Chapter – 4

Determinants of Education
Regional disparity in education is an important indicator of regional variation in development. Education affects the scenario of development as well as the social status of a society or region. The level of education is dependent on several factors such as literacy rates, teacher-pupil ratio, habitations covered by educational institutions, enrolment ratio, average number of teachers, number of female teachers, ratio of trained teachers, dropout rates, etc. Here in this study, an analysis of major responsible factors of educational development has been made. These factors are mainly related with literacy, teacher pupil ratio, availability of educational institutions which further includes a large number of indicators of education. Important determinants of education are as follows:

A. Literacy

1. Total literacy
2. Male literacy
3. Female literacy
4. Urban literacy
5. Rural literacy

B. Teacher-Pupil Ratio

6. Teacher-pupil ratio in Junior Basic Schools
7. Teacher-pupil ratio in Senior Basic Schools
8. Teacher-pupil ratio in Higher Secondary School
9. Teacher-pupil ratio in Degree Colleges

C. Density of Institution

10. Number of Junior Basic Schools per lakh population
11. Number of Senior Basic Schools per lakh population
12. Number of Higher Secondary Schools per lakh population
13. Number of Degree Colleges per lakh population
14. Number of Junior Basic Schools per thousand square kilometres
15. Number of Senior Basic Schools per thousand square kilometres
16. Number of Higher Secondary Schools per thousand square kilometres.
17. Number of Degree Colleges per thousand square kilometres

The educational scenario of the study area (Uttar Pradesh, India) is shown on the maps which is based on the z-score (Appendix B) of different indicators. Raw data of related indicators has been transformed into z-scores for better representation. The z-scores of all the indicators has been categorized into very high (more than 1.5), high (0.5 to 1.5), medium (-0.5 to 0.5), low (-1.5 to -0.5) and very low (less than -1.5) grade.

1. Total Literacy:

It is one of the most important indicators of education which indicates the general impression of education level. Regional variations in literacy is shown in Fig. 4.1. Analysis of the data (z-scores) reveals that the districts of Kanpur Nagar and Auraiya have very high literacy. Industrialisation in these districts is the major cause of very high literacy. It promotes the process of economic development and urbanization on the one hand and immigration of literate and educated people on the other. The combined effect of these developments results into overall very high level of literacy.

There is a compact region of high literacy in the western and southwestern part of the study area encompassing the districts of Saharanpur,
Baghpat, Meerut, Ghaziabad, Gautam Budh Nagar, Mathura, Hathras, Agra, Firozabad, Mainpuri, Farrukhabad, Kannauj, Etawah, Kanpur Dehat, Jalaun and Jhansi. The high level of literacy in these districts is due to their economic advancement. Other districts with high level of literacy are Lucknow, Varanasi, Allahabad, Chitrakoot and Mau. Developed educational infrastructure and socio-religious causes are responsible for high level of literacy in these districts.

A comparatively larger part of the study area belongs to the category of medium level of literacy. The eastern part covered by the districts of Faizabad, Basti, Ambedkar Nagar, Gorakhpur, Deoria, Ballia, Azamgarh, Ghazipur, Jaunpur, Pratapgarh, Sultanpur, Sant Ravidas Nagar, Chandauli and Mirzapur. The central and south-western part includes the districts of Unnao, Rae Bareli, Fatehpur, Hamirpur, Banda and Mahoba. Other districts of medium level of literacy are Muzaffarnagar, Bijnor, Bulandshahr, Aligarh, Etah and Hardoi representing the western part of the study area.

The areas of low level of literacy forms a small patch in the north-western and northern part covering the districts of Jyotiba Phule Nagar, Moradabad, Pilibhit, Bareilly, Shahjahanpur, Kheri and Sitapur. Similarly in the eastern part a small pocket of the same category is formed by the districts of Siddharthnagar, Maharajganj, Kushinagar and Sant Kabir Nagar. Low levels of literacy are also found in the districts of Barabanki, Lalitpur, Sonbhadra and Kaushambi. Very low level of literacy occurs in a few districts which are adjacent to the areas of low level of literacy. The districts belonging to this category are Bahraich, Shravasti, Balrampur and Gonda in the north-eastern belt whereas Rampur and Budaun districts represents the western region. The
low and very low level of literacy in these districts is due to economic backwardness and high percentage of rural population. Low participation of females in education in these areas also contributes in the low level of literacy.

2. Male Literacy

Analysis of the data and Fig. 4.2 clearly shows that districts of high male literacy are generally concentrated in the western and south-western part of the study area. It includes the districts of Baghpat, Meerut, Ghaziabad, Gautam Budh Nagar, Bulandshahr, Mathura, Hathras, Agra, Firozabad, Mainpuri, Etawah, Auraiya, Kanpur Nagar, Kanpur Dehat, Jalaun and Jhansi. Other areas of high male literacy are spread is eastern and south eastern part covering the districts of Gorakhpur, Deoria, Mau, Ghazipur, Varanasi, Chaudauli, Sant Ravidas Nagar, Jaunpur, Allahabad and Chitrakoot. The central part of the study area is represented by Lucknow district only. Industrialisation, agricultural advancement, development of educational infrastructure and historical background are the major causes of high male literacy in the above districts.

The areas of medium level of male literacy are generally found near the areas of high male literacy. The western part of medium literacy covers the districts of Saharanpur, Muzaffarnagar, Bijnor, Aligarh, Etah, Farrukhabad and Kannauj while the eastern part spreads over the districts of Basti, Faizabad, Sultanpur, Ambedkar Nagar, Sant Kabir Nagar, Azamgarh and Ballia. A compact region of medium male literacy is formed by the central and south-western districts of Unnao, Rae Bareli, Pratapgarh, Fategpur, Banda, Hamirpur and Mahoba. Medium level of male literacy is also found in Mirzapur district which is located in the south-eastern part of the study area.
Fig. 4.2

UTTAR PRADESH
MALE LITERACY
2001

Z-SCORE
0.5 - 1.5
-0.5 - 0.5
-1.5 - -0.5
< -1.5

Kilometres
100 50 0 100 200
The real expansion of low level of male literacy is comparatively less. However, it forms a continuous belt in the northern and northwestern part that covers the districts of Jyotiba Phule Nagar, Moradabad, Bareilly, Pilibhit, Kheri, Shahjahanpur, Hardoi and Sitapur. The eastward extension of low male literacy is represented by the districts of Barabanki, Gonda, Siddharthanagar, Maharajganj and Kushinagar. Lalitpur and Sonbhadra are other districts of low male literacy. Very low level of male literacy is distributed in a pocket. The eastern districts of Bahraich, Shravasti and Balrampur and the western districts of Rampur and Budaun are included in this category.

3. Female Literacy:

This is an important indicator of educational development of any area. Fig. 4.3 shows that there is a high regional variation in female literacy throughout the study area. Very high levels of female literacy are found in the industrially advanced districts of Kanpur Nagar, Auraiya, Etawah and Ghaziabad as well as the capital district of Lucknow. High economic growth and an urban atmosphere are the major causes of very high female literacy in these districts. The districts of high female literacy which forms a contiguous region in the western part are Saharanpur, Muzaffarnagar, Baghpat, Meerut, Gautam Budh Nagar, Agra, Firozabad, Mainpuri, Farrukhabad and Kannauj. A small pocket of high female literacy is developed in the south-western part by the districts of Kanpur Dehat, Jalaun and Jhansi. In the eastern part of the study area high female literacy is registered by the districts of Varanasi and Mau. Chitrakoot, famous religious centre located in the southern part of the study area, also belongs to the category of high female literacy.
UTTAR PRADESH
FEMALE LITERACY
2001

Fig. 4.3
Most part of the study area is covered by the medium level of female literacy. The western part includes the districts of Bijnor, Bulandshahr, Aligarh, Etah, Hathras and Mathura. A small patch occurs in the south-western part which covers the districts of Hamirpur and Mahoba. In the eastern and south-eastern part, the areas of medium female literacy spreads over the districts of Basti, Gorakhpur, Deoria, Ballia, Ghazipur, Azamgarh, Ambedkar Nagar, Faizabad, Sultanpur, Pratapgarh, Jaunpur, Allahabad, Sant Ravidas Nagar, Mirzapur and Chaudauli. A few districts namely Hardoi, Unnao, Rae Barely and Fatehpur form a narrow belt in the central part of the study area.

Low level of female literacy occurs in the districts of Jyotiba Phule Nagar, Moradabad, Rampur, Bareilly, Pilibhit, Shahjahanpur and Kheri in the north and north-western part of the study area. Sitapur and Barabanki districts represent the central part whereas the districts of same category belongs to the eastern part of study area are Siddharthnagar, Maharajganj, Kushinagar and Sant Kabir Nagar. Other districts of low female literacy are Lalitpur, Banda, Kaushambhi and Sonbhadra. As far as the very low level of female literacy is concerned it is found in a small pocket in the eastern part of the study area and includes the districts of Bahraich, Shravasti, Balrampur and Gonda. Budaun is the only district of western part which also has very low level of female literacy. Economic backwardness is the major cause of very low level of female literacy in these districts.

4. Urban Literacy:

It is clear from Fig. 4.4 that there exists a vast regional variations in urban literacy in the study area. Very high level of urban literacy is found in the
districts of Sonbhadra and Auraiya because of industrialization and availability of adequate educational infrastructure in proportion to urban population. The areas of high urban literacy are scattered all over the study area. The districts of Ghaziabad, Gautam Budh Nagar, Etawah, Mainpuri, Kanpur Nagar, Kanpur Dehat, Jhansi and Lalitpur represents the western and south-western part. In the eastern part a compact region of high urban literacy is formed by the districts of Gonda, Basti, Gorakhpur, Deoria, Ballia, Ghazipur, Jaunpur, Allahabad, Pratapgarh, Sultanpur and Faizabad. The central part of the study area is covered by the high urban literacy districts of Lucknow and Rae Bareli. Other districts of high urban literacy are Jhansi, Lalitpur, Banda, Chitrakoot and Chandauli.

The largest part of the study area is covered by the medium level of urban literacy. It includes the districts of Siddharthnagar, Maharajganj, Kushinagar, Sant Kabir Nagar, Ambedkar Nagar, Azamgarh, Mau, Ballia, Sant Ravidas Nagar, Varanasi and Mirzapur of the eastern and south-eastern part of study area. The western part of medium urban literacy is represented by the districts of Saharanpur, Muzaffarnagar, Baghpat, Meerut, Mathura, Agra and Firozabad. In the south-western part a small pocket of medium urban literacy is found which includes the districts of Jalaun, Hamirpur and Mahoba. Kheri, Sitapur, Farrukhabad, Kannauj, Unnao and Fatehpur are other districts of the same urban literacy.

The districts of low urban literacy are comparatively less in number and unevenly distributed throughout the study area. The districts belong to this category are Bijnor, Bulandshahr, Hathras, Aligarh, Etah, Hardoi, Pilibhit,
Fig. 4.4
Balrampur, Barabanki and Kaushambi. A compact region of very low urban literacy is formed in the north-western part by the districts Jyotiba Phule Nagar, Moradabad, Rampur, Bareilly, Budaun and Shahjahanpur. Shravasti is the only district of north-eastern part belongs to the category of very low urban literacy.

5. Rural Literacy:

This is an important indicator of development for any region. Fig. 4.5 shows the scenario of regional variation in rural literacy throughout the study area. Only Auraiya and Etawah districts have very high level of rural literacy. Industrial development is the main cause of very high rural literacy in these districts. High percentage of rural literacy is generally found in the western and south-western part of the study area. It includes the districts of Saharanpur, Muzaffarnagar, Baghpat, Meerut, Ghaziabad, Gautam Budh Nagar, BulandshahrMathura, Hathras, Mainpuri, Farrukhabad, Kannuaj, Kanpur Nagar, Kanpur Dehat, Jalaun and Jhansi. In the eastern part of study area a compact region of high rural literacy is formed by the districts of Jaunpur, Varanasi, Chandauli, Ghazipur and Mau. The southern district of Chitrakoot also have high level of rural literacy.

The areas of medium level of rural literacy are found near high literacy areas. Major portion of the study area is covered by medium rural literacy. It spreads over the eastern south-eastern districts of Basti, Sant Kabir Nagar, Gorakhpur, Deoria, Ballia, Azamgarh, Ambedkar Nagar, Faizabad, Sultanpur, Pratapgarh, Allahabad, Sant Ravidas Nagar and Mirzapur. It also occurs in the central part of the study area covering the districts of Hardoi, Lucknow, Unnao and Rae Bareli. Southern districts of Mahoba, Hamirpur, Banda and Fatehpur
UTTAR PRADESH
RURAL LITERACY
2001

Fig. 4.5
also having the same rural literacy. Bijnor, Aligarh, Etah, Agra and Firozabad districts of medium rural literacy represents the western part of the study area.

The districts of low level of rural literacy are generally found in northern and north-eastern part. The northern part includes the districts of Pilibhit, Bareilly, Shahjahanpur, Kheri and Sitapur whereas the districts of Gonda, Siddharthnagar, Maharajganj and Kushinagar spreads in the north-eastern part. Other districts of low level of rural literacy are Jyotiba Phule Nagar, Barabanki, Kaushambi, Sonbhadra and Lalitpur. The areas of very low level of rural literacy are found in two pockets. One in the north-western part covered by the districts of Moradabad, Rampur and Budaun and other in the north-eastern part covering the districts of Bahraich, Shravasti and Balrampur. The overall very low level of rural literacy in these districts is due to less participation of women in education system as well as low economic base.

6. Teacher-Pupil Ratio in Junior Basic Schools:

Teacher-pupil ratio is another important indicator of educational development. Spatial dimension of this indicator at the level of junior basic schools is shown in Fig. 4.6. It is clear from the map that the districts of Allahabad, Sant Ravidas Nagar, Varanasi, Chandauli, Azamgarh and Lucknow have very high teacher pupil ratio at Junior basic school level. High level of teacher-pupil ratio in Junior basic schools is generally found in the eastern part of study area covering the districts of Bahraich, Balrampur, Gorakhpur, Maharajganj, Kushinagar, Ballia, Jaunpur and Ambedkar Nagar. Baghpat, Pilibhit and Kaushambi are other few districts belong to the category of high teacher-pupil ratio in Junior basic schools.
UTTAR PRADESH
TEACHER-PUPIL RATIO IN
JUNIOR BASIC SCHOOLS
2001

Fig. 4.6

Z-SCORE

>1.5
0.5 - 1.5
-0.5 - 0.5
-1.5 - -0.5
<-1.5

64
Almost half of the study area is characterized by medium levels of teacher-pupil ratio at the junior basic school level. A fairly large portion of the western part is covered by the districts of Saharanpur, Meerut, Jyotiba Phule Nagar, Gautam Budh Nagar, Bulandshahr, Hathras, Firozabad and Etawah. Another narrow belt, attached to this region, is developed by the districts of Rampur, Bareilly, Budaun, Shahjahanpur, Farrukhabad and Kannauj. Kheri, Sitapur and Barabanki districts of the same category enjoying the northern and central location. The eastern part of the study area is covered by the districts of Gonda, Siddharthnagar, Basti, Sant Kabir Nagar, Faizabad, Sultanpur, Mau, Deoria and Ghazipur. Other districts of medium teacher-pupil ratio in junior basic schools are Rae Bareli, Fatehpur, Pratapgarh, Chitrakoot, Mirzapur and Sonbhadra.

Low teacher-pupil ratio in junior basic schools is concentrated in the western and south-western part of the study area. It includes the districts of Bijnor, Muzaffarnagar, Ghaziabad, Aligarh, Mathura, Etah, Kanpur Nagar, Kanpur Dehat, Auraiya, Jalaun, Hamirpur, Banda, Mahoba and Lalitpur. A small pocket of low teacher-pupil ratio is found in the central part covering the districts of Hardoi and Unnao. Shravasti district represents this category from the north-eastern region of the study area. Very low level of teacher-pupil ratio in junior basic schools is found in a very small part of the study area. It scattered over the districts of Moradabad, Agra, Mainpuri and Jhansi.

7. Teacher-Pupil ratio in Senior Basic Schools

Like junior basic schools, there also occurs a large regional variation in the teacher-pupil ratio in senior basic schools throughout the study area. It
appears from the Fig. 4.7 that the districts of very high teacher-pupil ratio in senior basic schools are few in number and scattered haphazardly. The districts of this category are Bulandshahar located in the west, Kushinagar and Mau in the east and Pratapgarh in the southern part of the study area.

A high level of teacher-pupil ratio in senior basic schools is generally found in the eastern and south-eastern part of the study area and includes the districts of Bahraich, Gorakhpur, Maharajganj, Deoria, Ballia, Ghazipur, Sant Ravidas Nagar and Sonbhadra. However, Bijnor, Baghpat, Mathura, Shahjahanpur and Rae Bareli are other districts having the same category of teacher-pupil ratio.

A medium level of teacher-pupil ratio is found over the larger part of the study area. It spreads over the districts of Balrampur, Gonda, Faizabad, Ambedkar Nagar, Sant Kabir Nagar, Azamgarh, Varanasi, Chandauli and Mirzapur in the eastern and south-eastern part. The districts of Sitapur, Barabanki, Lucknow and Hardoi forms a compact region in the central part. Another narrow belt of the same category is developed in the southern part by the districts of Fatehpur, Kaushambi and Allahabad. A large portion of the same teacher-pupil ratio is represented by the districts of Saharanpur, Ghaziabad, Meerut, Aligarh, Hathras, Agra, Firozabad and Kanpur Dehat in the western part of the study area. A small pocket is also found in the north-western part which includes the districts of Pilibhit, Bareilly and Budaun. Thus, medium level of teacher-pupil ratio represents almost every part of the study area.
UTTAR PRADESH
TEACHER-PUPIL RATIO IN
SENIOR BASIC SCHOOLS
2001

Fig. 4.7

Z-SCORE

> 1.5
0.5 - 1.5
-0.5 - 0.5
-1.5 - 0.5

Kilometres
A low level of teacher-pupil ratio in senior basic schools is found in the remaining districts of the study area. The districts of this category are Muzaffarnagar, Moradabad, Rampur, Jyotiba Phule Nagar, Gautam Budh Nagar, Etah, Farrukhabad, Mainpuri, Etawah, Kannauj, Auraiya, Kanpur Nagar, Jalaun, Hamirpur, Banda, Mahoba, Jhansi and Lalitpur spreads over the western and south-western part of the study area. Shravasti, Siddharthnagar and Basti districts of north-eastern region also have the same level of teacher-pupil ratio. Other districts of the same category are Kheri, Jaunpur, Sultanpur, Unnao and Chitrakoot.

8. Teacher-Pupil Ratio in Higher Secondary Schools

Regional variations in teacher-pupil ratio at higher secondary school level is shown in Fig. 4.8. An enquiry of the map reveals that like other indicators teacher-pupil ratio in higher secondary schools also have much regional disparities. Very high teacher-pupil ratio occurs in two small belts—one in the central and northern part including the districts of Hardoi, Farrukhabad, Kheri and Bahraich while the other belt includes the districts of Chitrakoot, Mirzapur and Sonbhadra in the south-eastern part of the study area. The districts of high teacher-pupil ratio are also less in number and their distribution shows no particular pattern. Almost all the districts of this category have individual locations such as Moradabad and Pilibhit districts in the north-west, Barabanki in the centre are away from each other. However, the eastern districts of Sultanpur and Azamgarh as well as Sant Ravidas Nagar and Varanasi form two small patches. Another eastern district Ballia also belongs to this category of teacher-pupil ratio in higher secondary schools.
UTTAR PRADESH
TEACHER-PUPIL RATIO IN
HIGHER SECONDARY SCHOOLS
2001

Fig. 4.8
Like junior and senior basic schools medium level of teacher-pupil ratio in higher secondary schools also covers most part of the study area. A large portion of western and south-western parts comes under the districts of Saharanpur, Meerut, Ghaziabad, Gautam Budh Nagar, Jyotiba Phule Nagar, Mathura, Hathras, Agra, Mainpuri, Kanpur Dehat, Hamirpur, Banda and Lalitpur. A narrow belt is formed by the districts of Rampur, Bareilly and Shahjahanpur in the north-western part. A compact region of medium teacher-pupil ratio is developed by the districts of Shravasti Balrampur, Gonda, Faizabad, Basti and Sant Kabir Nagar in the north-eastern part. Similarly, eastern and south-eastern region represented by the districts of Jaunpur, Mau, Ghaziapur and Chandauli. In the south-central part Rae Bareli is the only district of the same category. Thus, we have seen that medium level of teacher-pupil ratio in higher secondary schools is represented by almost every part of the study area.

The areas of low teacher-pupil ratio in higher secondary schools are unevenly distributed throughout the study area. The western part is covered by the districts of Muzaffarnagar, Bijnor, Baghpat, Bulandshahr Aligarh, Budaun, Etah, Firozabad and Etawah. A small pocket is also found in the south-western part which includes the districts of Jalaun, Jhansi and Mahoba. Most of the districts, like in this category are located in the eastern part. These districts are Siddharthnagar, Maharajganj, Kushinagar, Gorakhpur, Deoria and Ambedkar Nagar. In the southern and south eastern part a small area of the same teacher-pupil ratio is covered by the districts of Allahabad, Pratapgarh, Kaushambi and Fatehpur. Other districts of this category are Unnao, Lucknow and Sitapur located in the central part of the study area. Thus, more than three-fourths of the
study area has medium and low teacher-pupil ratio at higher secondary-school level.

9. Teacher-Pupil Ratio in Degree Colleges

The spatial dimensions of teacher-pupil ratio at degree college level is shown in Fig. 4.9. It appears from the map that the study area experiences much regional variations in the distribution level of this indicator of educational development. The districts of Jyotiba Phule Nagar, Kanpur Dehat, Ambedkar Nagar and Mau enjoy very high teacher-pupil ratio at degree college level. It shows the positive sign for the progress in higher education in these districts. The districts of high ratio represents few parts of the study area. In the eastern part Bahraich, Gonda, Maharajganj, Sant Kabir Nagar and Sultanpur districts are located. A small pocket also exists in south-eastern part which includes the districts of Mirzapur and Sonbhadra. A compact region of the same teacher-pupil ratio is formed by the districts of Pilibhit, Kheri, Hardoi, Sitapur and Barabanki. Other districts of the same category form two small pockets in the western (Etah and Mainpuri) and south-western (Jhansi and Lalitpur) part respectively.

The districts of medium category covers most part of the study area. The eastern half is covered by the districts of Gorakhpur, Kushinagar, Ballia, Ghazipur, Azamgarh, Faizabad, Jaunpur, Pratapgarh, Allahabad, Sant Ravidas Nagar and Chandauli. A narrow belt along southern border is formed by the districts of Chitrakoot, Banda and Mahoba. Other districts attached to the eastern belt are Rae Bareli and Fatehpur belong to this category. The western part of the study area spreads over the districts of Bijnor, Hathras, Etawah,
UTTAR PRADESH
TEACHER-PUPIL RATIO IN
DEGREE COLLEGES
2001

Fig. 4.9
Kannauj, Auraiya and Kanpur Nagar. A small area in the north-western part covering the districts of Bareilly, Budaun, Shahjahanpur and Farrukhabad also shows the medium teacher-pupil ratio.

A low teacher-pupil ratio in degree colleges is generally concentrated in the western districts of Saharanpur, Muzaffarnagar, Baghpat, Meerut, Ghaziabad, Gautam Budh Nagar, BulandshahrMoradabad, Aligarh, Mathura, Agra and Firozabad. In the eastern region Balrampur, Siddharthnagar, Deoria and Varanasi districts belongs to the same category. Lucknow, Unnao, Jalaun, Hamirpur and Kaushambi are the other districts of low teacher-pupil ratio. A very low teacher-pupil ratio in degree colleges is found only in the districts of Basti, Shravasti and Rampur.

Thus it is clear from the above description that there exists high regional disparities in the teacher-pupil ratio at all levels of educational institutions throughout the study area. However, it is generally found that most of the areas are having medium and low level of teacher-pupil ratio. The areas of very low ratio are exceptional and occur only in case of junior Basic and Degree college levels.

10. Number of Junior Basic Schools Per Lakh Population

This is one of the important indicators of educational development because Junior Basic Schools are the entry point of the education system. It creates the base upon which the entire education system stands. Fig. 4.10 shows the scenario of regional differentiation of this important indicator over the study area. It appears from the map that a small belt which includes the districts of Etawah, Mainpuri, Auraiya and Jalaun in the western part of the study area has
very high density of Junior Basic Schools in relation to population. It provides the chance of more enrolment and results into more literacy. High density is found in the western and south-western part. It spreads over the districts of Mathura, Hathras, Etah, Agra in the western region and Chitrakoot, Banda, Hamirpur, Kanpur Dehat, Mahoba, Jhansi and Lalitpur in the south-western region. A small pocket of the same category is formed by the districts of Rampur, Shahjahanpur and Hardoi in the central and north-western part. Mau is the only district of eastern part of the study area which has high density. All the above districts have comparatively low population which results in high density of Junior Basic Schools.

The density of these institutions is at medium level in most part of the study area. The western part is covered by the districts of Saharanpur, Muzaffarnagar, Bijnor, Jyotiba Phule Nagar, Moradabad, Bulandshahr, Aligarh and Firozabad. Kannauj, Farrukhabad and Bareilly are other districts of the same category lie in the western part. A fairly large portion of eastern part of medium density is found over the districts of Bahraich, Shravasti, Balrampur, Siddharthnagar, Gonda, Basti, Deoria, Ballia, Jaunpur, Pratapgarh and Sultanpur. Other districts of the same density located between western and eastern part are Fatehpur, Rae Bareli, Unnao, Barabanki, Sitapur, Kheri and Pilibhit. A small pocket is also found in the south-eastern part covering the districts of Mirzapur and Sonbhadra.

A low density of Junior Basic Schools is generally found in the districts of large population. Faizabad, Ambedkar Nagar, Sant Kabir Nagar, Gorakhpur, Maharajganj, Kushinagar, Azamgarh, Ghazipur, Chaudauli, Allahabad and
UTTAR PRADESH
NUMBER OF JUNIOR BASIC SCHOOLS PER LAKH POPULATION
2001

Z-SCORE
>1.5
0.5 - 1.5
-0.5 - 0.5
-1.5 - -0.5
<-1.5

Fig. 4.10
Kaushambi represents the eastern and southeastern parts of the study area. A small pocket of the same category is developed in the western part and includes the districts of Baghpat, Meerut and Gautam Budh Nagar. Other important districts of low density are Lucknow, Kanpur and Budaun. High population concentration due to industrialization and urbanization in Kanpur Nagar and Lucknow districts is the major cause of low institutional density; however, the number of schools is even larger than other districts. Very low density of junior basic schools is found only in three districts i.e. Ghaziabad in the western and Sant Ravidas Nagar and Varanasi in the south-eastern part.

11. Number of Senior Basic Schools Per Lakh Population

The spatial dimension of this important indicator is shown in Fig. 4.11 which explains that variations in the distribution of senior basic schools occur throughout the study area. Very high density of these schools is found in the districts of Etawah, Auraiya and Jalaun in the western part. Faizabad is the only district of eastern part which belongs to the same category of institutional density. Educational infrastructures in these districts are quite sufficient in relation to population strength which results into high density. The areas of high density are mostly found in the western and south-western part of the study area. It includes the districts of Etah, Farrukhabad, Mainpuri, Kannauj, Hamirpur, Jhansi, Mahoba, Banda and Chitrakoot. Other districts of high density are Unnao and Basti which represents the central and eastern part of the study area respectively.

Like junior basic schools the density of senior basic schools of medium grade covers almost half of the study area. The western part encompasses the
UTTAR PRADESH
NUMBER OF SENIOR BASIC SCHOOLS PER LAKH POPULATION 2001

Fig. 4.11
districts of Saharanpur, Muzaffarnagar, Bijnor, Meerut, Bulandshahr, Aligarh, Mathura, Hathras, Agra, Firozabad, Kanpur Nagar and Kanpur Dehat. Another compact region is formed by the districts of Lucknow, Sitapur, Hardoi, Shahjahanpur and Bareilly in the central and north-western part. Fairly large area of medium density is spread in the eastern and south-eastern parts and includes the districts of Gonda, Gorakhpur, Deoria, Ballia, Ghazipur, Azamgarh, Ambedkar Nagar, Jaunpur, Pratapgarh, Kaushambi, Allahabad, Mirzapur, Sant Ravidas Nagar and Chaudauli. Similar density is also found in the district of Fatehpur and Lalitpur.

The remaining part of the study area has low density of senior basic schools. A continuous belt on the northern border is formed by the districts of Jyotiba Phule Nagar, Moradabad, Rampur, Pilibhit, Kheri, Bahraich, Shravasti, Balrampur, Siddharthnagar, Sant Kabir Nagar, Maharajganj and Kushinagar from west to east. Sultanpur, Mau, Varanasi and Sonbhadra districts are of the same category located in the eastern and southeastern region. A small pocket of low density is also formed by the districts of Baghpat, Ghaziabad and Gautam Budh Nagar in the western part of the study area. Other districts of low density of senior basic schools are Budaun, Barabanki and Rae Bareli.

Thus it is clear from the above discussion that more than three-fourths of the study area belongs to the medium and low grade as far as the number of senior basic schools per lakh population is concerned. It shows that senior basic schools are not adequately developed in the study area.

12. Number of Higher Secondary Schools Per Lakh Population

This is an important parameter to assess the level of development of education. Availability of higher secondary schools in adequate number creates
large base for higher education. Fig. 4.12 shows the density of higher secondary schools per lakh population. It appears from the map that there exist regional variations in the distribution of higher secondary schools. Very high density of these institutions is found in the districts of Lucknow, Auraiya, Kaushambi and Ghazipur which are located far from each other. This indicates that only a small part of the study area enjoys the better position of higher secondary institutions. High density regions are spread over the larger area of western part and includes the districts of Baghpat, Jyotiba Phule Nagar, Gautam Budh Nagar, Bulandshahr, Aligarh, Mathura, Hathras, Etah, Farrukhabad, Agra, Etawah, Kannauj, Kanpur Nagar, Kanpur Dehat and Jalaun. The eastern part of study area is represented by Deoria, Mau and Allahabad districts which have a high density of higher secondary schools.

Medium density regions have comparatively large expansion and distributed all over the study area. A compact region is formed by the districts of Saharanpur, Muzaffarnagar, Meerut and Bijnor in the northwestern corner of the study area. A narrow belt of the same category is formed by the districts of Moradabad, Bareilly, Shahjahanpur, Hardoi and Unnao. A small pocket is also found in the western part which covers the districts of Firozabad and Mainpuri. Similarly Jhansi, Hamirpur and Mahoba districts represents the south-western part. The eastern and southeastern part of the study area is covered by the districts of Basti, Faizabad, Ambedkar Nagar, Azamgarh, Ballia, Sultanpur, Pratapgarh, Jaunpur, Varanasi, Mirzapur and Chandauli. Other districts of medium density are Chitrakoot and Fatehpur. These regions show the balance between number of higher secondary schools and population.
UTTAR PRADESH
NUMBER OF HIGHER SECONDARY SCHOOLS PER LAKH POPULATION
2001

Fig. 4.12
Although low level density areas are scattered, however, a compact region is formed in the northeastern part by the districts of Shravasti, Gonda, Siddharthnagar, Maharajganj, Kushinagar, Gorakhpur and Sant Kabir Nagar. A narrow belt is formed in the central part by the districts of Rae Bareli, Barabanki and Sitapur. In the western part Ghaziabad, Rampur, Budaun and Pilibhit districts have the same density. Other districts of low density are Lalitpur, Banda, Sant Ravidas Nagar and Sonbhadra. The districts of very low density are Kheri, Bahraich and Balrampur located on the north and northeastern border of the study area. Thus there is a much regional imbalance in the distribution of higher secondary schools per lakh population in the study area.

13. Number of Degree Colleges Per Lakh Population

"Degree college" has been chosen as the highest centre of learning in the present study. Its availability indicates the level of higher education. Regional pattern of the density of degree colleges per lakh population is shown in Fig. 4.13 which explain that very high density of degree colleges is found only in few districts and most of them are located in the eastern part of the study area. These districts are Ballia, Ghazipur, Mau and Jaunpur. Kanpur Dehat is the only district of very high density located in the western part. This shows that most of the population of above districts have easy access to higher education. The districts of high density are found in pockets. The western part includes Baghpat, Meerut, Bulandshahr, Farrukhabad, Etawah and Kanpur Nagar districts. Similarly in the eastern part Ambedkar Nagar, Gorakhpur and Azamgarh districts as well as Varanasi and Chandauli districts form small pockets respectively. Lucknow district belongs to the same category located lonely in the central part of the study area.
UTTAR PRADESH
NUMBER OF DEGREE COLLEGES
PER LAKH POPULATION
2001

Fig. 4.13
Medium level density of degree colleges is found comparatively in a larger part of the study area. In the western and south-western part it spreads over the districts of Muzaffarnagar, Ghaziabad, Gautam Budh Nagar, Jyotiba Phule Nagar, Moradabad, Aligarh, Mathura, Hathras, Agra, Firozabad, Etah, Auraiya, Jalaun, Hamirpur, Jhansi and Lalitpur. In the eastern part, districts of Basti, Faizabad, Sultanpur, Pratapgarh, Allahabad, Sant Ravidas Nagar and Mirzapur form a continuous narrow belt from north to south. Deoria and Hardoi are the other districts of the same grade located in the eastern most and central part of the study area respectively.

A low density of degree colleges covers the remaining part of the study area. A compact region is developed in the northern and north-eastern part by the districts of Kheri, Sitapur, Barabanki, Bahraich, Shravasti, Balrampur, Gonda, Siddharthnagar, Sant Kabir Nagar, Maharajganj and Kushinagar. Another compact region is formed by the districts of Unano, Rae Bareli, Fatehpur, Banda, Mahoba Chitrakoot and Kaushambi in the central and southern part. Sonbhadra district is of similar density located in the south-eastern corner.

Western and north-western part of the study area includes the districts of Saharanpur, Bijnor, Rampur, Budaun, Bareilly, Pilibhit and Shahjahanpur. A small pocket of the same density is also found in the western part which covers the districts of Mainpuri and Kannauj. Thus it is clear that these districts have inadequate number of degree colleges in relation to their population.

14. Number of Junior Basic Schools Per Thousand Square Kilometres

Density of institutions in terms of area is another important indicator of educational development. Higher density of institutions indicates
educational infrastructure. The density of junior basic schools is shown in Fig. 4.14. Very high density of these schools are found in the districts of Ghaziabad, Agra and Kanpur Nagar in the western part whereas Mau district represents the eastern part. Urbanization and industrialization is the root cause of very high density of institutions in these districts. The areas of high density are found in pockets. In the western part Moradabad and Rampur as well as Aligarh and Hathras districts forms two small pockets of the same density. Etawah is another district of western part having high density of junior basic schools. In the eastern part of the study area a narrow belt of high density is formed by the districts of Basti, Gorakhpur, Deoria and Ballia. Other districts of this category are Lucknow, Jaunpur and Varanasi.

Nearly half of the study area is under the category of medium density. The districts of Saharanpur, Muzaffarnagar, Bijnor, Jyotiba Phule Nagar, Meerut, Baghpat, Bulandshahr Mathura, Etah, Mainpuri, Firozabad, Kannauj, Auraiya, Kanpur Dehat and Jalaun cover most of the western part. Another belt extends eastward from this region includes the districts of Unnao, Hardoi, Sitapur, Farrukhabad, Shahjahanpur and Bareilly. In the eastern part of the study area the medium density region spreads over the districts of Faizabad, Ambedkar Nagar, Sant Kabir Nagar, Gonda, Siddharthnagar, Maharajganj, Kushinagar, Ghazipur, Azamgarh, Sultanpur, Pratapgarh, Allahabad and Sant Ravidas Nagar.

Low density areas are distributed in pockets all over the study area. A compact region in the southern part is developed by the districts of Rae Bareli, Fatehpur, Banda, Chitrakoot and Kaushambi. In the south eastern part
Mirzapur and Chandauli districts form a small patch. A narrow belt of low density also found in the northern and north-eastern part which include the districts of Pilibhit, Kheri, Bahraich, Shravasti and Balrampur. Other districts of the same density are Gautam Budh Nagar, Budaun, Barabanki and Jhansi which are scattered in the midst of medium and high density areas. Very low density of junior basic schools is found only in four districts. Three of them are Hamirpur, Mahoba and Lalitpur located in the south-western part. Other one is Sonbhadra district located in the south-eastern corner of the study area. Very low density in these districts is due to their vast area and plateau topography however, in terms of population schools are sufficient.

Thus it is clear from the above discussion that the distribution of junior basic schools in the study area is highly uneven. However, about three-fourth of the area belongs to the category of medium and low density.

15. Number of Senior Basic Schools Per Thousand Square Kilometres:

The regional pattern of the density of senior basic schools is shown in Fig. 4.15 which explains that there exist a regional variation in the distribution of schools throughout the study area. The districts of Ghaziabad, Kanpur Nagar, Lucknow and Varanasi fall under the category of very high density. Urbanization and better economic condition are the main cause of very high density. The districts of high density are unevenly distributed. In the western part, the districts of Meerut, Farrukhabad, Agra, Etawah and Auraiya located whereas the eastern part is represented by the districts of Basti, Gorakhpur, Deoria, Ballia, Ghazipur, Jaunpur, Allahabad and Sant Ravidas Nagar. High density is also found in the central district of Unnao.
UTTAR PRADESH
NUMBER OF SENIOR BASIC SCHOOLS PER THOUSAND SQUARE KILOMETRES
2001

Fig. 4.15

Z-SCORE
>1.5
0.5 - 1.5
-0.5 - 0.5
-1.5 - -0.5
< -1.5
Most of the study area is characterized by medium level of density. The districts of Saharanpur, Muzaffarnagar, Baghpat, Bijnor, Moradabad, Rampur, Bareilly, Bulandshahr, Aligarh, Hathras, Etah, Firozabad, Mainpuri, Kannauj, Kanpur Dehat and Jalaun are spread over the western and south-western part of the study area. Medium density area in the eastern and southern part includes the districts of Faizabad, Ambedkar Nagar, Kushinagar, Mau, Azamgarh, Sultanpur, Pratapgrah, Kaushambi and Chaudauli. Another district, Sitapur, of similar density is located near the central part of the study area.

Areal expansion of the low density region is almost equal to the medium density region. It also spreads all over the study area and covers the districts of Jyotiba Phule Nagar, Gautam Budh Nagar, and Mathura in the western part. A narrow belt is also developed by the districts of Pilibhit, Budaun, Shahjahanpur and Hardoi. A compact region of the same density is formed by the districts of Rae Bareli, Fatehpur, Chitrakoot, Banda, Hamirpur, Mahoba, Jhansi and Lalitpur in the southern and south-western part. Low density areas in the northern and north-eastern part cover the districts of Kheri, Bahraich, Shravasti, Balrampur, Siddharthnagar, Maharajganj, Sant Kabir Nagar, Gonda and Barabanki. Mirzapur is another district of this category located in the south-eastern part of the study area. Very low density of Senior Basic Schools is found only in Sonbhadra district which is located in the south-eastern corner. Thus like Junior Basic School, the density at Senior Basic School level is also high in the industrial and urbanized hearts because of population pressure as well as better economic conditions. The districts with lower economic growth and vast areal expansion have generally low density of institution per unit area.
16. Number of Higher Secondary Schools Per Thousand Square Kilometres

This is another important indicator of educational development because it acts as a crossroad for higher education. Fig. 4.16 shows that the present study area again has regional disparity in the density of higher secondary schools. Very high density of these institutions is found in the districts of Ghaziabad, Lucknow, Kanpur Nagar, Varanasi and Ghazipur representing the western, central and eastern part of the study area respectively. The areas of high densities are found in pockets. The districts of Baghpat and Meerut form a small pocket in the western part. Moradabad, Aligarh and Agra are other districts of similar density also belong to western part. Like western part a small pocket is also found in the eastern part which covers the districts of Deoria and Mau. The districts of Allahabad and Kaushambi are of the same density also forms a small patch in the south-eastern part.

The area of medium density spreads over the largest number of districts of the study area. Large part of the western region of this category covered by the districts of Saharanpur, Muzaffarnagar, Bijnor, Jyotiba Phule Nagar, Gautam Budh Nagar, Bulandshahr Mathura, Hathras, Etah, Firozabad, Mainpuri, Farrukhabad, Kannauj, Etawah, Auraiya, and Kanpur Dehat. In the north-western part Bareilly district has the same density. In the eastern part the districts of the medium density are Faizabad, Ambedkar Nagar, Basti, Sant Kabir Nagar, Gorakhpur, Kushinagar, Ballia, Azamgarh, Sultanpur, Pratapgarh, Sant Ravidas Nagar and Chandauli. Fatehpur district located in the south-central part also belongs to the category of medium density of higher secondary schools.
UTTAR PRADESH
NUMBER OF HIGHER SECONDARY
SCHOOLS PER THOUSAND
SQUARE KILOMETRES
2001

Fig. 4.16
Remaining parts of the study area have low density of the above institution. Entire northern and north-eastern part covers by the districts of Rampur, Budaun, Pilibhit, Kheri, Shahjahanpur, Hardoi, Sitapur, Barabanki, Gonda, Bahraich, Shravasti, Balrampur, Siddharthanagar and Maharajganj. In the central part Unnao and Rae Bareli districts of the same density are located. A compact region is also found in the south-western part which includes the districts of Jalaun, Hamirpur, Banda, Chitrakoot, Mahoba, Jhansi and Lalitpur. Another small pocket of low density occurs in the south-eastern corner which covers the districts of Mirzapur and Sonbhadra.

Thus maximum parts of the study area occupy the status of medium and low density of higher secondary schools. It indicates that most of the districts are lagging behind in the development of educational infrastructure. The situation is more serious in those areas which have an interior location and most of the population resides in rural areas.

17. Number of Degree Colleges Per Thousand Square Kilometres:

Among the indicators of education density of degree colleges shows the status of higher education. Like other institutions, there exist a regional differentiation in the density of degree colleges in the present study area (Fig 4.17). Very high density is found in the districts of Ghaziabad and Kanpur Nagar in the western part. Lucknow district represents the central part whereas in the eastern part a narrow belt of very high density is developed by the districts of Jaunpur, Varanasi, Ghazipur and Mau. The high density regions are found adjacent to the areas of very high density. A small pocket is formed in the western part by the districts of Baghpat and Meerut. Other districts of high density are located in the eastern part of the study area. A compact region is
formed by the districts of Ambedkar Nagar, Azamgarh, Gorakhpur, Deoria and Ballia. Another district, Sant Ravidas Nagar of the eastern region also has the high density of degree colleges.

Medium density areas have their maximum expansion in the western part. It spreads over the districts of Saharanpur, Muzaffarnagar, Jyotiba Phule Nagar, Moradabad, Bareilly, Gautam Budh Nagar, Bulandshahr, Aligarh, Mathura, Hathras, Etah, Agra, Firozabad, Etawah, Auraiya and Kanpur Dehat in the western part. On the eastern part of this belt a small pocket is formed by the districts of Hardoi and Farrukhabad. In the eastern part, medium density region encompasses the districts of Allahabad, Pratapgarh, Sultanpur, Faizabad, Basti, Sant Kabir Nagar, Siddharthnagar, Maharajganj and Kushinagar which form a continuous belt from south-eastern border to north-eastern border of the study area. Chandauli is another district of similar density belongs to the south-eastern part.

Low density areas also have comparatively large areal coverage. They are well distributed in the north and north-eastern part over the districts of Rampur, Budaun, Shahjahanpur, Pilibhit, Kheri, Sitapur, Barabanki, Gonda, Bahraich, Shravasti and Balrampur. Similarly a compact region is developed by the districts of Unnao, Rae Bareli, Fatehpur, Kaushambi, Chitrakoot, Banda, Hamirpur, Mahoba, Jalaun, Jhansi and Lalitpur in the southern and south-western part. A small pocket is also found in the south-eastern corner which includes the districts of Mirzapur and Sonbhadra. The districts of Kannauj and Mainpuri with low density appears in the midst of high and medium density region. Bijnor is another district of low density located densely in the north-western part.
UTTAR PRADESH
NUMBER OF DEGREE COLLEGES
PER THOUSAND SQUARE KILOMETRES
2001

Fig. 4.17
Thus it can be concluded from the above discussion that all the indicators of education have high regional variations in their distribution. Analysis of the data reveals that the condition of the urbanized and industrialised areas are comparatively satisfactory. They have their place in the high grade in regard to educational development. It is also clear that most parts of the study area belong to the medium and low category as far as the density and distribution of the educational indicators are concerned.