 1991 but became 50.61 percent in 2001.

Besides these big towns there are some small towns, which show significant changes for example in case of Lawar, the male work participation was 51.19 percent but it reduced to 42.42 percent in 2001. The reason could have been more male population in the non-productive age-groups over the decade. In the study area, it can be seen that though the female work participation increased over the decade, gap between male and female participation rates is still quite wide, as can be seen from the tables 4.4.

The disparity between male work participation and female work participation rate is also shown in the table 4.4 and 4.5 for 1991 and 2001. As clear from the table the disparity has decreased from 1991 to 2001. For example it was 1.06 for Panipat but it came down to 0.63 in 2001, as the female work participation increased from 5.90 percent in 1991 to 16.13 percent in 2001. Like wise for Karwal it was 0.99 in 1991 but as the female work participation increased from 6.57 percent to 11.66 percent in 2001, the Disparity reduced from 0.99 in 1991 to 0.74 in 2001.

Chandrasekhar, C.P. and Ghose Jayati (2002), in their study on women in India a status report has said that "In terms of labour force participation, it should be noted that definition of economic activity used by both causes and the national Sample Survey is quite restrictive, and doesn't include the full spectrum of economic activities defined in the system of National Accounts, even though it some activities or small – scale enterprises an production or transacted service provision."

It, therefore, excludes a significant amount of unpaid or non-marketed labour within the household, especially by women, including the processing of primary produce for win consumption, basic domestic handicraft production, services such as cleaning, childcare, and so on, which are undertaken within the household and not marketed. This means there is a likely underestimation of economic activity within the household, as well as of the work participation rates especially of women.

Another issue in this is the male – female wage differential, the increase in gender disparity in wages in the urban areas is quite marked: usually it results from employment of women in different, and lower paying activities in the aggregate.

4.4 Conclusion:- After analyzing it can be said that though the gender disparity in literacy rates and work participation has decreased but a lot has to be achieved in this direction. According to UNIFEM Regional programme Director Chandni Joshi, sex-disaggregated data and gender specific indicators data and gender specific indicators serve to unmask the socio-economic and cultural differences among women and cultural differences among women and men that exist within the society and in the household due to inherent gender biases. The new study in her opinion, throws light on some of the reasons behind various forms of gender inequality by analyzing seven development indicators in the light of the broader socio-economic and cultural factors prevalent in the respective states and by making inter-state comparisons. While economic factors such as poverty and deprivation seem to affect educational attainments and health status of women in most states, demographic imbalances or work participation levels are through attitudinal bases in society.

The literacy levels of females in towns have increased from 1991 to 2001 and disparity too decreased over the period but still there are towns in study area which still record female literacy as low as 33.88 percent in Lower, 37.31 percent in Phalanda, 21.71 percent Sewal khas, 31.11 percent in Dasna, 12.53 percent in Khanpur, 33.74 percent in Chhatari, Kithaur 29.99 percent.

Chapter –5

Correlation And Regression

Chapter 5

Correlation and Regression

5.1 Introduction

This chapter deals with finding out how each variable is related to the other and also how each variable of socio-economic development taken for the study affects development of a town, during 1991 and 2001 . Statistical tools like correlation and regression method have been used to study the relationship.

5.2 Correlation

The correlation analysis for the NCR for 1991, for all towns is shown in the table 5.1. The table shows that male literacy is significantly and positively correlated with female literacy . Male literacy , is also significantly and positively correlated with cooking gas used in household and electricity supply in household.

On the other hand, female literacy is also significantly and positively correlated with cooking gas used in household and electricity supply in household. The probable reason could be that as females are literate they are more conscious about their and their children 's health as they tend to use cooking gas, which is not harmful as compares to other fuels. Juvenile sex ratio (0-6) , shows negative and significantly correlated with electricity and cooking gas.

Female work participation rate does not show any significant association with any of the variable except safe drinking water. The relationship is negatively and significantly associated with safe drinking water in the household on the other hand, male work participation rate is positively and significantly correlated with safe drinking water. This may be so because male and female work participation rate are highly collinear variables. Another probable reason could be that in the study area women who are poor are working and that also engaged in low paying jobs. Thus being poor they cannot afford safe drinking water. But this cannot be asserted, as the data does not tell about the nature of work women are engaged in. So, one has to depend on the primary data to find the actual reason.

For housing amenities it has been seen that electricity is positively and significantly associated with toilet facility in the household and cooking gas. Both safe drinking water and toilet facility show positive and significant relation with cooking gas.

For the year 2001, the bi-variate analysis among the variable has been shown in table 5.2. Result show that female literacy is significantly and positively correlated with male literacy in the NCR but is negative and significantly correlated juvenile sex ratio (0-6). The reason behind female literacy being negative and significantly correlated juvenile sex ratio (0-6) can be traced from Krishnamoorthy 's study who points that sex selective abortion is prevalent among women off all levels of education and the incidence increases with rising level of education. Further, the incidence of sex selective abortion is high among women enjoying high standard of life. This suggests an undesirable rising trend in sex selective abortions in the future. As the younger generation of women is better educated and the economy is improving providing better standard of living to people in the country, there is a possibility that the past declining trend in sex selective abortion may soon revert and an increasing trend in sex selective abortion may set. Further research and programme interventions are badly needed to counter this possible rise in sex-selective abortions without affecting rate of improving in women's education and standard of living. Greater attention has to be paid to Punjab, Haryana, Delhi, Rajasthan, Uttar Pradesh, Arunachal Pradesh and Meghalaya where the incidence of sex-selective abortions is particularly high.

Among the housing amenities it is seen that female literacy is positively and significantly correlated with percentage of household having toilet facility, cooking gas and electricity. The probable reason could be that as females are literate they are more conscious about hygiene (toilet facility) and health (cooking gas and electricity) But female literacy is negative and significantly correlated with safe drinking water supply. For explaining this anomaly primary data is required.

Table 5.1 Correlation Coefficient Matrix Between The Variables Of Socio-Economic Development In The Study Area In 1991

Variables	Male wpr	Female wpr	Sex_Ratio (0-6)	Female literacy	Male literacy	Electricity	Safe Drinking Water	Toilet facility	Cooking Gas
Male wpr	1								
Female wpr	0.136	1							
Sex_Ratio(0-6)	0.132	-0.049	1						
Female literacy	-0.043	0.02	-.189	1					
Male literacy	0.02	0.114	-.181	.912**	1				
Electricity	-0.078	-0.148	-.301**	.748**	.682**	1			
Safe Drinking Water	.234*	-0.198*	.016	.122	.060	.170	1		
Toilet facility	-0.157	-.148	-.149	.149	-.086	.338**	.194	1	
Cooking Gas	-0.053	-.034	-.198*	.812**	.617**	.705**	.190*	.484**	1

*Correlation is significant at the 0.05 level

**Correlation is significant at the 0.01 level

For male literacy the result does not show much variation from the earlier year 1991 . Male literacy is also positively and significantly correlated with percentage of household with electricity supply and percentage of household using cooking gas as a fuel but it is negative correlated with percentage of safe drinking water supply facility. Male literacy is also negatively associated with sex-ratio of the children in the age group (0-6).

For the female work participation , we see that it is significantly associated with male working population. But it is negative associated with all housing amenities of safe drinking water facility ad toilet facility . Male work participation rate is also negatively associated with housing amenity (safe drinking water).

Male work participation rate is positively and significantly associated with both male and female literacy level. Male work participation on the other hand is negatively associated with sex ratio of the children in the age group 0-6.

Juvenile sex ratio (0-6), is negatively associated with both percentage of household having electricity and cooking gas. The reason behind this relation between the variables could be that people who can afford cooking gas facility and electricity would be better off, as the percentage of household using cooking gas is relatively

low in the towns. So only people who are well off are using that. Moreover, only rich people can afford the sex-determination test as it requires knowledge about the test and money. So, poor people who cannot afford electricity and cooking gas and similarly they cannot afford the test.

Among the housing amenities both cooking gas and safe drinking water show positive correlation with toilet facility. Percentage of household having electricity show positive association with percentage of household having toilet facility and cooking gas.

Table 5.2 Correlation Coefficient Matrix Between The Variables Of Socio-Economic Development In The Study Area In 2001

Variables	Toilet facility	Cooking Gas	Safe Drinking Water	Electricity	Sex_Ratio (0-6)	Male literacy	Female literacy	Male_wpr	Female_wpr
Toilet facility	1								
Cooking Gas	.454**	1							
Safe Drinking Water	.212*	-.132	1						
Electricity	.333**	.674**	-.158	1					
Sex_Ratio(0-6)	-.042	-.313**	.112	-.326**	1				
Male literacy	.011	.612**	-.266**	.638**	-.486**	1			
Female literacy	.223*	.743**	-.217*	.716**	-.546**	.946**	1		
Male_wpr	-.094	.153	-.259**	.240*	-.285**	.410**	.369**	1	
Female_wpr	-.475**	-.071	-.501**	-.015	-.052	.120	.032	.444**	1

*Correlation is significant at the 0.05 level

**Correlation is significant at the 0.01 level

On comparing the result of analysis for year 1991 and 2001, we find do not find variation within the association between the variables. Though the association becomes stronger in 2001. It has been seen that few variables which showed no association or weak association of the year 1991, improves in the year 2001. Female work participation rate was significant at 1 percent level (-0.198) for safe drinking water in the year, reduces to be associated at 5 percent level (-0.501) in the year 2001.

On the other hand, it has been seen male work participation rate which was positively associated with safe drinking in 1991, is negatively associated with both male and female literacy in the year 2001. The other variables show only marginal variation.

5.3 Regression

In case of regression analysis, in which the dependent variable is the socio-economic development of the town, which is taken in the form of composite index value of the town, as calculated in the chapter –3 of the study earlier. These composite index values of the towns are positive for some towns and negative for some. The towns having negative value are regarded as undeveloped and those towns having positive values are regarded as developed. And these, composite index values are recoded with 0 and 1.0 being given to towns having composite index value as negative thus are socio-economically undeveloped and 1 being given to towns having composite index value as positive and thus recorded as socio-economically developed. All the other nine variables, male work participation, female work participation, Toilet facility, safe drinking water facility, provision of electricity, household using cooking gas, sex-ratio (0-6), male literacy and female literacy are taken as independent variables. Regression is done for both 1991 and 2001.

The regression is done taking all the nine variables at first and the result is shown in the tables below but there exist problem of multi-co linearity among the variables like male and female literacy and male and female work participation rate. This is corrected by taking female literacy and female work participation rate at first and then male literacy and male work participation rate, with other variables for both 1991 and 2001.

Regression analysis is done to show the net effect of each variable on each dependent, variable, taking other variables as controlled. The result (refers table 5.3) how that sex-ratio and female work participation level are highly significant. Among the housing amenities percentage of household having electricity and safe drinking water, show significant effect on development all other variables do not show any significant effect on development.

Table 5.3 Linear regression 1991

	co-efficients	
		Significance
constant	-4.236	0
Sex-ratio(0-6)	2.405E-03	0
Electricity	1.371E-02	0
Safe drinking water	9.883E-03	0.015
Toilet Facility	1.584E-03	0.484
Cooking Gas	4.073E-03	0.339
Female literacy	7.754E-03	0.221
Female work Participation Rate	4.015E-02	0.001

The result shows that over these entire variables are able to explain the effect on development significantly (59.3 percent). The value for R^2 0.593 and the adjusted R^2 value is 0.563.

Table 5.4 Linear regression 2001

	co-efficients	
	B	Significance
constant	-4.376	
Sex-ratio(0-6)	2.39E-03	0.007
Electricity	6.68E-03	0.01
Safe drinking water	9.27E-03	0.183
Toilet Facility	4.19E-03	0.151
Cooking Gas	7.62E-03	0.002
Female literacy	1.57E-02	0.004
Female work Participation Rate	1.21E-02	0.065

For the year 2001, (refers table 5.4) it has been seen that sex ratio and female literacy have shown significant effect on development. Among the housing amenities, percentage of household having electricity and percentage of household using cooking gas as a fuel are showing significant effect on development. For all other variables the result does not show any significance effect on development of the region. Overall the variables have significant effect and explain the association for 64.7 percent. The R^2 value is 64.7 and the adjusted R^2 value is 0.620.

The results show an improvement in the effect of the socio-economic variables from 1991 (59.3 percent) to (64.7 percent) in 2001, of the net effect of these variables on development.

5.4 Conclusion:

Based on the above discussion we can say that the relationship between the variables have remained the same over the decade. Probable reasons for the relation have been explained but as the data has limitations one has to rely on the primary data. But we can conclude that all the indicators that were taken for the study are able to explain the effect on development significantly and over the decade it has improved. As the R^2 value improved.

Chapter –6

Summary and Conclusions

Chapter 6

Summary and Conclusions

6.1 Introduction

The present study has been attempted to analyze the existing disparities in the levels of socio-economic development in the towns of national capital region (which surrounds the NCT Delhi). It has been found out that towns, which are close to, Delhi has shown social development where as towns away too has developed over the decade but not so much. There is also gender gap in literacy rates and work participation rates in the towns. Besides this, region reports low sex ratio (0-6). Housing amenities after been analyzed shows that of the all four amenities studied, least figures are recorded for percentage of house hold using, cooking gas as fuel for cooking. Otherwise, all towns (leaving few small towns) have good percentage of the rest of the three housing amenities studied

The National Capital Region planning boards is working in this can be whole region can be developed instead of few region towns.

This chapter is the summary of the findings of the present study relating to the disparities in socio economic development of the regions and on emerging issues of balance regional growth of the whole national capital region. These has also been an attempted to review the government policies and programs and particularly of National Planning Board and outline the recommendation

6.2 Summary of chapters

The study has been divided into six chapters, the present chapter being the last. The summary of the salient aspects of the study, methodology and analysis of each of these chapters has been discussed as follows: -

Chapter I, is the introduction to the study, where the extent, against areas, emerging issues have been discussed in the statement of problems and literature survey. For studding the research topic, all towns surrounding the NTC-Delhi, which are included in the National Capital Region, have been takes. The main objection of the study has been to focus on the pattern of population growth in the towns as well in Delhi and the existing socio-economic disparities. The database of the study has been mainly the census of the India 1991 and 2001, like-primary sensuous abstract and tables on

houses, household amenities and assets. The methodology incorporated in the study has been mainly quantitative analyses followed by interpretation. Statistical analysis like the decadal exponential growth rate, coefficient of variation, composite index modified by kundu, Sopher's Index Modified by Kundu and Rao(1986), correlation and regression have mainly been used. The literature review done for the study mainly for uses on the urbanization patterns, growth of towns, availability of housing and basic amenities, literacy, work participation and disparity. The main emphasis has been to show the disparity in the levels of socio-economic development.

The chapter II – is titled “Urban Settlement ”, where it has been shown how population in urban areas varies over space and time in India and also across the metropolitan cities and other class size towns. The basic aim of this chapter was to start from a broader area and narrow down to the study area, by showing how the urban population is growing in developing world then coming down to India, from (state-level) to showing the rate at metropolitan cities are growing and occupying major chunk of the urban population. After discussing growth of metropolitan cities, Delhi growth of metropolitan cities, Delhi growth is highlighted over the year since it's becoming a national Capital and then in brief the evolution of National Capital Region, its composition is discussed. Later on, the settlement pattern of the study area is discussed, showing the number of towns of each size-class, in each state. For example showing how many class Ist towns are there in Haryana and what percentage of population of the NCR (National Capital Region) it accommodates. The inequality in the distribution of population in the study region is also so according to this class size, with the help of genesis coefficient.

Chapter III is titled as “Levels of Socio-Economic Development”. This chapter is basically an interpretation of the available data from the tables on houses, household amenities and assets, sensuous of India, primary sensuous abstract. The chapter aims to analyze and compare the quality of housing amenities and other socio-economic indicators across the towns, at two points of time i.e. 1991 and 2001. Regional variation each of the socio-economic indicator has been worked out using coefficient of variation. It has been found out the situation is better in class first cities and the percentage of house hold using cooking gas as fuel for cooking in the towns is very low. Sex ratio is also low, literacy rates is higher for males than females, and work participation rate of female was very low in 1991 but improve in 2001, but still is

remaining much lower than males work participation rates. Finally, a composite index has been computed to find out the related positions of the states regarding of the amenities at a micro level. On the basis of composite index value, towns are categorized into very low developed, low developed, medium developed, high developed and very high developed, for both 1991 and 2001.

Chapter IV is also interpretation of the level data of the literacy and work participation for 1991 and 2001. This chapter is titled as “Gender issues”. Chapter deals with gender gap and gender disparity in the literacy in its work participation rates, in the towns. Disparity is studied using Sopher modified by Kundu and Rao (1986). The literacy rates of females have improved over the years but in each town it is still lower than male literacy. Though the disparity has decreased over the years.

The disparity is more in case of male-female work participation rate. The male work participation is many times more than the frequent participation rate in 1991. In 2001 though female work participation rate improved but gap between the male and female were participation is still large. The disparity over the decade has reduced but.

Chapter V is titled as Correlation and Regression-Bivariate analysis is done in this chapter along with regression. This is done to find out how each socio-economic variable in the study effect the overall development of the region.

6.3 Summary of the findings

- (i) The pace of urbanization in India was picking up and reached its maximum during 1971-81, after which it showed down substantially.
- (ii) Increasing concentration of urban population in large cities is due to progressive increase in the number of both the cities and the million – plus cities, increase in administration boundaries of the cities, natural increase and rural – urban migration are also reasons for high population growth.
- (iii) The absolute increase in the urban population has been the main factor putting pressure our urban infrastructure greater Mumbai, Kolkata, Delhi, Chennai, are the most popular metropolitan cities. Their population taken together, accounts for nearly 17 percent of the urban population in 2001.

- (iv) Due to 12 new cities getting the status of metropolitan cities in the census of India, 201, nearly 13.1 million people (4.59 percent) were added to the total urban population of 2001.
- (v) In the NCR, more than 80 percent of population is in class I town in 1991, which increased to 82 percent in 2001
- (vi) Other towns though increase in number but the percentage of population over the decade 1991-2001, living in these towns remained more or less same.
- (vii) And the number of towns increased in NCR with substantial increase in the number of towns in Delhi from 32 in 1991 to 59 in 2001.
- (viii) Only Female Literacy rate, toilet facility and cooking gas have shown significant decline in the variation. The Male work Participation and percentage of household having electricity do not show any decline in the variation over the decade. Female work participation, sex-ratio (0-6) and male literacy showed very less decline in the variation.
- (ix) Towns are development which are near to Delhi for example Bahadurgarh, Gurgaon, Ghaziabad, Noida or towns which are near to a developed class I city in the study area. In other towns though there is development but maximum number of towns lie in medium level development category. The National Capital Region Planning Board
- (x) The literacy levels and work participation levels of females in towns have increased from 1991 to 2001 and disparity too decreased over the period but still there are towns in study area while still record female literacy as low as 33.88 percent in Lawar, 37.31 percent in Phalauda, 21.71 percent Sewal khas, 31.11 percent in Dasna, 12.53 percent in Khanpur, 33.74 percent in Chhatari, Kithaur 29.99 percent. And the female participation is much less than the male participation. Moreover, it is not clear what kind of jobs these women are doing. Whether the women are engaged in low paying jobs or not. (xi) Result show that female literacy is negatively and significantly correlated with juvenile sex ratio (0-6).

(xii) Among the housing amenities it is seen that female literacy is positively and significantly correlated with percentage of household having toilet facility, cooking gas and electricity.

(xiii) On comparing the result of analysis for year 1991 and 2001, we find do not find variation within the association between the variables. Though the association becomes stronger in 2001. It has been seen that few variables which showed no association or weak association of the year 1991, improves in the year 2001.

(xiv) All the indicators that were taken for the study are able to explain the effect on development significantly and over the decade it has improved. As the R^2 value improved.

6.4 Policies and Programmes

Ever since, the concept of “National Capital Region” came into being, there has been many policies that have been followed by the national capital region planning board. This board carried out studies on many aspects of the region so as to achieve a balance and harmonious development of the region, leading to dispersion of economy activities and deflecting future in migrants to Delhi, they are by leading to a manageable Delhi. The regional plan-2001, which was notified in 1989, laid down development policies aimed at

- 1) Relieving the capital city from additional Pressures
- 2) Avoid adding new pressure on the capital and
- 3) Development of settlement in NCR to enable them to play their assigned role.

In order to achieve these objectives the regional plan proposed these policies zones mainly NCT- Delhi, DMA and the rest of NCR. The broad policy parameter for these zones and the extent to which these have been met during the last to decade are as under:-

- NCT Delhi (1483 km²) to have restricted growth and the centralization of activities concentrated therein to the entire NCR. The plan according assigned a population of 112 lakhs including 2 lakhs rural population to this zone as against the estimated population of 132 lakhs by 2001, there by deflecting 20 lakhs people to the rest of NCR. Against this assignment, Delhi has actually grown to 138 lakhs as per census 2001, there by overshooting the estimated population.

- The DMA excluding NCT Delhi (1,696.85 km²) comprising the controlled/development areas of the areas of the contiguous towns of Ghaziabad-loni and NOIDA in Uttar Pradesh, Faridabad – Ballabhgarh complex, Gurgaon, Bahadurgarh, Kundli and the extension of Delhi ridge in Haryana. This zone was proposed to have a population of 38 lakhs (including one lakh rural population) by 2001, the census 2001 has shown that the DMA towns have attained a population of only 28 lakhs, though two of its towns i.e Faridabad and Ghaziabad-loni have come up very close to their assigned population, the rest are still far behind, especially Kundli which is still to take off.

The rest of NCR Composing an area of 27,063 km² for induced development specially of the priority towns/complex namely Merut, Hapur, Bulandsahar-Khudria Complex, Palwal, Panipat, Rohtak, Dhasiera-rewari – Bhinwadi complex and alwar the regional plan – 2001 has proposed that out of the additional 20 lakhs population slated to be deflected from Delhi, 19 lakhs would be accommodated in the Priority towns/complexes and one lakh in rural areas of NCR. Accordingly, a total population of 49 lakhs was assigned to the Priority towns by 2001, against which these towns attained a population about 28 lakhs as per the census 2001. they recorded slowest growth rate showing no inducement.

6.4.1 POLICIES FOR FUTURE DEVELOPMENT : REGIONAL PLAN 2021.

It is obvious from the above that the policy to contain the population of Delhi and deflecting 20 lakhs population outside the NCR has met very little success. Also the induced growth envisaged for the Priority towns in the rest of NCR has not taken place.

Accordingly, the policy of restricted growth of Delhi has been reviewed and the Regional Plan 2021 proposes “to harness the spread of the development impulse and agglomeration economies generated by Delhi for harmonized, balanced and environmentally sustainable spatio-economic development of the NCR with effective cooperation of the participating states.

Therefore regional Plan – 2021 aims to promote growth and balanced development of the National Capital Region.

The above aims is achieved through.

- (i) To promote sustainable development in the region to improve quality of life.
- (ii) To Provide efficient and economic rail and road based transportation network well integrated with the land use patterns to support balanced with the land use pattern to support balanced regional development in such identified settlement.
- (iii) To develop selected urban settlement with urban infrastructural facilities such as transport, Power, Communication, drinking water sewerage, drainage etc: comparable with NCT Delhi.
- (iv) To minimize the adverse environmental impact that may occur in the process of development of the National Capital Region.

Counter Magnet Areas

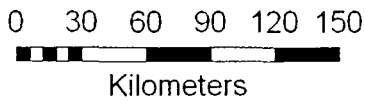
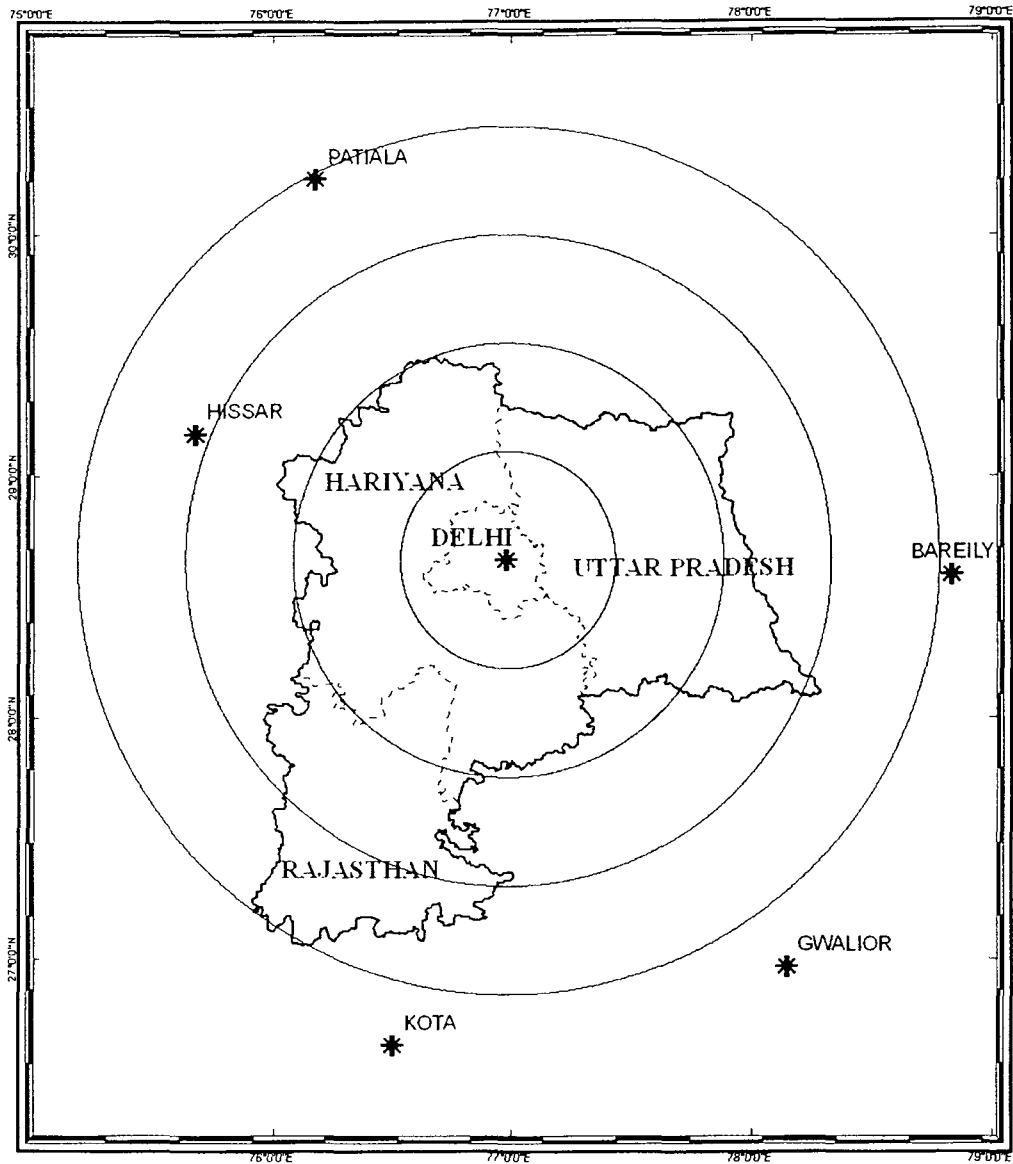
In accordance with the provision under sub-section (f) of section 8 of the Act, the Board, in consultation with the concerned state Government, has also selected the following counter Magnet Areas, considering their location, population and potential for growth, for implementing development programmes, in order to achieve the objectives of Regional Plan.

Conceptually counter magnet areas to NCR, as envisaged in Regional Plan 2021, should be such urban areas as may be sufficiently away from NCR and should have its known established roots and inherent potentials to function as viable independent growth foci.

Five Counter Magnet Towns as shown in Map 6.1

- a. Gwalior- Madhya Pradesh
- b. Patiala - Punjab
- c. Hisar - Haryana
- d. Kota - Rajasthan
- e. Bareilly - Uttar Pradesh, have been identified by the following criteria from search zone of 100 to 400 km from Delhi

NATIONAL CAPITAL REGION COUNTER MAGNET TOWNS



Legend

- * Counter Magnet Town
- NCR Boundary
- - - State Boundary

Map 6.1

Nodality Consideration

Centers would be spaced at least about 50 Km apart.

Spatial Consideration:

To infuse complementary to spatial pattern, size and functional specification or priority towns and their linkages outside the NCR

Size and Viability Consideration:

Counter magnets will generally have a 3 lakhs and more population as that size cities would have established services areas and basic social and economic infrastructure with a diversified economic base.

Migration Consideration :

By and large the location of counter magnets may be guided from the consideration of higher rate of migration flow in a district as a group of district a state.

Role of Counter Magnet

The proposed counter magnets are envisaged to play two distinctive and mutually complimentary roles in the context of NCR

(i) To stem the migration from less developed areas of Eastern and South – Eastern direction of the country to the city of Delhi.

(ii) To act as regional growth center and to help attain a balance pattern of urbanization in the region.

But the analysis of (CMA)Counter Magnet Areas during the tenure of regional Plan – 2001 has shown that:

(i) These areas have not played the assigned role in reducing the flow of migrants from the respective states to Delhi largely due to distance factor and paucity of funds allocated for their development.

(ii) In order to pursue the policy of development of counter magnets in a more effective manner, it is suggested that more than one such settlement be identified in Uttar Pradesh ,in consultation with the states Government, from where 49 percent migrant come to Delhi.

Based on the review of the Regional Plan-2001 on counter Magnets, further in order to make counter magnets capable to undertake their assigned roles effectively, their future development must be directed to cover the following aspects:

- (i) Strengthening of Economic Base functions
- (ii) Upgradation of Physical and social Infrastructure
- (iii) Strengthening of Regional Linkages

6.5 Conclusion: The most important aspect related to the development of the region includes the availability of funds. For example, in case of status of development of counter magnet areas, the State Government did manage to take the required actions. The counter magnet towns of Gwalior and Patiala have so far availed of maximum loan assistance of Rs.61 crores and Rs.42.48 crores respectively followed by Bareilly at Rs.20 crores. Kota has obtained only a marginal loan of Rs.2 crores and Hissar has not yet taken any loan assistance.

The most important element required for achieving success is the availability of the resources. Financing of various projects is critical to the success of the NCR Plan. It is necessary to have large investments in infrastructure such as transportation, power, water and telecom and also in social sectors such as health and education.

Funds for development activities in the NCR are available mainly from four sources:

- a) NCRPB assisted projects, the board provides loan upto 75% of the cost of the project.
- b) State Government projects are implemented by various development authorities, local bodies, housing boards, industrial development corporations etc.
- c) Projects funded by the central ministries such as Railways, Communications and information technology, Shipping, Road transport and highways etc and
- d) Private sector investment in infrastructure.

The funds available with the board are from the following sources:

- a) Grants from the ministry of Urban Development
- b) Contribution from Delhi government
- c) Market borrowing (Taxable and Tax-free bonds)
- d) Internal accruals (Interest income)

However, there have been resource constraints with NCRPB in financing large-scale programs in the region due to which the regional infrastructure envisaged in the RP-2001 could not be implemented. In the view of the resource constraints with the NCRPB in financing development programs in the region and in the light of the existing modalities of jointly funded projects, the NCRPB do not have the facility of providing any financial assistance to its constituent states as grants.

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APPENDIX

Appendix 1

Towns	1981	1991	2001	Decadal Growth rate 1981-91	Decadal Growth rate 1991-2001
Panipat	137,927	191,212	261665	38.63	36.85
Samalkha	13,532	18384	29856	35.86	62.40
<i>Asan Khurd</i>			8064		
Sonepat	109,369	143922	225151	31.59	56.44
Gohana	26,188	32496	48518	24.09	49.30
Ganaur	16,489	20952	29005	27.07	38.44
Kharkhoda	9,279	13151	18758	41.73	42.64
Rohtak	166,767	216096	294537	29.58	36.30
Maham	11,722	15083	18166	28.67	20.44
Kalanaur	12,380	14524	1684	17.32	-88.41
Bahadurgarh	37,488	57235	131924	52.68	130.50
Jhaggar	24,247	27693	39004	14.21	40.84
Beri	13,490	14508	16146	7.55	11.29
<i>Ladrawan</i>			8007		
<i>sankhol</i>			5179		
Faridabad	330,864	617717	1054981	86.70	70.79
Palwal	47,328	59168	100528	25.02	69.90
Hodal	18,740	25635	38306	36.79	49.43
Hathin	6,553	7863	10913	19.99	38.79
Hasanpur	5,190	7130	9089	37.38	27.48
<i>Tilpat</i>			6377		
Gurgoan	100,877	135884	229243	34.70	68.70
Sohna	12,667	16348	27571	29.06	68.65
Firozpur Jhirka	9,400	12413	17751	32.05	43.00
Taora	6,912	12534	17227	81.34	37.44
Hailley Mandi	10,140	13263	17072	30.80	28.72
Pataudi	8,422	11278	16064	33.91	42.44
Punhana	4,325	8,697	13178	101.09	51.52
Nuh	5,992	7492	11038	25.03	47.33
Dundahera	4,604	6767	10640	46.98	57.23
Farukknagar	6,367	8046	9520	26.37	18.32
Rewari	51,562	75342	100946	46.12	33.98
Dharuhera	5,266	10848	18890	106.00	74.13
Bawal	7,760	9010	12016	16.11	33.36

Rewari(rural)			4453		
Merrut	536,615	849799	1167399	58.36	37.37
Mawana	37,620	51701	69199	37.43	33.84
Sardhana	30,138	42980	47970	42.61	11.61
Kithaur	13,791	19270	23510	39.73	22.00
Hastinapur	11,637	15081	21248	29.60	40.89
Sewal Khas	10,278	14402	18434	40.12	28.00
Lawar	11,535	14471	18050	25.45	24.73
Parikshitgarh	11,328	13677	17399	20.74	27.21
Phalauda	10,357	13970	17200	34.88	23.12
Karnawal	9,895	11047	12618	11.64	14.22
Kharkhoda	8,708	10550	12435	21.15	17.87
Daurala	9,146	10025	10684	9.61	6.57
Behsuma	7,906	9060	10561	14.60	16.57
<i>Aminagar urf Bhurbaral</i>			5495		
<i>Mohiuddinpur</i>			4892		
Baraut	46,292	67705	85822	46.26	26.76
Khekada	24,984	35191	40380	40.85	14.75
Baghpat	17,157	24939	36365	45.36	45.82
Chhaprauli	13,805	16008	17795	15.96	11.16
Tikri	11,315	12784	13429	12.98	5.05
Doghat	10,019	12310	13261	22.87	7.73
Aggarqwal Mandi	9,353	10871	12398	16.23	14.05
Aminagar sarai	6,837	8274	10114	21.02	22.24
Ghaziabad	287,170	511759	968521	78.21	89.25
Hapur	102,837	146262	211987	42.23	44.94
Modipur	87,665	123279	139642	40.63	13.27
Loni	10,259	36561	120659	256.38	230.02
Behta Hajipur	4,058	30360	94414	648.15	210.98
Muradpur	26,047	44395	74080	70.44	66.87
Pilhau	37,884	50162	67191	32.41	33.95
<i>Dharoti Khurd</i>			34015		
Garhmukteshwar	17,914	25241	33432	40.90	32.45
Dasna	13,037	16963	24428	30.11	44.01
Faridabad	9,116	10940	11271	20.01	3.03
O.F.Muradnagra	9,026	12792	10754	41.72	-15.93
Niwadi	7,078	8841	9919	24.91	12.19
Patla	7,847	9181	9730	17.00	5.98
Babugarh	2,389	3581	5938	49.90	65.82

Noida	37,000	146514	293908	295.98	100.60
Dadri	19,723	32883	57457	66.72	74.73
Jewar	15,275	21376	26950	39.94	26.08
Rabupura	8,999	10769	13024	19.67	20.94
Dankaur	7,935	9531	11982	20.11	25.72
<i>Salarpur Khadar</i>			10772		
Jahangirpur	6,447	8206	9522	27.28	16.04
Bilsapur	4,661	6127	7478	31.45	22.05
kakod	4,299	5838	7139	35.80	22.29
Bulandshaher	103,436	127201	176256	22.98	38.56
Khurja	67,119	80305	98403	19.65	22.54
Sikandarabad	43,135	60992	69902	41.40	14.61
Jahangirabgad	29,301	37981	51369	29.62	35.25
Guloathi	24,416	33982	42872	39.18	26.16
Siyana	22,410	29888	39033	33.37	30.60
Debai	22,430	27721	34853	23.59	25.73
Shikarpur	21,499	29197	33130	35.81	13.47
Anupshahr	15,193	19684	23676	29.56	20.28
Naraura	9,573	15652	20376	63.50	30.18
Aurangabad	11,622	15402	20072	32.52	30.32
Pahasu	9,016	13127	17116	45.60	30.39
Khanpur	8,311	11420	13741	37.41	20.32
Bugrasi	8,307	11093	12814	33.54	15.51
Chhatari	5,862	8202	10886	39.92	32.72
Bhawan Bahadur Nagar	6,779	9101	9322	34.25	2.43
Alwar	145,795	210146	265850	44.14	26.51
Bhiwadi	1,729	15285	33830	784.04	121.33
Khairthal	15,962	22741	32008	42.47	40.75
Behror	1,085	16238	22829	1396.59	40.59
Tijara	12,199	15399	19918	26.23	29.35
<i>Kishangarh</i>			9472		
Rajgarh		20223	25006		
Govindgarh		7991	10086		
Kherli		12263	15494		

Appendix 2		Composite Index Of Socio-Economic Development in 1991								
1991	1	2	3	4	5	6	7	8	9	
town	male wPR	Female wpr	sex-Ratio0-6	Female lit	Male lit	ele	sdw	toi	co gas	
Panipat	52.11	5.90	919.64	53.61	65.18	94.17	92.7	78.4	47.85	
Samalkha	46.61	2.85	792.95	49.86	65.16	92.31	94.36	54.53	34.87	
Sonipat	46.62	5.78	895.16	54.92	70.34	93.39	94.06	68.23	49.86	
Gohana	45.46	3.38	898.53	49.25	66.51	90.87	91.99	46.13	44.73	
Ganaur	46.44	4.88	902.34	49.86	68.22	93.32	93.32	50.21	39.64	
Kharkhoda (Ha)	45.81	3.77	851.77	43.48	62.49	87.47	84.05	23.23	20.05	
Rohtak	46.93	5.87	875.56	57.24	71.40	94.6	92.22	72.55	55.69	
Maham	46.22	6.72	848.77	45.87	64.13	86.88	47.08	46.88	23.13	
Kalanaur	46.23	2.85	901.50	45.12	65.78	85.59	78.29	44.05	30.27	
Bahadurgarh	47.55	5.43	882.85	56.79	72.12	96.21	95.95	68.18	58.22	
Jhajjar	45.36	4.01	870.87	50.60	71.15	94.95	82.73	48.65	39.72	
Beri	40.35	2.48	883.44	42.74	69.10	93.4	77.87	25.32	6.38	
Faridabad Complex	51.02	4.87	901.85	51.36	68.93	78.22	94.5	57.84	35.47	
Palwal	46.51	3.96	863.48	48.64	65.93	87.45	93.75	59.43	43.16	
Hodal	47.68	2.23	850.19	34.33	60.86	76.23	93.67	48.32	6.59	
Hathin	47.14	3.92	845.10	33.79	58.78	73.44	83.82	27.8	6.64	
Hassanpur	46.04	14.26	820.24	34.76	54.44	61.57	92.13	36.11	7.87	
Gurgaon	48.33	8.18	895.78	65.83	76.65	95.19	94.79	83.33	72.75	
Gurgaon Rural	44.20	2.63	892.35	50.01	69.91	86.37	94.24	28.41	34.74	
Sohna	48.42	7.06	921.45	44.03	63.00	82.94	92.66	52.11	46.61	
Ferozepur Jhirka	45.96	6.14	861.53	36.93	58.68	80.42	81.22	43.92	25.93	
Taoru	47.62	6.67	790.46	49.97	69.08	86.8	98.42	61.26	25.11	
Haileymandi	45.16	3.13	951.11	44.36	66.59	77.78	96.38	32.61	16.91	
Pataudi	45.56	3.26	868.17	36.96	59.58	78.7	97.93	26.04	13.02	
Punahana	45.62	2.88	879.96	36.11	58.90	83.87	90.68	46.59	13.98	
Nuh	44.69	7.93	848.82	39.93	60.45	92.62	93.03	54.92	23.77	
Dundahera	42.66	2.08	797.99	46.86	71.28	92.75	82.61	35.87	36.96	
Faraknagar	47.62	2.39	1016.17	39.48	66.31	73.41	98.41	24.21	15.08	
Rewari	46.25	3.81	908.95	55.88	73.26	93.04	92.61	64.96	41.91	
Dharuhera	60.77	3.31	907.05	38.00	71.92	91.83	96.77	23.23	9.25	
Bawal	45.46	13.14	928.57	43.43	69.46	78.19	90.6	37.25	9.40	
Alwar	47.08	5.08	884.04	51.11	71.97	89.41	84.53	74.57	44.25	
Bhiwadi	69.33	6.50	858.95	30.55	68.44	79.36	92.94	26.84	8.24	
Khairthal	44.86	8.47	915.36	44.65	67.61	76.22	78.46	50.63	14.41	
Rajgarh (Rj-1)	44.10	10.49	966.07	35.11	68.60	80.23	80.38	42.88	9.74	
Behror	47.73	13.29	905.42	40.94	68.36	82.29	89.69	49.76	8.21	
Tijara	44.57	12.48	940.04	32.43	59.99	63.12	85.03	31.67	13.45	
Kherli	45.23	2.77	914.23	56.58	75.83	85.35	93.26	68.14	22.33	
Govindgarh (Rj)	38.14	6.58	903.34	40.50	65.39	64.2	60.61	43.94	15.53	
Meerut	46.99	3.78	929.91	41.43	56.59	83.52	92.17	78.26	36.9	
Mawana	47.23	3.76	905.79	26.71	43.34	78.67	96.31	83.78	23.64	

Sardhana	48.35	3.84	942.11	28.88	45.75	72.18	95.55	70.73	23.36
Kithaur	45.09	5.24	885.84	17.08	34.42	48.94	93.64	78.21	2.54
Hastinapur	48.32	6.97	990.40	37.65	56.86	39.8	95.43	38.34	14.52
Sewal Khas	44.65	2.76	890.88	15.52	38.34	47.65	92.52	50.69	3.6
Lawar	51.19	11.44	934.44	18.71	42.57	39.09	90.61	57.87	2.28
Parikshitgarh	46.70	3.51	925.11	36.60	57.34	64.12	95.17	64.12	8.4
Phalauda	50.63	8.35	932.93	22.42	44.59	52.7	89.46	57.84	4.11
Karnawal	49.86	6.57	903.70	33.79	61.26	49.7	95.12	14.33	1.22

	2	3	4	5	6	7	8	9	
Z_wpr male	Z_wpr female	Z Sex-ratio	Z Female lit	Z Male lit	Z electricity	Z S Dr W	Z TOILET	Z GAS	Composite Index
1.27	0.25	0.48	1.45	0.69	1.33	0.33	1.23	1.59	8.62
-0.20	-0.80	-1.82	1.13	0.69	1.22	0.52	0.03	0.84	1.61
-0.19	0.21	0.03	1.56	1.17	1.28	0.49	0.72	1.71	6.97
-0.50	-0.62	0.09	1.08	0.82	1.13	0.25	-0.40	1.41	3.26
-0.24	-0.10	0.16	1.13	0.97	1.28	0.40	-0.19	1.12	4.52
-0.41	-0.48	-0.76	0.59	0.45	0.93	-0.67	-1.56	-0.02	-1.93
-0.11	0.24	-0.32	1.76	1.27	1.35	0.28	0.94	2.05	7.45
-0.30	0.53	-0.81	0.79	0.60	0.89	-4.93	-0.36	0.16	-3.42
-0.30	-0.80	0.15	0.73	0.75	0.82	-1.33	-0.50	0.57	0.08
0.05	0.09	-0.19	1.72	1.33	1.45	0.71	0.72	2.20	8.07
-0.53	-0.40	-0.41	1.19	1.24	1.37	-0.82	-0.27	1.12	2.50
-1.86	-0.93	-0.18	0.52	1.05	1.28	-1.38	-1.45	-0.81	-3.76
0.98	-0.11	0.15	1.26	1.04	0.38	0.54	0.19	0.88	5.31
-0.22	-0.42	-0.54	1.03	0.76	0.93	0.45	0.27	1.32	3.58
0.09	-1.02	-0.78	-0.19	0.30	0.26	0.44	-0.29	-0.80	-2.00
-0.06	-0.43	-0.88	-0.24	0.10	0.10	-0.69	-1.33	-0.80	-4.22
-0.35	3.13	-1.33	-0.16	-0.30	-0.61	0.26	-0.91	-0.73	-0.97
0.26	1.04	0.04	2.49	1.75	1.39	0.57	1.48	3.04	12.06
-0.84	-0.88	-0.02	1.14	1.13	0.86	0.51	-1.30	0.83	1.45
0.28	0.65	0.51	0.63	0.49	0.66	0.33	-0.10	1.52	4.98
-0.37	0.33	-0.58	0.03	0.09	0.51	-0.99	-0.51	0.32	-1.16
0.07	0.52	-1.87	1.14	1.05	0.89	0.99	0.37	0.28	3.43
-0.58	-0.71	1.05	0.66	0.82	0.35	0.75	-1.08	-0.20	1.06
-0.48	-0.66	-0.46	0.03	0.18	0.41	0.93	-1.42	-0.43	-1.89
-0.46	-0.79	-0.24	-0.04	0.12	0.72	0.10	-0.38	-0.37	-1.36
-0.71	0.95	-0.81	0.28	0.26	1.24	0.37	0.05	0.20	1.82
-1.25	-1.07	-1.73	0.88	1.25	1.24	-0.83	-0.92	0.96	-1.46
0.07	-0.96	2.23	0.25	0.80	0.09	0.99	-1.51	-0.31	1.65
-0.29	-0.47	0.28	1.64	1.44	1.26	0.32	0.55	1.25	5.98
3.57	-0.65	0.25	0.12	1.31	1.19	0.80	-1.56	-0.65	4.39
-0.50	2.75	0.64	0.58	1.09	0.38	0.09	-0.85	-0.64	3.53
-0.07	-0.03	-0.17	1.24	1.32	1.05	-0.61	1.04	1.39	5.14
5.85	0.46	-0.63	-0.52	0.99	0.45	0.36	-1.37	-0.70	4.88

-0.66	1.13	0.40	0.69	0.92	0.26	-1.31	-0.17	-0.35	0.91
-0.86	1.83	1.32	-0.13	1.01	0.50	-1.09	-0.56	-0.62	1.40
0.10	2.80	0.22	0.37	0.99	0.62	-0.02	-0.22	-0.71	4.16
-0.74	2.52	0.85	-0.36	0.22	-0.52	-0.55	-1.13	-0.40	-0.12
-0.56	-0.83	0.38	1.70	1.67	0.80	0.40	0.71	0.11	4.39
-2.45	0.48	0.18	0.33	0.71	-0.45	-3.37	-0.51	-0.28	-5.35
-0.10	-0.48	0.66	0.41	-0.10	0.69	0.27	1.23	0.96	3.55
-0.03	-0.49	0.22	-0.84	-1.32	0.41	0.75	1.51	0.19	0.39
0.26	-0.46	0.88	-0.66	-1.10	0.02	0.66	0.85	0.17	0.63
-0.60	0.02	-0.14	-1.66	-2.14	-1.36	0.44	1.22	-1.03	-5.26
0.26	0.62	1.76	0.09	-0.07	-1.91	0.65	-0.79	-0.34	0.26
-0.72	-0.84	-0.05	-1.80	-1.78	-1.44	0.31	-0.17	-0.97	-7.45
1.02	2.16	0.74	-1.53	-1.39	-1.95	0.09	0.19	-1.05	-1.70
-0.17	-0.58	0.58	0.00	-0.03	-0.46	0.62	0.51	-0.69	-0.23
0.87	1.09	0.72	-1.21	-1.20	-1.14	-0.04	0.19	-0.94	-1.66
0.67	0.48	0.19	-0.24	0.33	-1.32	0.61	-2.01	-1.11	-2.40

town	male wPR	Female wpr	sex-Ratio0-6	Female lit	Male lit	ele	sdw	toi	co gas
Kharkhoda (UP)	46.30	3.40	877.69	34.34	59.41	60.87	94.65	47.83	4.68
Daurala	50.08	6.12	926.85	29.92	54.66	34.01	94.56	15.99	3.74
Behsuma	52.34	4.76	1003.68	31.13	54.76	39.34	91.54	37.5	5.51
Baraut	47.15	2.95	901.07	43.23	62.65	85.77	96.11	77.65	39.04
khekada	46.44	6.76	879.55	33.48	56.42	71.2	91.79	39.71	14.85
Baghpat	46.37	2.90	949.11	22.23	39.86	64.14	87.9	60.48	25.18
Chhaprauli	48.37	8.77	880.68	29.38	53.98	53.81	91.07	28.98	7.41
Tikri	48.15	12.53	911.42	24.15	50.90	33.89	60.83	10.83	1.39
Doghat	47.80	11.49	890.33	27.24	52.50	33.98	81.89	13.65	1.11
Agarwal Mandi	50.09	4.31	990.35	42.11	67.95	75.38	92.49	39.34	13.51
Aminagar Sarai	48.20	3.86	931.38	41.96	62.48	72.54	94.26	58.2	15.91
Ghaziabad	48.67	6.01	884.48	45.82	60.40	80.44	93.82	70.44	40.7
Hapur	45.60	4.20	831.53	37.79	54.71	75.28	92.44	73.25	30.71
Modinagar	47.28	8.29	529.38	54.07	71.90	95.12	95.97	87.19	48.20
Loni	45.79	6.18	890.00	24.97	46.31	64.12	91.81	60.06	11.93
Behta Hajipur	46.76	3.75	874.75	34.18	59.06	55.17	97.56	36.53	10.17
Muradnagar	45.75	4.69	891.19	32.49	51.77	77.29	96.88	70.81	26.52
Pilkhua	45.10	4.42	898.28	38.35	59.64	79.68	95.06	75.02	30.42
Garhmukteshwar	46.32	5.22	953.61	21.64	39.69	46.64	91.99	50.88	4.95
Dasna	49.01	5.85	884.51	18.59	42.38	71.1	93.02	71.26	4.15
Faridnagar	49.09	3.63	906.92	20.27	38.18	43.17	89.57	56.47	5.76
Ordnance Fty. Muradnagar	45.42	4.56	906.71	64.61	79.01	88.11	98.05	97.47	79.73
Niwadi	58.68	0.93	1000.00	27.74	36.07	64.39	93.17	29.27	2.93
Patla	50.95	3.81	883.72	38.95	64.52	55.12	95.67	21.65	6.69
Babugarh	44.53	1.61	855.72	42.34	62.13	74.76	99.03	50.49	16.5
Noida	54.19	10.80	877.94	40.60	63.09	70.1	92.89	60.42	40.99
Dadri	46.78	7.09	871.85	35.26	53.35	76.75	92.7	62.65	24.38

Jewar	44.24	1.79	887.56	22.85	44.09	53.2	79.79	50.26	5.01
Rabupura	46.73	4.61	879.90	20.72	46.44	56.9	83.84	57.24	7.41
Dankaur	44.53	1.08	855.53	32.69	59.31	83.78	97.64	71.28	12.5
Jahangirpur	50.26	4.59	878.48	25.27	47.04	45.92	93.56	47.64	3.43
Bilaspur (UP-1)	47.52	5.41	886.84	25.05	46.41	68.07	86.14	87.23	8.43
Kakod	46.03	3.43	972.76	17.55	38.96	48.03	92.79	49.34	7.24
Bulandshahr	45.58	3.84	927.57	43.57	60.74	89.45	87.77	86.03	34.93
Khurja	47.26	5.72	903.57	33.03	50.78	83.71	92.77	85.76	23.95
sikandarabad	48.07	7.21	906.30	26.82	46.85	84.75	93.14	79.06	20.59
Jahangirabad	46.72	3.10	910.10	28.91	51.42	67.14	92.28	63.28	10.08
Gulaothi	42.46	2.35	893.23	35.91	55.58	77.3	87.93	71.56	17.44
siyana	46.69	3.57	944.63	27.76	48.25	58.45	90.71	69.64	6.67
Debai	44.92	2.12	856.86	30.58	48.48	64.55	86.68	67.27	19.02
Shikarpur (UP)	45.82	3.15	905.24	23.79	47.31	54.89	96.49	67.79	10.53
Anupshahr	46.33	3.87	869.54	37.44	51.10	68.65	90.43	71.29	27.56
Naraura	46.74	2.80	912.50	37.57	59.81	68.25	93.12	58.22	45.13
Aurangabad (UP)	44.46	1.38	910.13	20.05	41.81	59.53	80.72	66.95	2.33
Pahasu	44.06	1.54	896.48	22.20	39.61	68.49	90.96	80.55	2.19
Khanpur (UP)	48.38	8.67	847.70	17.89	41.90	59.54	77.3	72.7	9.21
Bugrasi	47.17	2.08	871.21	16.68	44.32	66.78	91.45	64.8	2.3
Chhatari	46.90	3.97	898.07	23.79	43.13	46.05	65.35	53.95	3.07
Bhawan Bahadurnagar	47.43	5.03	895.31	33.88	58.71	45.26	65.69	40.51	5.11
Merrut cant.	54.76	5.48	909.73	61.38	71.00	89.9	93.19	79.09	51.92
town	male wPR	Female wpr	sex-Ratio0-6	Female lit	Male lit	ele	sdw	toi	co gas
Begumabad Budhana	50.43	7.46	906.45	29.08	54.10	71.06	95.29	34.35	7.76
Bisokhar	44.81	2.36	826.13	24.17	45.15	63.54	97.11	22.74	3.97
Mean	47.35	5.18	893.42	36.60	57.65	71.84	89.83	54.02	20.37
Stand Devatn	3.76	2.90	55.11	11.73	10.86	16.81	8.68	19.77	17.23

wpr male	wpr female	Sex-ratio	Female lit	Male lit	electricity	S Dr W	TOILET	GAS	TOTAL
-0.28	-0.61	-0.29	-0.19	0.16	-0.65	0.56	-0.31	-0.91	-2.53
0.73	0.32	0.61	-0.57	-0.28	-2.25	0.54	-1.92	-0.97	-3.78
1.33	-0.14	2.00	-0.47	-0.27	-1.93	0.20	-0.84	-0.86	-0.98
-0.05	-0.77	0.14	0.57	0.46	0.83	0.72	1.20	1.08	4.17
-0.24	0.55	-0.25	-0.27	-0.11	-0.04	0.23	-0.72	-0.32	-1.18
-0.26	-0.79	1.01	-1.23	-1.64	-0.46	-0.22	0.33	0.28	-2.97
0.27	1.24	-0.23	-0.62	-0.34	-1.07	0.14	-1.27	-0.75	-2.62
0.21	2.53	0.33	-1.06	-0.62	-2.26	-3.34	-2.18	-1.10	-7.50
0.12	2.17	-0.06	-0.80	-0.47	-2.25	-0.91	-2.04	-1.12	-5.36
0.73	-0.30	1.76	0.47	0.95	0.21	0.31	-0.74	-0.40	2.98
0.23	-0.45	0.69	0.46	0.44	0.04	0.51	0.21	-0.26	1.87
0.35	0.28	-0.16	0.79	0.25	0.51	0.46	0.83	1.18	4.49
-0.46	-0.34	-1.12	0.10	-0.27	0.20	0.30	0.97	0.60	-0.02
-0.02	1.07	-6.61	1.49	1.31	1.38	0.71	1.68	1.62	2.64
-0.42	0.35	-0.06	-0.99	-1.04	-0.46	0.23	0.31	-0.49	-2.58

-0.16	-0.49	-0.34	-0.21	0.13	-0.99	0.89	-0.88	-0.59	-2.65
-0.42	-0.17	-0.04	-0.35	-0.54	0.32	0.81	0.85	0.36	0.82
-0.60	-0.26	0.09	0.15	0.18	0.47	0.60	1.06	0.58	2.28
-0.27	0.01	1.09	-1.28	-1.65	-1.50	0.25	-0.16	-0.89	-4.40
0.44	0.23	-0.16	-1.54	-1.41	-0.04	0.37	0.87	-0.94	-2.18
0.46	-0.53	0.24	-1.39	-1.79	-1.71	-0.03	0.12	-0.85	-5.47
-0.51	-0.22	0.24	2.39	1.97	0.97	0.95	2.20	3.45	11.43
3.01	-1.46	1.93	-0.76	-1.99	-0.44	0.38	-1.25	-1.01	-1.58
0.96	-0.47	-0.18	0.20	0.63	-0.99	0.67	-1.64	-0.79	-1.61
-0.75	-1.23	-0.68	0.49	0.41	0.17	1.06	-0.18	-0.22	-0.93
1.82	1.94	-0.28	0.34	0.50	-0.10	0.35	0.32	1.20	6.09
-0.15	0.66	-0.39	-0.11	-0.40	0.29	0.33	0.44	0.23	0.90
-0.83	-1.17	-0.11	-1.17	-1.25	-1.11	-1.16	-0.19	-0.89	-7.87
-0.17	-0.20	-0.25	-1.35	-1.03	-0.89	-0.69	0.16	-0.75	-5.16
-0.75	-1.42	-0.69	-0.33	0.15	0.71	0.90	0.87	-0.46	-1.01
0.78	-0.20	-0.27	-0.97	-0.98	-1.54	0.43	-0.32	-0.98	-4.06
0.05	0.08	-0.12	-0.98	-1.04	-0.22	-0.43	1.68	-0.69	-1.68
-0.35	-0.60	1.44	-1.62	-1.72	-1.42	0.34	-0.24	-0.76	-4.93
-0.47	-0.46	0.62	0.59	0.28	1.05	-0.24	1.62	0.85	3.84
-0.02	0.19	0.18	-0.30	-0.63	0.71	0.34	1.61	0.21	2.27
0.19	0.70	0.23	-0.83	-0.99	0.77	0.38	1.27	0.01	1.73
-0.17	-0.72	0.30	-0.66	-0.57	-0.28	0.28	0.47	-0.60	-1.94
-1.30	-0.97	0.00	-0.06	-0.19	0.32	-0.22	0.89	-0.17	-1.71
-0.18	-0.56	0.93	-0.75	-0.87	-0.80	0.10	0.79	-0.80	-2.12
-0.65	-1.05	-0.66	-0.51	-0.84	-0.43	-0.36	0.67	-0.08	-3.92
-0.41	-0.70	0.21	-1.09	-0.95	-1.01	0.77	0.70	-0.57	-3.05
-0.27	-0.45	-0.43	0.07	-0.60	-0.19	0.07	0.87	0.42	-0.52
-0.16	-0.82	0.35	0.08	0.20	-0.21	0.38	0.21	1.44	1.46
-0.77	-1.31	0.30	-1.41	-1.46	-0.73	-1.05	0.65	-1.05	-6.82
-0.88	-1.25	0.06	-1.23	-1.66	-0.20	0.13	1.34	-1.06	-4.75
0.27	1.20	-0.83	-1.60	-1.45	-0.73	-1.44	0.94	-0.65	-4.28
-0.05	-1.07	-0.40	-1.70	-1.23	-0.30	0.19	0.55	-1.05	-5.06
-0.12	-0.42	0.08	-1.09	-1.34	-1.53	-2.82	0.00	-1.00	-8.24
0.02	-0.05	0.03	-0.23	0.10	-1.58	-2.78	-0.68	-0.89	-6.06
1.97	0.10	0.30	2.11	1.23	1.07	0.39	1.27	1.83	10.27
wpr male	wpr female	Sex-ratio	Female lit	Male lit	electricity	S Dr W	TOILET	GAS	TOTAL
0.82	0.79	0.24	-0.64	-0.33	-0.05	0.63	-0.99	-0.73	-0.27
-0.68	-0.97	-1.22	-1.06	-1.15	-0.49	0.84	-1.58	-0.95	-7.27

Appendix 3

towns	1	2	3	4	5	6	7	8	9	
	2001	TOILET	LPG	S DR W	ELECT	Sex-Ratio	M lit(%)	Fem lit	new m wpr	fwpr
Panipat (M CI)	90.57	68.45	94.30	97.40	802.84	71.82	62.63	54.11	16.13	
Samalkha (MC)	77.22	70.93	90.87	94.68	763.09	72.77	60.24	48.18	9.62	
Sonipat (M CI)	86.00	72.13	83.33	95.31	765.07	76.35	65.50	45.26	10.50	
Gohana (MC)	73.92	63.30	95.07	93.57	769.23	72.85	59.84	46.29	7.92	
Ganaur (MC)	72.77	65.95	94.07	93.93	805.12	73.98	58.80	46.33	13.64	
Kharkhoda (MC)	59.54	47.42	96.55	92.09	790.91	70.00	55.21	47.21	16.20	
Rohtak (M CI)	86.86	74.80	95.11	96.11	784.51	75.62	65.91	46.40	9.82	
Maham(MC)	61.83	42.08	81.58	91.06	770.77	71.37	57.47	48.52	19.83	
Kalanaur (MC)	58.45	51.40	96.96	91.30	785.76	71.38	57.09	47.64	12.37	
Bahadurgarh (M CI)	85.68	73.92	96.72	96.79	806.82	75.85	62.76	48.62	9.59	
Jhajjar (MC)	78.41	61.11	91.75	96.37	800.13	75.39	61.06	46.51	19.89	
Beri (MC)	63.77	36.19	95.62	92.36	814.38	74.93	55.05	44.80	12.65	
Faridabad (M Corp.)	78.41	59.38	93.68	86.06	848.48	73.40	58.77	49.41	8.67	
Palwal (M CI)	74.61	60.82	97.78	90.17	838.84	70.93	56.11	44.69	8.13	
Hodal (MC)	58.48	49.72	82.83	82.67	856.64	65.95	45.22	47.13	21.09	
Hathin (MC)	42.78	28.84	90.07	86.19	879.89	67.74	46.55	44.49	17.90	
Hassanpur (MC)	47.26	31.34	88.33	80.62	853.04	61.24	40.97	46.41	22.27	
Gurgaon (M CI)	94.37	84.59	93.18	97.97	787.44	79.27	71.68	50.61	11.34	
Gurgaon (Rural) (CT)	84.00	74.98	86.57	96.89	744.50	75.51	62.63	47.17	8.32	
Sohna (MC)	69.72	65.26	89.99	90.62	833.58	69.14	53.52	48.14	12.10	
Ferozepur Jhirka (MC)	50.93	35.81	93.83	86.98	913.66	60.55	39.55	46.13	14.37	
Taoru (MC)	63.41	47.32	93.06	86.05	835.45	72.86	57.79	47.60	13.94	
Haileymandi (MC)	63.13	47.69	93.43	88.49	786.83	75.32	61.14	47.79	15.66	
Pataudi (MC)	64.74	40.54	92.58	88.91	801.41	63.64	47.52	45.19	8.45	
Punahana (MC)	61.61	36.91	97.61	86.86	906.50	62.93	40.13	45.09	16.47	
Nuh (MC)	63.52	54.97	99.43	89.18	940.55	62.95	43.65	42.32	12.57	
Dundahera (CT)	89.86	57.34	96.42	97.79	770.11	81.35	64.38	56.92	10.29	
Farrukhnagar (MC)	63.11	35.35	98.21	88.90	828.13	70.97	53.47	49.06	14.82	
Rewari (M CI)	85.81	74.03	96.89	95.82	818.78	78.78	66.20	47.16	7.20	
Dharuhera (CT)	63.21	52.22	95.00	95.20	790.08	73.87	55.13	52.29	7.21	
Bawal (MC)	53.47	36.70	93.95	93.43	855.76	74.22	53.40	49.60	28.02	
Alwar (M CI)	83.09	71.83	94.78	93.47	829.92	78.48	63.02	45.28	8.02	
Bhiwadi (CT)	68.31	33.93	90.25	98.21	805.45	75.23	52.03	65.41	14.89	
Khairthal (M)	60.32	45.97	79.28	85.11	856.01	71.03	54.82	49.00	18.63	
Rajgarh (M)	57.08	35.27	85.94	92.55	833.71	75.42	50.00	45.75	12.62	
Behror (M)	80.56	36.82	93.17	93.99	852.63	77.04	59.53	50.13	18.21	
Tijara (M)	50.73	38.69	75.58	77.70	901.28	71.69	50.59	52.14	32.48	
Kherli (M)	78.00	46.04	82.80	88.23	843.09	79.99	64.23	46.91	5.70	
Govindgarh (CT)	55.15	35.68	82.10	86.06	888.66	72.10	51.11	51.52	22.73	
Meerut (M Corp.)	87.65	57.34	97.95	88.77	861.01	62.54	51.00	44.42	4.70	
Mawana (MB)	87.19	36.33	99.67	86.84	862.96	59.95	43.87	45.63	5.24	
Sardhana (MB)	93.38	18.84	99.58	88.43	902.52	51.10	35.03	42.35	3.23	

Kithaur (NP)	86.97	30.26	92.72	53.10	933.36	49.37	29.99	42.02	6.94
Hastinapur (NP)	54.46	53.45	92.77	51.11	907.78	66.99	47.12	46.08	8.38
Sewal Khas	70.58	18.59	99.60	22.92	876.50	41.21	21.17	37.95	4.59
Lawar (NP)	75.95	26.74	96.97	41.83	855.97	54.11	33.88	42.42	9.16
Parikshitgarh (NP)	80.80	20.31	97.71	71.24	865.48	66.38	47.67	42.79	3.45
Phalauda (NP)	71.76	36.65	97.01	57.81	829.38	57.88	37.31	45.29	10.39
Karnawal (NP)	44.01	2.49	96.96	45.47	871.61	69.20	45.40	50.68	11.66
Kharkhoda (NP)	68.77	7.52	99.29	60.60	800.33	63.97	47.23	46.98	6.27
Daurala (NP)	61.13	5.60	97.62	77.67	747.83	64.82	44.23	49.04	7.35
Bahsuma (NP)	53.83	55.56	96.54	62.48	836.86	65.81	48.43	46.56	5.61
Baraut (MB)	88.02	8.46	97.09	87.90	838.04	66.93	53.44	43.94	3.94
Khekada (NP)	76.29	12.92	91.84	82.33	824.09	66.71	48.60	45.42	9.41
Baghpat (MB)	81.18	17.89	98.03	81.60	864.17	50.35	35.18	42.39	6.65
Chhaprauli (NP)	60.82	16.06	97.05	59.73	850.17	65.00	42.56	47.09	15.48
Tikri (NP)	50.94	6.99	99.54	29.62	834.10	63.06	37.04	48.88	10.47
Doghat (NP)	44.47	3.67	98.62	29.97	809.76	65.23	43.10	48.07	28.37
Agarwal Mandi (NP)	55.97	15.29	97.26	88.57	895.28	75.72	56.17	45.46	4.40
Aminagar sarai	83.48	34.63	98.49	55.32	945.32	66.64	47.52	45.82	3.80
Ghaziabad (M Corp.)	90.59	72.62	96.22	92.51	836.65	73.77	61.18	46.16	5.88
Hapur (MB)	81.96	49.74	98.16	82.38	871.72	64.18	49.19	44.29	3.68
Loni (NP)	93.58	32.20	99.27	69.38	865.74	55.82	39.36	41.60	3.14
Modinagar (MB)	93.85	80.00	97.79	80.00	799.97	79.02	66.73	45.10	5.20
Behta Hajipur (CT)	77.75	39.05	97.47	63.42	857.71	66.44	48.08	44.39	6.12
Muradnagar (MB)	89.88	59.82	99.01	85.33	838.25	60.28	43.38	44.09	3.77
Pilkhua (MB)	86.58	52.98	98.18	85.07	851.01	68.55	51.14	46.24	4.42
Garhmukteshwar (MB)	69.66	10.41	96.71	48.98	846.49	55.77	39.15	44.66	11.90
Dasna (NP)	73.66	19.43	98.15	83.93	902.92	54.60	31.11	42.87	4.43
Faridnagar (NP)	65.11	6.27	97.49	55.71	863.64	52.17	33.25	44.19	4.67
Ordinance Factory Muradnagar (CT)	91.02	94.67	99.95	99.36	832.03	83.59	69.59	45.03	6.01
Niwari (NP)	64.78	17.03	95.32	80.32	810.23	67.56	53.40	47.46	4.50
Patala (NP)	50.00	13.70	98.99	70.14	790.14	69.20	50.02	46.38	9.47
Babugarh (NP)	59.55	46.77	99.63	93.80	879.28	72.77	52.12	41.51	2.26
Noida (CT)	78.65	68.63	98.21	91.42	862.02	73.13	61.29	52.43	13.16
Dadri (MB)	85.70	54.72	99.65	87.82	843.83	61.11	45.09	44.76	4.37
Jewar (NP)	67.45	13.17	95.94	50.16	897.22	56.05	36.76	45.08	5.75
Rabupura (NP)	50.66	13.72	97.78	58.89	844.22	52.96	29.99	44.20	6.60
Dankaur (NP)	94.80	40.72	99.20	94.06	853.87	65.09	45.28	44.11	2.25
Jahangirpur (NP)	62.78	12.99	99.33	46.63	836.20	56.62	35.90	44.86	7.63
Bilaspur (NP)	73.19	18.06	98.48	73.57	807.11	55.40	37.24	39.91	3.39
Kakod (NP)	55.53	16.08	98.75	42.07	896.88	51.91	32.42	44.42	6.54
Bulandshahr (MB)	94.59	66.90	98.95	94.85	826.22	66.81	53.84	43.91	6.04
Khurja (MB)	91.82	49.58	96.35	92.81	874.09	58.47	44.35	47.52	7.44
Sikandrabad (MB)	85.69	40.50	98.84	87.13	888.38	57.29	41.57	48.65	14.49
Jahangirabad (MB)	76.51	40.83	99.26	74.58	846.57	59.56	38.77	48.22	12.59
Gulaothi (MB)	85.78	42.90	95.15	80.15	891.61	61.70	43.06	45.24	5.89
Siana (MB)	80.63	22.24	97.69	68.90	884.31	61.31	42.50	47.85	9.91

Debai (MB)	78.98	37.56	99.21	73.35	907.58	57.09	39.87	44.96	7.55
Shikarpur (MB)	72.39	25.72	97.07	55.31	842.69	59.28	39.40	50.67	21.27
Anupshahr (MB)	72.38	49.99	98.19	67.03	876.75	62.95	48.61	47.55	12.45
Naraura (NP)	64.33	55.14	99.71	82.66	830.33	62.04	45.70	39.71	10.07
Aurangabad (NP)	69.19	14.98	75.08	34.08	873.74	53.17	29.90	45.91	16.00
Pahasu (NP)	75.73	19.98	97.94	59.49	900.06	54.13	36.07	46.94	15.97
Khanpur	93.10	9.71	96.98	49.81	900.53	24.66	12.53	46.61	10.49
Bugrasi (NP)	73.72	10.22	99.76	66.80	857.43	54.89	34.21	48.57	19.29
Chhatari (NP)	47.91	16.08	95.62	53.59	813.22	53.27	33.74	52.21	22.62
Bhawan Bahadur Nagar (NP)	58.07	16.79	99.15	47.29	818.72	69.96	46.94	45.43	6.48
Merrut	86.53	69.00	98.65	95.25	835.66	75.29	64.42	57.54	5.50
Begumabad	66.48	40.09	96.43	83.03	895.14	71.17	49.60	48.09	7.23
Bishokar	47.48	30.28	99.00	77.07	846.15	62.17	42.42	47.73	9.07
Mean	71.85	39.83	95.15	77.79	844.24	65.72	48.31	46.73	10.55
Standard Deviation	14.19	21.87	5.33	18.62	43.00	9.51	11.17	3.71	6.17

Z_ TOILET	Z LPG	Z SDRW	Z ELECT	Z Sex-Ratio	Z M Lit	Z Fem lit	Z m wpr	Z F WPR	Composite Index
1.32	1.31	-0.16	1.05	-0.96	0.64	1.28	1.99	0.90	7.37
0.38	1.42	-0.80	0.91	-1.89	0.74	1.07	0.39	-0.15	2.06
1.00	1.48	-2.22	0.94	-1.84	1.12	1.54	-0.40	-0.01	1.61
0.15	1.07	-0.01	0.85	-1.74	0.75	1.03	-0.12	-0.43	1.54
0.06	1.19	-0.20	0.87	-0.91	0.87	0.94	-0.11	0.50	3.22
-0.87	0.35	0.26	0.77	-1.24	0.45	0.62	0.13	0.92	1.38
1.06	1.60	-0.01	0.98	-1.39	1.04	1.58	-0.09	-0.12	4.65
-0.71	0.10	-2.55	0.71	-1.71	0.59	0.82	0.48	1.50	-0.74
-0.94	0.53	0.34	0.73	-1.36	0.60	0.79	0.24	0.29	1.21
0.97	1.56	0.29	1.02	-0.87	1.07	1.29	0.51	-0.16	5.69
0.46	0.97	-0.64	1.00	-1.03	1.02	1.14	-0.06	1.51	4.38
-0.57	-0.17	0.09	0.78	-0.69	0.97	0.60	-0.52	0.34	0.83
0.46	0.89	-0.28	0.44	0.10	0.81	0.94	0.72	-0.30	3.79
0.19	0.96	0.49	0.67	-0.13	0.55	0.70	-0.55	-0.39	2.49
-0.94	0.45	-2.31	0.26	0.29	0.02	-0.28	0.11	1.71	-0.69
-2.05	-0.50	-0.95	0.45	0.83	0.21	-0.16	-0.60	1.19	-1.58
-1.73	-0.39	-1.28	0.15	0.20	-0.47	-0.66	-0.09	1.90	-2.36
1.59	2.05	-0.37	1.08	-1.32	1.42	2.09	1.05	0.13	7.72
0.86	1.61	-1.61	1.03	-2.32	1.03	1.28	0.12	-0.36	1.63
-0.15	1.16	-0.97	0.69	-0.25	0.36	0.47	0.38	0.25	1.94
-1.47	-0.18	-0.25	0.49	1.61	-0.54	-0.78	-0.16	0.62	-0.67
-0.60	0.34	-0.39	0.44	-0.20	0.75	0.85	0.24	0.55	1.98
-0.61	0.36	-0.32	0.57	-1.34	1.01	1.15	0.28	0.83	1.93
-0.50	0.03	-0.48	0.60	-1.00	-0.22	-0.07	-0.41	-0.34	-2.39
-0.72	-0.13	0.46	0.49	1.45	-0.29	-0.73	-0.44	0.96	1.03
-0.59	0.69	0.80	0.61	2.24	-0.29	-0.42	-1.19	0.33	2.19
1.27	0.80	0.24	1.07	-1.72	1.64	1.44	2.75	-0.04	7.45
-0.62	-0.20	0.57	0.60	-0.37	0.55	0.46	0.63	0.69	2.31

0.98	1.56	0.33	0.97	-0.59	1.37	1.60	0.12	-0.54	5.80
-0.61	0.57	-0.03	0.93	-1.26	0.86	0.61	1.50	-0.54	2.03
-1.30	-0.14	-0.22	0.84	0.27	0.89	0.46	0.77	2.83	4.40
0.79	1.46	-0.07	0.84	-0.33	1.34	1.32	-0.39	-0.41	4.55
-0.25	-0.27	-0.92	1.10	-0.90	1.00	0.33	5.04	0.70	5.83
-0.81	0.28	-2.98	0.39	0.27	0.56	0.58	0.61	1.31	0.22
-1.04	-0.21	-1.73	0.79	-0.24	1.02	0.15	-0.26	0.33	-1.19
0.61	-0.14	-0.37	0.87	0.20	1.19	1.00	0.92	1.24	5.52
-1.49	-0.05	-3.67	0.00	1.33	0.63	0.20	1.46	3.55	1.95
0.43	0.28	-2.32	0.56	-0.03	1.50	1.42	0.05	-0.79	1.12
-1.18	-0.19	-2.45	0.44	1.03	0.67	0.25	1.29	1.97	1.85
1.11	0.80	0.53	0.59	0.39	-0.33	0.24	-0.62	-0.95	1.76
1.08	-0.16	0.85	0.49	0.44	-0.61	-0.40	-0.30	-0.86	0.53
1.52	-0.96	0.83	0.57	1.36	-1.54	-1.19	-1.18	-1.19	-1.78
1.07	-0.44	-0.46	-1.33	2.07	-1.72	-1.64	-1.27	-0.58	-4.29
-1.23	0.62	-0.45	-1.43	1.48	0.13	-0.11	-0.18	-0.35	-1.50
-0.09	-0.97	0.83	-2.95	0.75	-2.58	-2.43	-2.37	-0.97	-10.76
0.29	-0.60	0.34	-1.93	0.27	-1.22	-1.29	-1.16	-0.22	-5.52
0.63	-0.89	0.48	-0.35	0.49	0.07	-0.06	-1.06	-1.15	-1.84
-0.01	-0.15	0.35	-1.07	-0.35	-0.82	-0.98	-0.39	-0.03	-3.44
-1.96	-1.71	0.34	-1.74	0.64	0.37	-0.26	1.07	0.18	-3.08
-0.22	-1.48	0.78	-0.92	-1.02	-0.18	-0.10	0.07	-0.69	-3.77
-0.76	-1.57	0.46	-0.01	-2.24	-0.09	-0.36	0.62	-0.52	-4.46
-1.27	0.72	0.26	-0.82	-0.17	0.01	0.01	-0.05	-0.80	-2.11
1.14	-1.43	0.36	0.54	-0.14	0.13	0.46	-0.75	-1.07	-0.77
0.31	-1.23	-0.62	0.24	-0.47	0.10	0.03	-0.35	-0.19	-2.17
0.66	-1.00	0.54	0.20	0.46	-1.62	-1.18	-1.17	-0.63	-3.73
-0.78	-1.09	0.36	-0.97	0.14	-0.08	-0.51	0.10	0.80	-2.03
-1.47	-1.50	0.82	-2.59	-0.24	-0.28	-1.01	0.58	-0.01	-5.70
-1.93	-1.65	0.65	-2.57	-0.80	-0.05	-0.47	0.36	2.89	-3.57
-1.12	-1.12	0.40	0.58	1.19	1.05	0.70	-0.34	-1.00	0.34
0.82	-0.24	0.63	-1.21	2.35	0.10	-0.07	-0.25	-1.09	1.04
1.32	1.50	0.20	0.79	-0.18	0.85	1.15	-0.15	-0.76	4.72
0.71	0.45	0.57	0.25	0.64	-0.16	0.08	-0.66	-1.11	0.76
1.53	-0.35	0.77	-0.45	0.50	-1.04	-0.80	-1.38	-1.20	-2.42
1.55	1.84	0.49	0.12	-1.03	1.40	1.65	-0.44	-0.87	4.71
0.42	-0.04	0.44	-0.77	0.31	0.08	-0.02	-0.63	-0.72	-0.94
1.27	0.91	0.72	0.40	-0.14	-0.57	-0.44	-0.71	-1.10	0.35
1.04	0.60	0.57	0.39	0.16	0.30	0.25	-0.13	-0.99	2.18
-0.15	-1.35	0.29	-1.55	0.05	-1.05	-0.82	-0.56	0.22	-4.91
0.13	-0.93	0.56	0.33	1.36	-1.17	-1.54	-1.04	-0.99	-3.29
-0.47	-1.53	0.44	-1.19	0.45	-1.43	-1.35	-0.69	-0.95	-6.72
1.35	2.51	0.90	1.16	-0.28	1.88	1.90	-0.46	-0.74	8.22
-0.50	-1.04	0.03	0.14	-0.79	0.19	0.46	0.20	-0.98	-2.30
-1.54	-1.19	0.72	-0.41	-1.26	0.37	0.15	-0.09	-0.17	-3.43
-0.87	0.32	0.84	0.86	0.81	0.74	0.34	-1.41	-1.34	0.30

0.48	1.32	0.57	0.73	0.41	0.78	1.16	1.54	0.42	7.42
0.98	0.68	0.85	0.54	-0.01	-0.48	-0.29	-0.53	-1.00	0.73
-0.31	-1.22	0.15	-1.48	1.23	-1.02	-1.03	-0.44	-0.78	-4.91
-1.49	-1.19	0.49	-1.01	0.00	-1.34	-1.64	-0.68	-0.64	-7.51
1.62	0.04	0.76	0.87	0.22	-0.07	-0.27	-0.71	-1.35	1.13
-0.64	-1.23	0.78	-1.67	-0.19	-0.96	-1.11	-0.50	-0.47	-5.99
0.09	-1.00	0.62	-0.23	-0.86	-1.08	-0.99	-1.84	-1.16	-6.44
-1.15	-1.09	0.67	-1.92	1.22	-1.45	-1.42	-0.62	-0.65	-6.40
1.60	1.24	0.71	0.92	-0.42	0.11	0.50	-0.76	-0.73	3.17
1.41	0.45	0.22	0.81	0.69	-0.76	-0.35	0.21	-0.50	2.17
0.98	0.03	0.69	0.50	1.03	-0.89	-0.60	0.52	0.64	2.89
0.33	0.05	0.77	-0.17	0.05	-0.65	-0.85	0.40	0.33	0.26
0.98	0.14	0.00	0.13	1.10	-0.42	-0.47	-0.40	-0.76	0.30
0.62	-0.80	0.48	-0.48	0.93	-0.46	-0.52	0.30	-0.10	-0.04
0.50	-0.10	0.76	-0.24	1.47	-0.91	-0.76	-0.48	-0.49	-0.23
0.04	-0.65	0.36	-1.21	-0.04	-0.68	-0.80	1.06	1.74	-0.16
0.04	0.46	0.57	-0.58	0.76	-0.29	0.03	0.22	0.31	1.51
-0.53	0.70	0.86	0.26	-0.32	-0.39	-0.23	-1.89	-0.08	-1.63
-0.19	-1.14	-3.77	-2.35	0.69	-1.32	-1.65	-0.22	0.88	-9.06
0.27	-0.91	0.52	-0.98	1.30	-1.22	-1.10	0.06	0.88	-1.17
1.50	-1.38	0.34	-1.50	1.31	-4.32	-3.20	-0.03	-0.01	-7.29
0.13	-1.35	0.87	-0.59	0.31	-1.14	-1.26	0.50	1.42	-1.13
-1.69	-1.09	0.09	-1.30	-0.72	-1.31	-1.30	1.48	1.96	-3.89
-0.97	-1.05	0.75	-1.64	-0.59	0.45	-0.12	-0.35	-0.66	-4.19
1.03	1.33	0.66	0.94	-0.20	1.01	1.44	2.91	-0.82	8.31
-0.38	0.01	0.24	0.28	1.18	0.57	0.12	0.37	-0.54	1.85
-1.72	-0.44	0.72	-0.04	0.04	-0.37	-0.53	0.27	-0.24	-2.30

Appendix 4								
DISPARITY BETWEEN MALE AND FEMALE LITERACY RATES IN THE TOWNS								
	1991 P 2	P 1	X			Y	XY	
town	Male Lit	Female lit	P2/P1	200-P1	200-P2	(200-P1)/(200-P2)		logXY
Panipat	65.18	53.61	1.22	146.39	134.82	1.09	1.32	0.12
Samalkha	65.16	49.86	1.31	150.14	134.84	1.11	1.45	0.16
Sonipat	70.34	54.92	1.28	145.08	129.66	1.12	1.43	0.16
Gohana	66.51	49.25	1.35	150.75	133.49	1.13	1.53	0.18
Ganaur	68.22	49.86	1.37	150.14	131.78	1.14	1.56	0.19
Kharkhoda (Ha)	62.49	43.48	1.44	156.52	137.51	1.14	1.64	0.21
Rohtak	71.40	57.24	1.25	142.76	128.60	1.11	1.38	0.14
Maham	64.13	45.87	1.40	154.13	135.87	1.13	1.59	0.20
Kalanaur	65.78	45.12	1.46	154.88	134.22	1.15	1.68	0.23
Bahadurgarh	72.12	56.79	1.27	143.21	127.88	1.12	1.42	0.15
Jhajjar	71.15	50.60	1.41	149.40	128.85	1.16	1.63	0.21
Beri	69.10	42.74	1.62	157.26	130.90	1.20	1.94	0.29
Faridabad Complex	68.93	51.36	1.34	148.64	131.07	1.13	1.52	0.18
Palwal	65.93	48.64	1.36	151.36	134.07	1.13	1.53	0.18
Hodal	60.86	34.33	1.77	165.67	139.14	1.19	2.11	0.32
Hathin	58.78	33.79	1.74	166.21	141.22	1.18	2.05	0.31
Hassanpur	54.44	34.76	1.57	165.24	145.56	1.14	1.78	0.25
Gurgaon	76.65	65.83	1.16	134.17	123.35	1.09	1.27	0.10
Gurgaon Rural	69.91	50.01	1.40	149.99	130.09	1.15	1.61	0.21
Sohna	63.00	44.03	1.43	155.97	137.00	1.14	1.63	0.21
Ferozpur Jhirka	58.68	36.93	1.59	163.07	141.32	1.15	1.83	0.26
Taoru	69.08	49.97	1.38	150.03	130.92	1.15	1.58	0.20
Haileymandi	66.59	44.36	1.50	155.64	133.41	1.17	1.75	0.24
Pataudi	59.58	36.96	1.61	163.04	140.42	1.16	1.87	0.27
Punahana	58.90	36.11	1.63	163.89	141.10	1.16	1.89	0.28
Nuh	60.45	39.93	1.51	160.07	139.55	1.15	1.74	0.24
Dundahera	71.28	46.86	1.52	153.14	128.72	1.19	1.81	0.26
Farruknagar	66.31	39.48	1.68	160.52	133.69	1.20	2.02	0.30
Rewari	73.26	55.88	1.31	144.12	126.74	1.14	1.49	0.17
Dharuhera	71.92	38.00	1.89	162.00	128.08	1.26	2.39	0.38
Bawal	69.46	43.43	1.60	156.57	130.54	1.20	1.92	0.28
Alwar	71.97	51.11	1.41	148.89	128.03	1.16	1.64	0.21
Bhiwadi	68.44	30.55	2.24	169.45	131.56	1.29	2.89	0.46
Khairthal	67.61	44.65	1.51	155.35	132.39	1.17	1.78	0.25
Rajgarh (Rj-1)	68.60	35.11	1.95	164.89	131.40	1.25	2.45	0.39
Behror	68.36	40.94	1.67	159.06	131.64	1.21	2.02	0.30

Tijara	59.99	32.43	1.85	167.57	140.01	1.20	2.21	0.35
Kherli	75.83	56.58	1.34	143.42	124.17	1.16	1.55	0.19
Govindgarh (Rj)	65.39	40.50	1.61	159.50	134.61	1.18	1.91	0.28
Meerut	56.59	41.43	1.37	158.57	143.41	1.11	1.51	0.18
Mawana	43.34	26.71	1.62	173.29	156.66	1.11	1.80	0.25
Sardhana	45.75	28.88	1.58	171.12	154.25	1.11	1.76	0.24
Kithaur	34.42	17.08	2.01	182.92	165.58	1.10	2.23	0.35
Hastinapur	56.86	37.65	1.51	162.35	143.14	1.13	1.71	0.23
Sewal Khas	38.34	15.52	2.47	184.48	161.66	1.14	2.82	0.45
Lawar	42.57	18.71	2.28	181.29	157.43	1.15	2.62	0.42
Parikshitgarh	57.34	36.60	1.57	163.40	142.66	1.15	1.79	0.25
Phalauda	44.59	22.42	1.99	177.58	155.41	1.14	2.27	0.36
Karnawal	61.26	33.79	1.81	166.21	138.74	1.20	2.17	0.34
Kharkhoda (UP)	59.41	34.34	1.73	165.66	140.59	1.18	2.04	0.31
Daurala	54.66	29.92	1.83	170.08	145.34	1.17	2.14	0.33
Behsuma	54.76	31.13	1.76	168.87	145.24	1.16	2.05	0.31
Baraut	62.65	43.23	1.45	156.77	137.35	1.14	1.65	0.22
khokada	56.42	33.48	1.69	166.52	143.58	1.16	1.95	0.29
Baghpat	39.86	22.23	1.79	177.77	160.14	1.11	1.99	0.30
Chhaprauli	53.98	29.38	1.84	170.62	146.02	1.17	2.15	0.33
Tikri	50.90	24.15	2.11	175.85	149.10	1.18	2.49	0.40
Doghat	52.50	27.24	1.93	172.76	147.50	1.17	2.26	0.35
Agarwal Mandi	67.95	42.11	1.61	157.89	132.05	1.20	1.93	0.29
Aminagar Sarai	62.48	41.96	1.49	158.04	137.52	1.15	1.71	0.23
Ghaziabad	60.40	45.82	1.32	154.18	139.60	1.10	1.46	0.16
Hapur	54.71	37.79	1.45	162.21	145.29	1.12	1.62	0.21
Modinagar	71.90	54.07	1.33	145.93	128.10	1.14	1.51	0.18
Loni	46.31	24.97	1.85	175.03	153.69	1.14	2.11	0.32
Behta Hajipur	59.06	34.18	1.73	165.82	140.94	1.18	2.03	0.31
Muradnagar	51.77	32.49	1.59	167.51	148.23	1.13	1.80	0.26
Pilkhua	59.64	38.35	1.56	161.65	140.36	1.15	1.79	0.25
Garhmukteshwar	39.69	21.64	1.83	178.36	160.31	1.11	2.04	0.31
Dasna	42.38	18.59	2.28	181.41	157.62	1.15	2.62	0.42
Faridnagar	38.18	20.27	1.88	179.73	161.82	1.11	2.09	0.32
Ordnance Fty. Muradnagar	79.01	64.61	1.22	135.39	120.99	1.12	1.37	0.14
Niwadi	36.07	27.74	1.30	172.26	163.93	1.05	1.37	0.14
Patla	64.52	38.95	1.66	161.05	135.48	1.19	1.97	0.29
Babugarh	62.13	42.34	1.47	157.66	137.87	1.14	1.68	0.22
Noida	63.09	40.60	1.55	159.40	136.91	1.16	1.81	0.26
Dadri	53.35	35.26	1.51	164.74	146.65	1.12	1.70	0.23
Jewar	44.09	22.85	1.93	177.15	155.91	1.14	2.19	0.34
Rabupura	46.44	20.72	2.24	179.28	153.56	1.17	2.62	0.42

Dankaur	59.31	32.69	1.81	167.31	140.69	1.19	2.16	0.33
Jahangirpur	47.04	25.27	1.86	174.73	152.96	1.14	2.13	0.33
Bilaspur (UP-1)	46.41	25.05	1.85	174.95	153.59	1.14	2.11	0.32
Kakod	38.96	17.55	2.22	182.45	161.04	1.13	2.51	0.40
Bulandshahr	60.74	43.57	1.39	156.43	139.26	1.12	1.57	0.19
Khurja	50.78	33.03	1.54	166.97	149.22	1.12	1.72	0.24
sikandarabad	46.85	26.82	1.75	173.18	153.15	1.13	1.98	0.30
Jahangirabad	51.42	28.91	1.78	171.09	148.58	1.15	2.05	0.31
Gulaothi	55.58	35.91	1.55	164.09	144.42	1.14	1.76	0.25
siyana	48.25	27.76	1.74	172.24	151.75	1.14	1.97	0.30
Debai	48.48	30.58	1.59	169.42	151.52	1.12	1.77	0.25
Shikarpur (UP)	47.31	23.79	1.99	176.21	152.69	1.15	2.30	0.36
Anupshahr	51.10	37.44	1.36	162.56	148.90	1.09	1.49	0.17
Naraura	59.81	37.57	1.59	162.43	140.19	1.16	1.84	0.27
Aurangabad (UP)	41.81	20.05	2.09	179.95	158.19	1.14	2.37	0.38
Pahasu	39.61	22.20	1.78	177.80	160.39	1.11	1.98	0.30
Khanpur (UP)	41.90	17.89	2.34	182.11	158.10	1.15	2.70	0.43
Bugrasi	44.32	16.68	2.66	183.32	155.68	1.18	3.13	0.50
Chhatari	43.13	23.79	1.81	176.21	156.87	1.12	2.04	0.31
Bhawan Bahadurnagar	58.71	33.88	1.73	166.12	141.29	1.18	2.04	0.31
Merrut cant.	71.00	61.38	1.16	138.62	129.00	1.07	1.24	0.09
Begumabad Budhana	54.10	29.08	1.86	170.92	145.90	1.17	2.18	0.34
Bisokhar	45.15	24.17	1.87	175.83	154.85	1.14	2.12	0.33

Appendix 5

DISPARITY BETWEEN MALE AND FEMALE LITERACY LEVELS IN THE TOWNS -2001

NAME	P 2	P 1	X			Y	XY	logXY
	2001 M lit(%)	Fem lit	P2/P1	200-P1	200-P2	(200-P1)/(200-P2)		
Panipat (M CI)	71.82	62.63	1.15	137.37	128.18	1.07	1.23	0.09
Samalkha (MC)	72.77	60.24	1.21	139.76	127.23	1.10	1.33	0.12
Sonipat (M CI)	76.35	65.50	1.17	134.50	123.65	1.09	1.27	0.10
Gohana (MC)	72.85	59.84	1.22	140.16	127.15	1.10	1.34	0.13
Ganaur (MC)	73.98	58.80	1.26	141.20	126.02	1.12	1.41	0.15
Kharkhoda (MC)	70.00	55.21	1.27	144.79	130.00	1.11	1.41	0.15
Rohtak (M CI)	75.62	65.91	1.15	134.09	124.38	1.08	1.24	0.09
Maham(MC)	71.37	57.47	1.24	142.53	128.63	1.11	1.38	0.14
Kalanaur (MC)	71.38	57.09	1.25	142.91	128.62	1.11	1.39	0.14
Bahadurgarh (M CI)	75.85	62.76	1.21	137.24	124.15	1.11	1.34	0.13
Jhajjar (MC)	75.39	61.06	1.23	138.94	124.61	1.11	1.38	0.14
Beri (MC)	74.93	55.05	1.36	144.95	125.07	1.16	1.58	0.20
Faridabad (M Corp.)	73.40	58.77	1.25	141.23	126.60	1.12	1.39	0.14
Palwal (M CI)	70.93	56.11	1.26	143.89	129.07	1.11	1.41	0.15
Hodal (MC)	65.95	45.22	1.46	154.78	134.05	1.15	1.68	0.23
Hathin (MC)	67.74	46.55	1.46	153.45	132.26	1.16	1.69	0.23
Hassanpur (MC)	61.24	40.97	1.49	159.03	138.76	1.15	1.71	0.23
Gurgaon (M CI)	79.27	71.68	1.11	128.32	120.73	1.06	1.18	0.07
Gurgaon (Rural) (CT)	75.51	62.63	1.21	137.37	124.49	1.10	1.33	0.12
Sohna (MC)	69.14	53.52	1.29	146.48	130.86	1.12	1.45	0.16
Ferozepur Jhirka (MC)	60.55	39.55	1.53	160.45	139.45	1.15	1.76	0.25
Taoru (MC)	72.86	57.79	1.26	142.21	127.14	1.12	1.41	0.15
Haileymandi (MC)	75.32	61.14	1.23	138.86	124.68	1.11	1.37	0.14
Pataudi (MC)	63.64	47.52	1.34	152.48	136.36	1.12	1.50	0.18
Punahana (MC)	62.93	40.13	1.57	159.87	137.07	1.17	1.83	0.26
Nuh (MC)	62.95	43.65	1.44	156.35	137.05	1.14	1.65	0.22
Dundahera (CT)	81.35	64.38	1.26	135.62	118.65	1.14	1.44	0.16
Farukhnagar (MC)	70.97	53.47	1.33	146.53	129.03	1.14	1.51	0.18
Rewari (M CI)	78.78	66.20	1.19	133.80	121.22	1.10	1.31	0.12
Dharuhera (CT)	73.87	55.13	1.34	144.87	126.13	1.15	1.54	0.19
Bawal (MC)	74.22	53.40	1.39	146.60	125.78	1.17	1.62	0.21
Alwar (M CI)	78.48	63.02	1.25	136.98	121.52	1.13	1.40	0.15
Bhiwadi (CT)	75.23	52.03	1.45	147.97	124.77	1.19	1.71	0.23
Khairthal (M)	71.03	54.82	1.30	145.18	128.97	1.13	1.46	0.16
Rajgarh (M)	75.42	50.00	1.51	150.00	124.58	1.20	1.82	0.26
Behror (M)	77.04	59.53	1.29	140.47	122.96	1.14	1.48	0.17
Tijara (M)	71.69	50.59	1.42	149.41	128.31	1.16	1.65	0.22
Kherli (M)	79.99	64.23	1.25	135.77	120.01	1.13	1.41	0.15
Govindgarh (CT)	72.10	51.11	1.41	148.89	127.90	1.16	1.64	0.22
Meerut (M Corp.)	62.54	51.00	1.23	149.00	137.46	1.08	1.33	0.12

Mawana (MB)	59.95	43.87	1.37	156.13	140.05	1.11	1.52	0.18
Sardhana (MB)	51.10	35.03	1.46	164.97	148.90	1.11	1.62	0.21
Kithaur (NP)	49.37	29.99	1.65	170.01	150.63	1.13	1.86	0.27
Hastinapur (NP)	66.99	47.12	1.42	152.88	133.01	1.15	1.63	0.21
Sewal Khas	41.21	21.17	1.95	178.83	158.79	1.13	2.19	0.34
Lawar (NP)	54.11	33.88	1.60	166.12	145.89	1.14	1.82	0.26
Parikshitgarh (NP)	66.38	47.67	1.39	152.33	133.62	1.14	1.59	0.20
Phalauda (NP)	57.88	37.31	1.55	162.69	142.12	1.14	1.78	0.25
Karnawal (NP)	69.20	45.40	1.52	154.60	130.80	1.18	1.80	0.26
Kharkhoda (NP)	63.97	47.23	1.35	152.77	136.03	1.12	1.52	0.18
Daurala (NP)	64.82	44.23	1.47	155.77	135.18	1.15	1.69	0.23
Bahsuma (NP)	65.81	48.43	1.36	151.57	134.19	1.13	1.53	0.19
Baraut (MB)	66.93	53.44	1.25	146.56	133.07	1.10	1.38	0.14
Khokada (NP)	66.71	48.60	1.37	151.40	133.29	1.14	1.56	0.19
Baghpat (MB)	50.35	35.18	1.43	164.82	149.65	1.10	1.58	0.20
Chhaprauli (NP)	65.00	42.56	1.53	157.44	135.00	1.17	1.78	0.25
Tikri (NP)	63.06	37.04	1.70	162.96	136.94	1.19	2.03	0.31
Doghat (NP)	65.23	43.10	1.51	156.90	134.77	1.16	1.76	0.25
Agarwal Mandi (NP)	75.72	56.17	1.35	143.83	124.28	1.16	1.56	0.19
Aminagar sarai	66.64	47.52	1.40	152.48	133.36	1.14	1.60	0.21
Ghaziabad (M Corp.)	73.77	61.18	1.21	138.82	126.23	1.10	1.33	0.12
Hapur (MB)	64.18	49.19	1.30	150.81	135.82	1.11	1.45	0.16
Loni (NP)	55.82	39.36	1.42	160.64	144.18	1.11	1.58	0.20
Modinagar (MB)	79.02	66.73	1.18	133.27	120.98	1.10	1.30	0.12
Behta Hajipur (CT)	66.44	48.08	1.38	151.92	133.56	1.14	1.57	0.20
Muradnagar (MB)	60.28	43.38	1.39	156.62	139.72	1.12	1.56	0.19
Pilkhuwa (MB)	68.55	51.14	1.34	148.86	131.45	1.13	1.52	0.18
Garhmukteshwar (MB)	55.77	39.15	1.42	160.85	144.23	1.12	1.59	0.20
Dasna (NP)	54.60	31.11	1.76	168.89	145.40	1.16	2.04	0.31
Faridnagar (NP)	52.17	33.25	1.57	166.75	147.83	1.13	1.77	0.25
Ordinance Factory Muradnagar (CT)	83.59	69.59	1.20	130.41	116.41	1.12	1.35	0.13
Niwari (NP)	67.56	53.40	1.27	146.60	132.44	1.11	1.40	0.15
Patala (NP)	69.20	50.02	1.38	149.98	130.80	1.15	1.59	0.20
Babugarh (NP)	72.77	52.12	1.40	147.88	127.23	1.16	1.62	0.21
Noida (CT)	73.13	61.29	1.19	138.71	126.87	1.09	1.30	0.12
Dadri (MB)	61.11	45.09	1.36	154.91	138.89	1.12	1.51	0.18
Jewar (NP)	56.05	36.76	1.53	163.24	143.95	1.13	1.73	0.24
Rabupura (NP)	52.96	29.99	1.77	170.01	147.04	1.16	2.04	0.31
Dankaur (NP)	65.09	45.28	1.44	154.72	134.91	1.15	1.65	0.22
Jahangirpur (NP)	56.62	35.90	1.58	164.10	143.38	1.14	1.80	0.26
Bilaspur (NP)	55.40	37.24	1.49	162.76	144.60	1.13	1.67	0.22
Kakod (NP)	51.91	32.42	1.60	167.58	148.09	1.13	1.81	0.26
Bulandshahr (MB)	66.81	53.84	1.24	146.16	133.19	1.10	1.36	0.13
Khurja (MB)	58.47	44.35	1.32	155.65	141.53	1.10	1.45	0.16
Sikandrabad (MB)	57.29	41.57	1.38	158.43	142.71	1.11	1.53	0.18
Jahangirabad (MB)	59.56	38.77	1.54	161.23	140.44	1.15	1.76	0.25

Gulaothi (MB)	61.70	43.06	1.43	156.94	138.30	1.13	1.63	0.21
Siana (MB)	61.31	42.50	1.44	157.50	138.69	1.14	1.64	0.21
Debai (MB)	57.09	39.87	1.43	160.13	142.91	1.12	1.60	0.21
Shikarpur (MB)	59.28	39.40	1.50	160.60	140.72	1.14	1.72	0.23
Anupshahr (MB)	62.95	48.61	1.29	151.39	137.05	1.10	1.43	0.16
Naraura (NP)	62.04	45.70	1.36	154.30	137.96	1.12	1.52	0.18
Aurangabad (NP)	53.17	29.90	1.78	170.10	146.83	1.16	2.06	0.31
Pahasu (NP)	54.13	36.07	1.50	163.93	145.87	1.12	1.69	0.23
Khanpur	24.66	12.53	1.97	187.47	175.34	1.07	2.10	0.32
Bugrasi (NP)	54.89	34.21	1.60	165.79	145.11	1.14	1.83	0.26
Chhatari (NP)	53.27	33.74	1.58	166.26	146.73	1.13	1.79	0.25
Bhawan Bahadur Nagar (NP)	69.96	46.94	1.49	153.06	130.04	1.18	1.75	0.24
Meerut	75.29	64.42	1.17	135.58	124.71	1.09	1.27	0.10
Begumabad Budhana	71.17	49.60	1.43	150.40	128.83	1.17	1.68	0.22
Bisokhar	62.17	42.42	1.47	157.58	137.83	1.14	1.68	0.22

Appendix 6								
	1991 P 2	P 1	X			Y	XY	log(XY)
town	New male wPR	Female wpr	P2/P1	200-P1	200-P2	(200-P1)/(200-P2)		
Panipat	52.11	5.90	8.83	194.10	147.89	1.31	11.59	1.06
Samalkha	46.61	2.85	16.33	197.15	153.39	1.29	20.99	1.32
Sonipat	46.62	5.78	8.07	194.22	153.38	1.27	10.22	1.01
Gohana	45.46	3.38	13.46	196.62	154.54	1.27	17.12	1.23
Ganaur	46.44	4.88	9.52	195.12	153.56	1.27	12.10	1.08
Kharkhoda (Ha)	45.81	3.77	12.14	196.23	154.19	1.27	15.45	1.19
Rohtak	46.93	5.87	8.00	194.13	153.07	1.27	10.14	1.01
Maham	46.22	6.72	6.88	193.28	153.78	1.26	8.65	0.94
Kalanaur	46.23	2.85	16.20	197.15	153.77	1.28	20.77	1.32
Bahadurgarh	47.55	5.43	8.75	194.57	152.45	1.28	11.17	1.05
Jhajjar	45.36	4.01	11.32	195.99	154.64	1.27	14.34	1.16
Beri	40.35	2.48	16.29	197.52	159.65	1.24	20.16	1.30
Faridabad Complex	51.02	4.87	10.47	195.13	148.98	1.31	13.71	1.14
Palwal	46.51	3.96	11.74	196.04	153.49	1.28	15.00	1.18
Hodal	47.68	2.23	21.35	197.77	152.32	1.30	27.73	1.44
Hathin	47.14	3.92	12.02	196.08	152.86	1.28	15.42	1.19
Hassanpur	46.04	14.26	3.23	185.74	153.96	1.21	3.90	0.59
Gurgaon	48.33	8.18	5.91	191.82	151.67	1.26	7.47	0.87
Gurgaon Rural	44.20	2.63	16.80	197.37	155.80	1.27	21.28	1.33
Sohna	48.42	7.06	6.85	192.94	151.58	1.27	8.72	0.94
Ferozepur Jhirka	45.96	6.14	7.49	193.86	154.04	1.26	9.42	0.97
Taoru	47.62	6.67	7.13	193.33	152.38	1.27	9.05	0.96
Haileymandi	45.16	3.13	14.44	196.87	154.84	1.27	18.36	1.26
Pataudi	45.56	3.26	13.97	196.74	154.44	1.27	17.80	1.25
Punahana	45.62	2.88	15.84	197.12	154.38	1.28	20.23	1.31
Nuh	44.69	7.93	5.64	192.07	155.31	1.24	6.97	0.84
Dundahera	42.66	2.08	20.52	197.92	157.34	1.26	25.81	1.41
Farruknagar	47.62	2.39	19.90	197.61	152.38	1.30	25.80	1.41
Rewari	46.25	3.81	12.15	196.19	153.75	1.28	15.50	1.19
Dharuhera	60.77	3.31	18.37	196.69	139.23	1.41	25.96	1.41
Bawal	45.46	13.14	3.46	186.86	154.54	1.21	4.18	0.62
Alwar	47.08	5.08	9.27	194.92	152.92	1.27	11.82	1.07
Bhiwadi	69.33	6.50	10.66	193.50	130.67	1.48	15.79	1.20
Khairthal	44.86	8.47	5.30	191.53	155.14	1.23	6.54	0.82
Rajgarh (Rj-1)	44.10	10.49	4.20	189.51	155.90	1.22	5.11	0.71
Behror	47.73	13.29	3.59	186.71	152.27	1.23	4.40	0.64
Tijara	44.57	12.48	3.57	187.52	155.43	1.21	4.31	0.63
Kherli	45.23	2.77	16.33	197.23	154.77	1.27	20.81	1.32
Govindgarh (Rj)	38.14	6.58	5.80	193.42	161.86	1.20	6.93	0.84
Meerut	46.99	3.78	12.44	196.22	153.01	1.28	15.95	1.20

Mawana	47.23	3.76	12.56	196.24	152.77	1.28	16.13	1.21
Sardhana	48.35	3.84	12.60	196.16	151.65	1.29	16.30	1.21
Kithaur	45.09	5.24	8.60	194.76	154.91	1.26	10.81	1.03
Hastinapur	48.32	6.97	6.93	193.03	151.68	1.27	8.82	0.95
Sewal Khas	44.65	2.76	16.19	197.24	155.35	1.27	20.55	1.31
Lawar	51.19	11.44	4.47	188.56	148.81	1.27	5.67	0.75
Parikshitgarh	46.70	3.51	13.32	196.49	153.30	1.28	17.07	1.23
Phalauda	50.63	8.35	6.06	191.65	149.37	1.28	7.78	0.89
Kamawal	49.86	6.57	7.59	193.43	150.14	1.29	9.78	0.99
Kharkhoda (UP)	46.30	3.40	13.62	196.60	153.70	1.28	17.42	1.24
Daurala	50.08	6.12	8.19	193.88	149.92	1.29	10.59	1.02
Behsuma	52.34	4.76	10.99	195.24	147.66	1.32	14.53	1.16
Baraut	47.15	2.95	15.97	197.05	152.85	1.29	20.59	1.31
khekada	46.44	6.76	6.87	193.24	153.56	1.26	8.64	0.94
Baghpat	46.37	2.90	15.97	197.10	153.63	1.28	20.49	1.31
Chhaprauli	48.37	8.77	5.52	191.23	151.63	1.26	6.96	0.84
Tikri	48.15	12.53	3.84	187.47	151.85	1.23	4.74	0.68
Doghat	47.80	11.49	4.16	188.51	152.20	1.24	5.16	0.71
Agarwal Mandi	50.09	4.31	11.63	195.69	149.91	1.31	15.18	1.18
Aminagar Sarai	48.20	3.86	12.48	196.14	151.80	1.29	16.13	1.21
Ghaziabad	48.67	6.01	8.10	193.99	151.33	1.28	10.39	1.02
Hapur	45.60	4.20	10.87	195.80	154.40	1.27	13.78	1.14
Modinagar	47.28	8.29	5.70	191.71	152.72	1.26	7.16	0.85
Loni	45.79	6.18	7.41	193.82	154.21	1.26	9.31	0.97
Behta Hajipur	46.76	3.75	12.48	196.25	153.24	1.28	15.99	1.20
Muradnagar	45.75	4.69	9.76	195.31	154.25	1.27	12.36	1.09
Pilkhua	45.10	4.42	10.20	195.58	154.90	1.26	12.88	1.11
Garhmukteshwar	46.32	5.22	8.87	194.78	153.68	1.27	11.25	1.05
Dasna	49.01	5.85	8.38	194.15	150.99	1.29	10.77	1.03
Faridnagar	49.09	3.63	13.51	196.37	150.91	1.30	17.58	1.25
Ordnance Fty. Muradnagar	45.42	4.56	9.97	195.44	154.58	1.26	12.61	1.10
Niwadi	58.68	0.93	62.80	199.07	141.32	1.41	88.47	1.95
Patla	50.95	3.81	13.37	196.19	149.05	1.32	17.60	1.25
Babugarh	44.53	1.61	27.57	198.39	155.47	1.28	35.18	1.55
Noida	54.19	10.80	5.02	189.20	145.81	1.30	6.51	0.81
Dadri	46.78	7.09	6.59	192.91	153.22	1.26	8.30	0.92
Jewar	44.24	1.79	24.76	198.21	155.76	1.27	31.51	1.50
Rabupura	46.73	4.61	10.14	195.39	153.27	1.27	12.93	1.11
Dankaur	44.53	1.08	41.41	198.92	155.47	1.28	52.98	1.72
Jahangirpur	50.26	4.59	10.96	195.41	149.74	1.31	14.30	1.16
Bilaspur (UP-1)	47.52	5.41	8.78	194.59	152.48	1.28	11.20	1.05
Kakod	46.03	3.43	13.42	196.57	153.97	1.28	17.13	1.23
Bulandshahr	45.58	3.84	11.85	196.16	154.42	1.27	15.06	1.18
Khurja	47.26	5.72	8.26	194.28	152.74	1.27	10.51	1.02
sikandarabad	48.07	7.21	6.67	192.79	151.93	1.27	8.46	0.93
Jahangirabad	46.72	3.10	15.08	196.90	153.28	1.28	19.37	1.29

Gulaothi	42.46	2.35	18.04	197.65	157.54	1.25	22.63	1.35
siyana	46.69	3.57	13.09	196.43	153.31	1.28	16.77	1.22
Debai	44.92	2.12	21.16	197.88	155.08	1.28	27.00	1.43
Shikarpur (UP)	45.82	3.15	14.56	196.85	154.18	1.28	18.59	1.27
Anupshahr	46.33	3.87	11.98	196.13	153.67	1.28	15.28	1.18
Naraura	46.74	2.80	16.72	197.20	153.26	1.29	21.51	1.33
Aurangabad (UP)	44.46	1.38	32.15	198.62	155.54	1.28	41.05	1.61
Pahasu	44.06	1.54	28.56	198.46	155.94	1.27	36.35	1.56
Khanpur (UP)	48.38	8.67	5.58	191.33	151.62	1.26	7.04	0.85
Bugrasi	47.17	2.08	22.73	197.92	152.83	1.30	29.44	1.47
Chhatari	46.90	3.97	11.80	196.03	153.10	1.28	15.11	1.18
Bhawan Bahadurnagar	47.43	5.03	9.43	194.97	152.57	1.28	12.05	1.08
Merrut cant.	54.76	5.48	9.99	194.52	145.24	1.34	13.38	1.13
Begumabad Budhana	50.43	7.46	6.76	192.54	149.57	1.29	8.70	0.94
Bisokhar	44.81	2.36	18.99	197.64	155.19	1.27	24.19	1.38

Appendix 7		Disparity Between Work participation in 2001							
		p2	p1	X			Y		
2001	m	wpr	fwpr	p2/p1	200-p1	200-p2	200-pi/200-p2	XY	log10(xyl)
Panipat (M CI)	54.11	16.13	3.35	183.87	145.89	1.26	4.23	0.63	
Samalkha (MC)	48.18	9.62	5.01	190.38	151.82	1.25	6.28	0.80	
Sonipat (M CI)	45.26	10.50	4.31	189.50	154.74	1.22	5.28	0.72	
Gohana (MC)	46.29	7.92	5.84	192.08	153.71	1.25	7.30	0.86	
Ganaur (MC)	46.33	13.64	3.40	186.36	153.67	1.21	4.12	0.61	
Kharkhoda (MC)	47.21	16.20	2.91	183.80	152.79	1.20	3.51	0.54	
Rohtak (M CI)	46.40	9.82	4.72	190.18	153.60	1.24	5.85	0.77	
Maham(MC)	48.52	19.83	2.45	180.17	151.48	1.19	2.91	0.46	
Kalanaur (MC)	47.64	12.37	3.85	187.63	152.36	1.23	4.74	0.68	
Bahadurgarh (M CI)	48.62	9.59	5.07	190.41	151.38	1.26	6.38	0.80	
Jhajjar (MC)	46.51	19.89	2.34	180.11	153.49	1.17	2.74	0.44	
Beri (MC)	44.80	12.65	3.54	187.35	155.20	1.21	4.28	0.63	
Faridabad (M Corp.)	49.41	8.67	5.70	191.33	150.59	1.27	7.24	0.86	
Palwal (M CI)	44.69	8.13	5.50	191.87	155.31	1.24	6.79	0.83	
Hodal (MC)	47.13	21.09	2.23	178.91	152.87	1.17	2.62	0.42	
Hathin (MC)	44.49	17.90	2.48	182.10	155.51	1.17	2.91	0.46	
Hassanpur (MC)	46.41	22.27	2.08	177.73	153.59	1.16	2.41	0.38	
Gurgaon (M CI)	50.61	11.34	4.46	188.66	149.39	1.26	5.64	0.75	
Gurgaon (Rural) (CT)	47.17	8.32	5.67	191.68	152.83	1.25	7.11	0.85	
Sohna (MC)	48.14	12.10	3.98	187.90	151.86	1.24	4.92	0.69	
Ferozepur Jhirka (MC)	46.13	14.37	3.21	185.63	153.87	1.21	3.87	0.59	
Taoru (MC)	47.60	13.94	3.41	186.06	152.40	1.22	4.17	0.62	
Haileymandi (MC)	47.79	15.66	3.05	184.34	152.21	1.21	3.70	0.57	
Pataudi (MC)	45.19	8.45	5.35	191.55	154.81	1.24	6.61	0.82	
Punahana (MC)	45.09	16.47	2.74	183.53	154.91	1.18	3.24	0.51	
Nuh (MC)	42.32	12.57	3.37	187.43	157.68	1.19	4.00	0.60	
Dundaheera (CT)	56.92	10.29	5.53	189.71	143.08	1.33	7.33	0.87	
Farukhnagar (MC)	49.06	14.82	3.31	185.18	150.94	1.23	4.06	0.61	
Rewari (M CI)	47.16	7.20	6.55	192.80	152.84	1.26	8.26	0.92	
Dharuhera (CT)	52.29	7.21	7.25	192.79	147.71	1.31	9.47	0.98	
Bawal (MC)	49.60	28.02	1.77	171.98	150.40	1.14	2.02	0.31	
Alwar (M CI)	45.28	8.02	5.65	191.98	154.72	1.24	7.01	0.85	
Bhiwadi (CT)	65.41	14.89	4.39	185.11	134.59	1.38	6.04	0.78	
Khairthal (M)	49.00	18.63	2.63	181.37	151.00	1.20	3.16	0.50	
Rajgarh (M)	45.75	12.62	3.63	187.38	154.25	1.21	4.41	0.64	
Behror (M)	50.13	18.21	2.75	181.79	149.87	1.21	3.34	0.52	
Tijara (M)	52.14	32.48	1.61	167.52	147.86	1.13	1.82	0.26	
Kherli (M)	46.91	5.70	8.23	194.30	153.09	1.27	10.45	1.02	

Govindgarh (CT)	51.52	22.73	2.27	177.27	148.48	1.19	2.71	0.43
Meerut (M Corp.)	44.42	4.70	9.46	195.30	155.58	1.26	11.87	1.07
Mawana (MB)	45.63	5.24	8.71	194.76	154.37	1.26	10.99	1.04
Sardhana (MB)	42.35	3.23	13.10	196.77	157.65	1.25	16.35	1.21
Kithaur (NP)	42.02	6.94	6.05	193.06	157.98	1.22	7.40	0.87
Hastinapur (NP)	46.08	8.38	5.50	191.62	153.92	1.24	6.84	0.84
Sewal Khas	37.95	4.59	8.26	195.41	162.05	1.21	9.96	1.00
Lawar (NP)	42.42	9.16	4.63	190.84	157.58	1.21	5.61	0.75
Parikshitgarh (NP)	42.79	3.45	12.40	196.55	157.21	1.25	15.50	1.19
Phalauda (NP)	45.29	10.39	4.36	189.61	154.71	1.23	5.34	0.73
Karnawal (NP)	50.68	11.66	4.35	188.34	149.32	1.26	5.48	0.74
Kharkhoda (NP)	46.98	6.27	7.49	193.73	153.02	1.27	9.49	0.98
Daurala (NP)	49.04	7.35	6.67	192.65	150.96	1.28	8.51	0.93
Bahsuma (NP)	46.56	5.61	8.29	194.39	153.44	1.27	10.50	1.02
Baraut (MB)	43.94	3.94	11.16	196.06	156.06	1.26	14.01	1.15
Khekada (NP)	45.42	9.41	4.83	190.59	154.58	1.23	5.96	0.77
Baghpat (MB)	42.39	6.65	6.38	193.35	157.61	1.23	7.82	0.89
Chhaprauli (NP)	47.09	15.48	3.04	184.52	152.91	1.21	3.67	0.56
Tikri (NP)	48.88	10.47	4.67	189.53	151.12	1.25	5.85	0.77
Doghat (NP)	48.07	28.37	1.69	171.63	151.93	1.13	1.91	0.28
Agarwal Mandi (NP)	45.46	4.40	10.34	195.60	154.54	1.27	13.09	1.12
Aminagar sarai	45.82	3.80	12.05	196.20	154.18	1.27	15.34	1.19
Ghaziabad (M Corp.)	46.16	5.88	7.85	194.12	153.84	1.26	9.90	1.00
Hapur (MB)	44.29	3.68	12.04	196.32	155.71	1.26	15.18	1.18
Loni (NP)	41.60	3.14	13.25	196.86	158.40	1.24	16.46	1.22
Modinagar (MB)	45.10	5.20	8.67	194.80	154.90	1.26	10.90	1.04
Behta Hajipur (CT)	44.39	6.12	7.25	193.88	155.61	1.25	9.04	0.96
Muradnagar (MB)	44.09	3.77	11.70	196.23	155.91	1.26	14.72	1.17
Pilkhuwa (MB)	46.24	4.42	10.46	195.58	153.76	1.27	13.31	1.12
Garhmukteshwar (MB)	44.66	11.90	3.75	188.10	155.34	1.21	4.54	0.66
Dasna (NP)	42.87	4.43	9.68	195.57	157.13	1.24	12.05	1.08
Faridnagar (NP)	44.19	4.67	9.47	195.33	155.81	1.25	11.87	1.07
Ordinance Factory Muradnagar (CT)	45.03	6.01	7.49	193.99	154.97	1.25	9.38	0.97
Niwari (NP)	47.46	4.50	10.55	195.50	152.54	1.28	13.52	1.13
Patala (NP)	46.38	9.47	4.90	190.53	153.62	1.24	6.07	0.78
Babugarh (NP)	41.51	2.26	18.37	197.74	158.49	1.25	22.92	1.36
Noida (CT)	52.43	13.16	3.98	186.84	147.57	1.27	5.04	0.70
Dadri (MB)	44.76	4.37	10.25	195.63	155.24	1.26	12.91	1.11
Jewar (NP)	45.08	5.75	7.84	194.25	154.92	1.25	9.83	0.99
Rabupura (NP)	44.20	6.60	6.70	193.40	155.80	1.24	8.31	0.92
Dankaur (NP)	44.11	2.25	19.60	197.75	155.89	1.27	24.86	1.40
Jahangirpur (NP)	44.86	7.63	5.88	192.37	155.14	1.24	7.30	0.86
Bilaspur (NP)	39.91	3.39	11.78	196.61	160.09	1.23	14.47	1.16
Kakod (NP)	44.42	6.54	6.79	193.46	155.58	1.24	8.45	0.93
Bulandshahr (MB)	43.91	6.04	7.27	193.96	156.09	1.24	9.04	0.96
Khurja (MB)	47.52	7.44	6.39	192.56	152.48	1.26	8.07	0.91

Sikandrabad (MB)	48.65	14.49	3.36	185.51	151.35	1.23	4.11	0.61
Jahangirabad (MB)	48.22	12.59	3.83	187.41	151.78	1.23	4.73	0.67
Gulaothi (MB)	45.24	5.89	7.69	194.11	154.76	1.25	9.64	0.98
Siana (MB)	47.85	9.91	4.83	190.09	152.15	1.25	6.03	0.78
Debai (MB)	44.96	7.55	5.96	192.45	155.04	1.24	7.40	0.87
Shikarpur (MB)	50.67	21.27	2.38	178.73	149.33	1.20	2.85	0.45
Anupshahr (MB)	47.55	12.45	3.82	187.55	152.45	1.23	4.70	0.67
Naraura (NP)	39.71	10.07	3.94	189.93	160.29	1.18	4.67	0.67
Aurangabad (NP)	45.91	16.00	2.87	184.00	154.09	1.19	3.43	0.53
Pahasu (NP)	46.94	15.97	2.94	184.03	153.06	1.20	3.53	0.55
Khanpur	46.61	10.49	4.44	189.51	153.39	1.24	5.49	0.74
Bugrasi (NP)	48.57	19.29	2.52	180.71	151.43	1.19	3.01	0.48
Chhatari (NP)	52.21	22.62	2.31	177.38	147.79	1.20	2.77	0.44
Bhawan Bahadur Nagar (NP)	45.43	6.48	7.01	193.52	154.57	1.25	8.78	0.94
Merrut M.B	57.54	5.50	10.46	194.50	142.46	1.37	14.28	1.15
Begumabad Budhana	48.09	7.23	6.65	192.77	151.91	1.27	8.44	0.93
Bisokhar	47.73	9.07	5.26	190.93	152.27	1.25	6.60	0.82

