CHAPTER IV

REGIONAL PATTERN OF RURAL DEVELOPMENT AND OUTMIGRATION FROM UTTAR PRADESH: A DISTRICT LEVEL ANALYSIS

4.1. Introduction

Modern day civilization of human society is very much rooted in the rural areas. This is more phenomenal in developing countries like India. The development is one of the important attractions for human beings which force them to migrate and settle in different places. The rapid growth of population in the rural areas puts lots of pressure on limited land resources which reduces employment opportunities in agriculture sector inducing a push factor for the villagers to move out. Process of industrialization helped the people to move out from rural areas to urban areas in search of jobs in the industrial sector. The outmigration, however, from rural areas poses several problems to the economy and society of the areas of origin also. As people leave for cities, it becomes difficult to take care of agricultural fields due to drain of young and enterprising manpower which is backbone of the rural economy.

There is an interrelationship between rural development and outmigration also. Rural development provides better living conditions and higher level of socio-economic infrastructure in the villages. It gives an opportunity for the rural inhabitants to improve their social and economic status and in return it inhibits the outmigration phenomena from the rural areas. Outmigration is viewed as a consequence of the lack of development or developmental opportunities in rural areas (Kumar 2005: 61). But the nature of causal relationship between the two varies from place to place. The literatures suggest that the nature of this inter-relationship may vary over time and space. Many analysts are of the opinion that rural development promotes rural outmigration while some other says that rural development is inversely proportional to rural outmigration as discussed above.
This chapter is an endeavor to analyze the causal relationship between the two most important phenomena of regional development at the district level in Uttar Pradesh using the data of the migration for 2001. Before going into the details of the causal analysis of rural development and outmigration in Uttar Pradesh, it seems imperative to look into the level of rural development and outmigration at district level in Uttar Pradesh. Firstly, the chapter analyses the level of rural development by means of some selected variables. Afterwards, chapter analyses the phenomena of rural outmigration at district level by means of two important variables viz. rate of intra-district rural male outmigration and rate of inter-district rural male outmigration (within the state). Only male rural outmigration has been selected for the study. The reason behind taking only male outmigration lies in the fact that the cause of male outmigration is mainly economic (employment, business etc.). Contrary to this, females migrate mostly due to social causes (marriage and movement along with the household) as discussed in the previous chapter. Apart from the analysis of regional pattern of rural development indicators and rural male outmigration at the district level, an attempt has also been made to establish interrelationship between rural development and rural outmigration and to explain rural outmigration of males with the help of developmental variables.

4.2. Rural Development at District Level in Uttar Pradesh

Development is a process, which improves the quality of life. It requires a balanced human resource development in the country. Development of social sector along with technology absorption in agriculture could be considered as the primary objective of any economic developmental effort. The overall development in an area very much determines the activities of the people. Therefore, rural development also plays a dominant role in the determination of the activities of the rural folks. The rural outmigration is highly inter-related to the overall rural development of the rural area.

The Rural development is not entirely a new concept. It existed in India since Vedic times, but serious efforts approximating to what is today known as rural development were made only in the 19th century. The term rural development connotes overall development of rural areas to improve the quality of life of rural people. In this sense, it is a comprehensive and multidimensional concept, and encompasses the
development of agriculture and allied activities, village and cottage industries and crafts, socio-economic infrastructure, community services and facilities and, above all, human resources in rural areas. As a phenomenon, rural development is the end-result of interactions between various physical, technological, economic, social, cultural and institutional factors. As a strategy, it is designed to improve the economic and social well-being of a specific group of people, the rural poor (Singh 1999).

In the context of Uttar Pradesh, rural development assumes greater significance as 80 per cent (according to the 2001 census) of its population still live in rural areas. Most of the people living in rural areas draw their livelihood from agriculture and allied sectors (65.9 percent of total work force), and poverty mostly persists here (33 percent in 2001).

Socio-economic development of an area depends on the levels of agricultural development and infrastructural facilities available in the area under study. Therefore, an attempt has been made to quantify the status of rural development at district level by means of different variables chosen for the study. The present topic deals with the evaluation of the levels of development in agriculture, infrastructural facilities and overall socio-economic fields by taking following 10 variables keeping in view that most of the features of rural development can be explained briefly:

1. Agricultural Density
2. Rural Literacy
3. Average size of farms (in hectares)
4. Percentage of net area sown to total area
5. Fertilizers used per hectare (kg)
6. Primary agriculture loan cooperative societies per lakh population
7. Percentage of electrified villages in total inhabited villages
8. Number of Primary schools per lakh population
9. Number of allopathic hospitals, dispensaries and Public Health Centres per lakh population
10. Number of telephones per lakh population

For this study, the districts have been taken as the unit of analysis. Seventy districts (as per Census 2001) of Uttar Pradesh have been included in the analysis. Data on 10 variables related to rural development from Statistical Magazine 2008 published by
Government of Uttar Pradesh, have been analyzed for the study. It would be quite interesting and useful to evaluate the level of development at district level since it will be useful in the further analysis as an independent variable for the rural outmigration from different districts. The developmental indicators as well as the migration patterns show a strong regional orientation. The districtwise analysis have been summarised into regional patterns using the regional classification scheme given by State Planning Commission, Government of Uttar Pradesh in its Draft Annual Plan (2003) (Draft Annual Plan 2003). The regions suggested by the State Planning Commision in its Draft Annual plan are –

1. Western Region (comprising 26 districts)
2. Central Region (comprising 10 districts)
3. Eastern Region (comprising 27 districts)
4. Bundelkhand Region (comprising 7 districts)

Analysis of rural development variables at district level will help in identifying where do the districts as well as the different regions viz. Western, Eastern, Central and Bundelkhand stand in relation to each other in terms of rural development. The data regarding the level of rural development in the form of different variables have been analyzed by segregating the same according to their quartile values into four parts and on the basis of which districts have been classified into four levels given below:

1. **Low**: Less than value of Quartile 1 (Q1),
2. **Medium**: Between the values of Quartile 1 (Q1) and Quartile 2 (Q2)
3. **High**: Between the values of Quartile 2 (Q2) and Quartile 3 (Q3) and
4. **Very High**: More than the value of Quartile 3 (Q3).

The details of regional pattern of rural development indicators are given below:

4.2.1. Agricultural Density

Agricultural Density can be defined as the ratio of total rural population to total arable land in a particular rural area. Agricultural density is one of the important indicators of rural development as it gives a brief idea about the pressure of population on the arable land in rural areas. Pressure on the land reduces on-land employment opportunities which in return causes exodus of the people from the rural areas. The average agricultural density of Uttar Pradesh is 583 persons per Km² of arable land. The
variation in the values of agricultural density is very high in the districts of Uttar Pradesh. The agricultural density of Lalitpur is as low as 164 persons per Km$^2$ of arable land while the same is highest for Varanasi at 1230 persons per Km$^2$. The details of the level of agricultural density in the districts as well as the four regions of Uttar Pradesh can be described as below:

**Low Agricultural Density** (Below Quartile 1): Low agricultural density signifies lower level of pressure on agricultural land. The data suggests that low agricultural density is very much prevalent in Bundelkhand region where all the seven districts lying in the region show low agricultural density. Very low level of agricultural density is seen in Lalitpur (164 persons/km$^2$) and Mahoba (169 persons/km$^2$) districts of this region. Much of the Bundelkhand region suffers from acute ecological degradation due to top soil erosion and deforestation, leading to low productivity of the land. This factor, combined with limited rainfall and fresh water resources, have resulted in low agricultural productivity. Many families are no longer able to meet their subsistence needs. Temporary and long-term out-migration of males from rural villages in search of alternative sources of livelihood has become increasingly common (Premi and Rathore 1986: 45). Therefore, the agricultural density of the region is found quite low (Table 4.1).

<table>
<thead>
<tr>
<th>Region</th>
<th>LOW (&lt;462.23)</th>
<th>MEDIUM (462.23-567.67)</th>
<th>HIGH (567.67-705.61)</th>
<th>VERY HIGH (&gt;705.61)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WESTERN</td>
<td>5 (19.23%)</td>
<td>10 (38.46%)</td>
<td>7 (25.93%)</td>
<td>1 (3.85%)</td>
</tr>
<tr>
<td>EASTERN</td>
<td>3 (11.11%)</td>
<td>6 (22.22%)</td>
<td>1 (3.70%)</td>
<td>1 (3.70%)</td>
</tr>
<tr>
<td>CENTRAL</td>
<td>3 (30%)</td>
<td>6 (60%)</td>
<td>1 (10%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>BUNDELKHAND</td>
<td>7 (100%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>18 (25.72%)</td>
<td>17 (24.28%)</td>
<td>18 (25.72%)</td>
<td>17 (24.28%)</td>
</tr>
</tbody>
</table>


The low agricultural density is also very common among some districts of western Uttar Pradesh and three districts of eastern Uttar Pradesh e.g. Bahraich, Sonbhadra and Mirzapur. The districts of Sonbhadra as well as Mirzapur almost lie to the neighbouring belt of Bundelkhand region. So, the causes seem to be similar to that of the Bundelkhand region.
Map 4.1

UTTAR PRADESH
AGRICULTURAL DENSITY
(2001)

Agricultural Density
(Persons Per Square KM)

LESS THAN 462.23
462.23 - 567.67
567.67 - 705.61
MORE THAN 705.61

1 cm = 100 km
Medium Agricultural Density (Between Quartile1 and Quartile2): Medium agricultural density is a characteristic of 17 districts of Uttar Pradesh and most of them lie in the belt of western as well as central Uttar Pradesh. These are the areas where one can expect a balance between human and land resources. Some of the exemplary districts are Lucknow, Unnao, Hardoi, Bijnor, Meerut, Agra and Etah etc.

High Agricultural Density (Between Quartile2 and Quartile3): As the pressure on land rises due to increasing population, the agricultural density also grows positively. High agricultural density is prevalent in some of the districts of western (10) as well as eastern (seven) Uttar Pradesh. Some of the common districts in this category are Muzaffarnagar, Rampur, Baghpat, Bulandshahr, Aligarh, Hathras etc. in western Uttar Pradesh and Allahabad, Sultanpur, Gonda, Siddharthnagar, Chandauli etc. in eastern Uttar Pradesh.

Very High Agricultural Density (Above Quartile3): It exhibits the excessive pressure on land by the rapidly increasing population in the region. Of the total 17 districts falling in this category, 16 belong to eastern Uttar Pradesh where one can find some of the lowest levels of per capita income and human development in the country. The districts falling into this category are Basti, Maharajganj, Gorakhpur, Kushinagar, Deoria, Azamgarh, Mau, Ballia, Jaunpur, Ghazipur, Varanasi and Sant Ravidas Nagar.

4.2.2. Rural Literacy

Literacy and level of education are basic indicators of the level of development of any area. Literacy forms an important input in overall development of individuals enabling them to comprehend their social, political and cultural environment better and respond to it appropriately. Higher levels of literacy lead to a greater awareness and also contributes in improvement of 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 the society.

Rural literacy in Uttar Pradesh is way behind (53.68 percent) the rural literacy of India (59.40 percent). The highest rural literacy has been found in the Auraiya district (68.52 percent) and the lowest is found in Shravasti district (29.12 percent). So, great variations can be witnessed among the districts of Uttar Pradesh. We can study the
regional pattern of rural literacy in Uttar Pradesh by segregating the districts in four parts on the basis of their quartile values:

**Low Rural Literacy** (Below Quartile 1): Low level of rural literacy is dominant in the case of eastern Uttar Pradesh where more than 22 percent of the district in the region falls into the low rural literacy category. The districts which come in this group are Bahraich, Shravasti, Balrampur, Gonda, Sidhahrathnagar, Maharajganj and Sonbhadra. These districts form a linear belt in the Terai region and present a very low level of human development.

**Table 4.2**

<table>
<thead>
<tr>
<th></th>
<th>LOW (≤46.48)</th>
<th>MEDIUM (46.48-55.86)</th>
<th>HIGH (55.86-58.83)</th>
<th>VERY HIGH (&gt;55.83)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WESTERN</td>
<td>4 (15.38)</td>
<td>3 (11.54)</td>
<td>7 (26.92)</td>
<td>12 (46.15)</td>
</tr>
<tr>
<td>EASTERN</td>
<td>6 (22.22)</td>
<td>10 (37.04)</td>
<td>9 (33.33)</td>
<td>2 (7.41)</td>
</tr>
<tr>
<td>CENTRAL</td>
<td>0 (0.0)</td>
<td>8 (80.00)</td>
<td>0 (0)</td>
<td>2 (20.00)</td>
</tr>
<tr>
<td>BUNDELKHAND</td>
<td>1 (14.28)</td>
<td>3 (42.86)</td>
<td>1 (14.28)</td>
<td>2 (28.57)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>11 (15.71)</td>
<td>24 (34.29)</td>
<td>17 (24.28)</td>
<td>18 (25.71)</td>
</tr>
</tbody>
</table>


**Medium Rural Literacy** (Between Quartile1 and Quartile2): The medium rural literacy is also very much predominant in the eastern Uttar Pradesh where more than 37 percent districts of the region come in this category. Besides that, almost 8 districts of central Uttar Pradesh region and 3 districts of Bundelkhand region belong to this group. The districts which fall in this category are Basti, Santkabir Nagar, Gorakhpur, Azamgarh, Mirzapur, Faizabad, Fatehpur, Banda, Mahoba, Hamirpur, Rae Bareli, Lucknow, Hardoi, Unnao, Jyotiba Phule Nagar, Pilibhit and Shahjahanpur.

**High Rural Literacy** (Between Quartile2 and Quartile3): High rural literacy is very much dominant in the western region as well as in some pockets of eastern Uttar Pradesh. The districts which fall in this category are Saharanpur, Muzaffarnagar, Bijnor, Bulandshahr, Aligarh, Mathura, Agra, Etah, Farrukhabad, Jhansi, Allahabad, Ambedkarnagar, Sultanpur etc.

**Very High Rural Literacy** (Above Quartile3): The districts which come into this category have higher values of rural literacy in comparison to national average.
Map 4.2

UTTAR PRADESH
RURAL LITERACY
(2001)

RURAL LITERACY
LESS THAN 46.48%
46.48% - 55.86%
55.86% - 58.83%
MORE THAN 58.83%

1 cm = 100 km

Kilometers
The districts belonging to this group mostly lie in the western part of Uttar Pradesh. Almost 46 percent of the total districts of western Uttar Pradesh fall in this group. The districts which come into this group are Ghaziabad, Gautam Buddha Nagar, Meerut, Baghpat, Hathras, Firozabad, Mainpuri, Kannauj, Etawah, Auraiya, Kanpur Dehat, Kanpur Nagar, Jalaun and Varanasi. So, here we can conclude that literacy is very much determined by the vicinity of the urban centre to the region as well as exposure of the rural inhabitants to the outer world.

4.2.3. Average Size of the Farm

Farm size is a very important factor for the overall development of the rural areas as it affects the crop productivity phenomena. Generally larger sizes of the farm promote the productivity of crops because larger size of the farms allows the cultivators to use modern equipments and technologies in agriculture to cut short the expenses as well as the labour. Generally, Uttar Pradesh does not have a very good repute of having big farms for agriculture except in few pockets. There is found a great deal of variation in the average size of the farm in different districts of Uttar Pradesh. The smallest average size of the farm is found in Sant Ravidas Nagar (Bhadohi) district of eastern Uttar Pradesh where the average size is only 0.4 hectare. On the other hand the biggest size is found in the Hamirpur district of western region of Uttar Pradesh where it is 1.8 hectare. This signifies the degree of variation in the average size of the farm in the state. For our convenience for the purpose of our study we can divide all the districts of Uttar Pradesh into four groups on the basis of the quartile values calculated for the average size of the agricultural fields:

Small Size of the Farm (Below Quartile 1): Smaller size of the farm is the unique features of those regions where the population is growing rapidly. Despite having good alluvial Doab Plain the eastern part of Uttar Pradesh is lagging behind in the productivity of crops to its western counterpart because it has comparatively smaller size of the farms which is one of the factors of low productivity. Most of the districts of eastern Uttar Pradesh possess very small size of the farms. Among 27 districts of eastern Uttar Pradesh, 15 districts fall in this category only. These districts are Sant Ravidas Nagar, Varanasi, Chandauli, Ghazipur, Jaunpur, Ballia, Mau, Azamgarh, Deoria, Kushinagar,
Map 4.3

UTTAR PRADESH
AVERAGE SIZE OF THE FARM
(2008)

Table 4.3

Map showing the regions of Uttar Pradesh divided into Medium, Large, and Very Big size of the farms based on the Average Size of the Farms (Hect.) in Different Regions of Uttar Pradesh (2008).

The districts belonging to this category are Gorakhpur, Maharsipur, Sunt Kashi Nagar, Basti, Siddharthnagar, Orai, Moradabad, Sultanpur, Ambalanagar, Pratapgarh, and Kaushambi. Apart from these districts, only one other district comes into this category, and that is Barabanki, which lies in the central region of Uttar Pradesh.

Average Size of Farms (Hect.)

- LESS THAN 0.70
- 0.70 - 0.80
- 0.80 - 1.03
- MORE THAN 1.03

1 cm = 100 km

Kilometers

104
Gorakhpur, Maharajganj, Sant Kabir Nagar, Basti, Siddharthnagar, Gonda, Bahraich, Sultanpur, Ambedkarnagar, Pratapgarh, and Kaushambi. Apart from these districts, only one other district comes into this category and that is Barabanki which lies in the central region of Uttar Pradesh.

Medium Size of the Farm (Between Quartile1 and Quartile2): Medium size of farms are found in almost all the regions of Uttar Pradesh in some pockets except Bundelkhand region. Most of the districts belong to western and eastern part of Uttar Pradesh. The districts which lie in this group are Moradabad, Etah, Bareilly, Sitapur, Hardoi, Unnao, Auraiya, Fatehpur, Allahabad, Shravasti, Balrampur etc.

<table>
<thead>
<tr>
<th>Table 4.3</th>
<th>Number of Districts Classified by the Average Size of the Farms (Hect.) in Different Regions of Uttar Pradesh (2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMALL (&lt;.7)</td>
<td>MEDIUM (7.8)</td>
</tr>
<tr>
<td>WESTERN</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>EASTERN</td>
<td>15 (55.55)</td>
</tr>
<tr>
<td>CENTRAL</td>
<td>1 (10.00)</td>
</tr>
<tr>
<td>BUNDELKHAND</td>
<td>0 (0.00)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>16 (22.86)</td>
</tr>
</tbody>
</table>


Big Size of the Farm (Between Quartile2 and Quartile3): Big size of farms are very common in western part of Uttar Pradesh and a total of 11 districts of the region come in this category. Only one district (Mirzapur) of eastern Uttar Pradesh falls into this group. The districts belonging to this category are Rampur, Jyotiba Phule Nagar, Baghpat, Ghaziabad, Bulandshahr, Hathras, Firozabad, Budaun, Shahjahanpur, Kheri, Etawah, Kanpur Dehat and Kanpur Nagar.

Very Big Size of the Farm (Above Quartile3): Very big size of farms are very much a characteristic feature of the agriculture of Western Uttar Pradesh. Around 9 of the 26 districts of western region belong to this category. Apart from this all the districts of Bundelkhand region come in this category. Only one districts each from eastern (Sonebhadra) and central region come in this group. Other districts which fall in this category are Saharanpur, Muzaffarnagar, Bijnor, Meerut, Gautam Buddha Nagar, Aligarh, Mathura, Agra, and Pilibhit. Here we can conclude that bigger size of the farms
generally give impetus to the productivity of crops and enhance the agricultural
development in the region.

4.2.4. Net Area Sown to Total Area

The development of a rural area is very much attributed to its farm and non-farm
activities. This represents the total area sown with crops and orchards. Area sown more
than once in the same year is counted only once. Proportion of net area sown is an
important variable of rural development as on the one hand it gives a brief idea about the
agricultural development of the area and on another hand it presents a concise image of
the land use pattern of the land. The maximum percentage of net area sown to total area
can be seen in Moradabad (84.1 percent) while lowest is found in Sonebhadra district
(22.4 percent). Such a huge variation itself indicates the diversity in the rural
development in Uttar Pradesh. The regional pattern of net area sown in the districts of
Uttar Pradesh can be classified on the basis of its quartile as follows:

Low Percentage of Net Area Sown to Total Area (Below Quartile 1): The low values
of the Net Sown Area (below 65.02 percent) are mainly found in the eastern (8 districts),
central (4 districts) and Bundelkhand region (3 districts). The districts which fall in this
category are Pratapgarh, Allahabad, Faizabad, Sultanpur, Chandauli, Varanasi, Mirzapur,
Sonebhadra, Pilibhit, Kheri, Lucknow, Rae Bareli, Etawah, Kanpur Nagar, Jhansi,
Lalitpur, and Chitrakoot.

Medium Percentage of Net Area Sown to Total Area (Between Quartile1 and
Quartile2): The districts with medium values of net area sown to total area are almost
evenly distributed in all the regions except Bundelkhand. Most of the districts are from
eastern part (9 districts) followed by western part (7 districts) and Central region (3
districts). The districts which come in this category are Ghaziabad, Gautam Buddha
Nagar, Mainpuri, Hardoi, Unnao, Farrukhabad, Kannauj, Fatehpur, Barabanki, Bahraich,
Shravasti, Balrampur, Sant Kabirnagar, Maharajganj, Jaunpur, and Sant Ravidas Nagar
Bhadohi.

High Percentage of Net Area Sown to Total Area (Between Quartile2 and Quartile3):
Such areas are evenly distributed throughout the state. Most of the districts are in eastern
Uttar Pradesh (8) followed by western region (5), Central region (3) and Bundelkhand
UTTAR PRADESH
NET SOWN AREA TO TOTAL GEOGRAPHICAL AREA
(2008)

Percentage of Net Area Sown
To Total Area

1 cm = 100 km

- LESS THAN 65.03%
- 65.03% - 71.00%
- 71.00% - 75.85%
- MORE THAN 75.85%
Table 4.4
Number of Districts Classified by the Proportion of Net Sown Area to Total Geographical Area in Different Regions of Uttar Pradesh (2008)

<table>
<thead>
<tr>
<th>REGIONS</th>
<th>LOW (≤65.02)</th>
<th>MEDIUM (65.02-71.00)</th>
<th>HIGH (71.00-75.85)</th>
<th>VERY HIGH (&gt;75.85)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WESTERN</td>
<td>2 (7.69)</td>
<td>7 (26.92)</td>
<td>5 (19.23)</td>
<td>12 (46.15)</td>
</tr>
<tr>
<td>EASTERN</td>
<td>8 (29.63)</td>
<td>9 (33.33)</td>
<td>8 (29.63)</td>
<td>3 (11.11)</td>
</tr>
<tr>
<td>CENTRAL</td>
<td>4 (40.00)</td>
<td>3 (30.00)</td>
<td>2 (20.00)</td>
<td>1 (10.00)</td>
</tr>
<tr>
<td>BUNDELKHAND</td>
<td>3 (42.86)</td>
<td>0 (0.00)</td>
<td>3 (42.86)</td>
<td>1 (14.28)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>17 (24.28)</td>
<td>19 (27.14)</td>
<td>18 (25.71)</td>
<td>17 (24.28)</td>
</tr>
</tbody>
</table>


region (2). The districts belong to this group are Saharanpur, Bijnor, Meerut, Agra, Firozabad, Etah, Kanpur Dehat, Jalaun, Hamirpur, Mahoba, Kaushambi, Gonda, Basti, Gorakhpur, Kushinagar, Azamgarh, Mau, and Ballia.

Very High Percentage of Net Area Sown to Total Area (Above Quartile 3): Very high proportion of net area sown is a peculiar feature of western Uttar Pradesh where the level of agricultural development is high due to the early inception of the tools of Green Revolution. Majority of the districts belong to the western Uttar Pradesh. Out of the total 17 districts in this group, 12 districts belong to western part of the state. Some important districts are Muzaffarnagar, Moradabad, Rampur, Jyotiba Phule Nagar, Baghpat, Bulandshahr, Aligarh, Hathras, Mathura, Budaun, Bareilly and Shahjahanpur.

In short, we can say that the high and very high proportion of net area sown to total area is more common in the western part of the state while low and medium proportion of net area sown is prevalent in eastern Uttar Pradesh.

4.2.5. Fertilizer Used per Hectare of Land

Fertilizers have been one of the most important tools of Green Revolution in India. It has played a significant role in enhancing the productivity of land and increasing the production of crops. The regions which have been a part of the green revolution are way ahead in usage of fertilizers in comparison to the areas which did not have experience of green revolution. On the basis of usage of fertilizers (Kilogram/Hectare) the whole state can be divided into four parts on the basis of their quartile values:

Areas with Low Usage of Fertilizers (Below Quartile 1): Low usage of fertilizers has been a very common phenomenon of Bundelkhand region where all the seven districts
were found to be lesser user of fertilizers. Apart from that, many districts (25 percent of all the districts) in the eastern part of the state do not use much of the fertilizers. The reason behind that is that the cultivators are illiterate and most of them still practice obsolete type of agriculture. Apart from this, they have lesser accessibility to commercial banks offering loans for upgrading the techniques of agriculture.

### Table 4.6
Number of Districts Classified by the Quantity of Fertilizer Used (Kg/Hect.) in Different Regions of Uttar Pradesh (2008)

<table>
<thead>
<tr>
<th></th>
<th>LOW (&lt;112.25)</th>
<th>MEDIUM (112.25-147.70)</th>
<th>HIGH (147.70-185.70)</th>
<th>VERY HIGH (&gt;185.70)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WESTERN</td>
<td>2 (7.69)</td>
<td>8 (30.77)</td>
<td>6 (23.08)</td>
<td>10 (38.46)</td>
</tr>
<tr>
<td>EASTERN</td>
<td>7 (25.93)</td>
<td>7 (25.93)</td>
<td>8 (29.63)</td>
<td>5 (22.22)</td>
</tr>
<tr>
<td>CENTRAL</td>
<td>2 (20.00)</td>
<td>4 (40.00)</td>
<td>4 (40.00)</td>
<td>0 (0.00)</td>
</tr>
<tr>
<td>BUNDELKHAND</td>
<td>7 (100.00)</td>
<td>0 (0.00)</td>
<td>0 (0.00)</td>
<td>0 (0.00)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>18 (25.71)</td>
<td>19 (27.14)</td>
<td>18 (25.71)</td>
<td>16 (22.86)</td>
</tr>
</tbody>
</table>


Areas with Medium Usage of Fertilizers (Between Quartile1 and Quartile2): Medium usage of fertilizers is found mostly in the western, central and eastern part of the state. The districts which fall in this category are Gautam Buddha Nagar, Aligarh, Hathras, Mathura, Agra, Sitapur, Unnao, Rae Bareli, Kanpur Dehat, Sultanpur, Gonda, Sant Kabir Nagar, Kushinagar, Ballia and Jaunpur.

Areas with High Usage of Fertilizers (Between Quartile2 and Quartile3): The recent policies of the government have definitely made the accessibility of fertilizers to every part of the state. This is the reason why high usage of fertilizers has been reported from different pockets of the state comprising all the regions except Bundelkhand where usage of fertilizers is quite low. The districts which fall in this group are Bijnor, Rampur, Bulandshahr, Firozabad, Kheri, Lucknow, Kanpur Nagar, Fatehpur, Pratapgarh, Kaushambi, BARABANKI, AMBEDKARNAGAR, MAHARAJGANJ, GORAKHPUR, GHAZIPUR, and CHANDAULI.

Areas with Very High Usage of Fertilizers (Above Quartile3): The areas which come in this category mostly (10 districts) belong to the western Uttar Pradesh. The dominance of this belt in higher usage of the fertilizer is mostly due to the inception of green revolution in these areas during 1970s. The districts using very high amount of fertilizers are Saharanpur, Muzaffarnagar, Jyotiba Phule Nagar, Meerut, Baghpat, Ghaziabad,
Map 4.5

UTTAR PRADESH
FERTILIZER USED (IN KG.) PER HECT.
(2008)

Fertilisers Used Per Hectare (Kg)

- LESS THAN 112.25
- 112.25 - 147.70
- 147.70 - 185.70
- MORE THAN 185.70

1 cm = 100 km
Pilibhit, Shahajahanpur, and Farrukhabad. Besides western Uttar Pradesh, some pockets of eastern Uttar Pradesh also exhibit very high usage of fertilizer. These districts are Allahabad, Faizabad, Basti, Deoria, Varanasi and Sant Ravi Das Nagar Bhadohi. Most of these districts have an effect of the vicinity to the big urban centres like Varanasi, Allahabad, and Gorakhpur which make the accessibility a bit easier.

4.2.6. Availability of Primary Agricultural Loan Cooperative Societies

Financial assistance is a very important indicator of development in a developing country like India. Moreover, it assists poor cultivators in enhancing their level of agricultural practices. The present discussion incorporates the data analysis of number of primary agricultural loan cooperative societies per lakh of rural population. On the basis of the availability the districts of the state can be classified into four parts:

**Low Availability (Below Quartile 1):** The lesser availability of the primary loan cooperative societies is quite common in the western region of the state. Out of the 17 districts lying in this category, 11 come alone from western region. The reason behind this fact is that most of the districts in this part of the state got an early start in the era of modern agricultural development (i.e. Green Revolution). Therefore, the cultivators earned much in comparison to peasants of other parts of the state. They are competent enough with the finances to meet their needs for improving the quality of agricultural practices. So, the region does not feel that much of scarcity of finance assisting societies in the area as compared to its eastern counterpart.

**Medium Availability (Between Quartile 1 and Quartile 2):** Medium availability of primary agricultural loan cooperative societies is very evenly distributed in almost every region of the state.

**High Availability (Between Quartile 2 and Quartile 3):** Higher availability of loan cooperative societies is also evenly distributed among all the regions of Uttar Pradesh.

**Very High Availability (Above Quartile 3):** Very high availability, as we already discussed, is the most common phenomena among the districts of eastern Uttar Pradesh where there is a lack of awareness among the cultivators due to lack of literacy and exposure. Many districts (four) of central region of Uttar Pradesh also have very high number of agricultural loan cooperative societies.
UTTAR PRADESH
AVAILABILITY OF PRIMARY AGRICULTURAL LOAN COOPERATIVE SOCIETIES
(2008)

Number of Primary Agricultural Loan Cooperative Societies
(Per lakh Population)

- LESS THAN 3.15
- 3.15 - 3.90
- 3.90 - 5.10
- MORE THAN 5.10

1 cm = 100 km

Kilometers
Table 4.6
Number of Districts Classified by the Availability of the Primary Agricultural Loan Cooperative Societies (Per Lakh Population) in Different Regions of Uttar Pradesh (2008)

<table>
<thead>
<tr>
<th>Region</th>
<th>LOW (&lt;3.15)</th>
<th>MEDIUM (3.15-3.90)</th>
<th>HIGH (3.9-5.1)</th>
<th>VERY HIGH (&gt;5.1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WESTERN</td>
<td>11 (42.31)</td>
<td>7 (26.92)</td>
<td>7 (26.92)</td>
<td>1 (3.85)</td>
</tr>
<tr>
<td>EASTERN</td>
<td>2 (7.41)</td>
<td>8 (29.63)</td>
<td>7 (25.93)</td>
<td>10 (38.46)</td>
</tr>
<tr>
<td>CENTRAL</td>
<td>3 (30.00)</td>
<td>2 (20.00)</td>
<td>1 (10.00)</td>
<td>4 (40.00)</td>
</tr>
<tr>
<td>BUNDELKHAND</td>
<td>1 (14.29)</td>
<td>2 (28.56)</td>
<td>3 (42.86)</td>
<td>1 (14.29)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>17 (24.28)</td>
<td>19 (27.14)</td>
<td>18 (25.71)</td>
<td>16 (22.86)</td>
</tr>
</tbody>
</table>


In short, we can conclude that financial assistance in the form of agricultural loan is more common in those areas which are lesser developed. It means that government has done a tremendous job in availing the financial assistance to the people who are staying in the regions where the practices of agriculture are still obsolete.

4.2.7. Proportion of Electrified Villages to Total Inhabited Villages

One cannot think of development without energy resources. Electricity as important source of energy has become the backbone of modern civilization. The rural development is no exception to that because nowadays the agriculture practices have become more mechanized which needs electricity. The district with higher proportion of electrified villages will be, therefore, considered as more developed. The districts of Uttar Pradesh have been classified into four parts on the basis of the quartile values of the percentage of electrified villages to total inhabited villages in a district:

**Low Proportion of Electrified Villages** (Below Quartile 1): Low proportion of electrified villages is found in almost all the regions of Uttar Pradesh except Central region. But most of the districts come from eastern region of Uttar Pradesh. Some most important districts which fall in this class are Faizabad, Balrampur, Siddharthnagar, Basti, Sant Kabir Nagar, Deoria, Jaunpur, Ghazipur, Sant Ravidas Nagar Bhadohi and Mirzapur.

**Medium Proportion of Electrified Villages** (Between Quartile1 and Quartile2): Such group is very evenly distributed all over the state except Bundelkhand region.
UTTAR PRADESH

PERCENTAGE OF ELECTRIFIED VILLAGES IN TOTAL INHABITED VILLAGES (2008)

Percentage of Electrified Villages in Total Inhabited Villages

- LESS THAN 81.82%
- 81.82% - 90.20%
- 90.20% - 96.20%
- MORE THAN 96.20%

1 cm = 100 km

Kilometers
Table 4.7
Number of Districts Classified by the Proportion of Electrified Villages (in Percent) in Different Regions of Uttar Pradesh (2008)

<table>
<thead>
<tr>
<th>REGIONS</th>
<th>LOW (&lt;81.82)</th>
<th>MEDIUM (81.82-90.20)</th>
<th>HIGH (90.20-96.20)</th>
<th>VERY HIGH (&gt;96.20)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WESTERN</td>
<td>4 (15.38)</td>
<td>7 (26.92)</td>
<td>7 (26.92)</td>
<td>8 (30.77)</td>
</tr>
<tr>
<td>EASTERN</td>
<td>12 (14.44)</td>
<td>8 (29.63)</td>
<td>6 (22.22)</td>
<td>1 (3.70)</td>
</tr>
<tr>
<td>CENTRAL</td>
<td>0 (0.00)</td>
<td>2 (20.00)</td>
<td>5 (50.00)</td>
<td>3 (30.00)</td>
</tr>
<tr>
<td>BUNDELKHAND</td>
<td>1 (14.29)</td>
<td>0 (0.00)</td>
<td>3 (42.86)</td>
<td>3 (14.29)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>17 (24.28)</td>
<td>17 (24.28)</td>
<td>21 (30.00)</td>
<td>15 (21.44)</td>
</tr>
</tbody>
</table>


High Proportion of Electrified Villages (Between Quartile 2 and Quartile 3): The high proportion of electrified villages is also evenly distributed throughout the state. Most of the districts of Central region fall into this category.

Very High Proportion of Electrified Villages (Above Quartile 3): The districts with very high proportion of electrified villages are more common in the western region of the state. Some of the important districts of this category are Saharanpur, Muzaffarnagar, Meerut, and Baghpat. The districts like Ghaziabad, Aligarh, Hathras, Budaun, Lucknow, Rae Bareli and Kanpur Nagar are 100 percent electrified.

So, here we can conclude that higher proportion of electrified villages are very much common in the districts of western Uttar Pradesh while lower percentage of electrified villages is a general characteristic of districts of eastern Uttar Pradesh.

4.2.8. Number of Primary School per Lakh Population

Schools are one of the most important and vital indicators of social development in a region. As the number of schools increases the possibility of people being literate and educated also become higher. It is also a good indicator of infrastructure development in a territory. The number of schools per lakh population has been taken as an indicator to see overall infrastructure provided by the government to meet the requirement of educational institution at the basic level. The whole data have been classified into four parts according to the values of quartiles:

Low Availability of Schools (Below Quartile 1): Number of school in proportion of the population is low in 9 districts of eastern Uttar Pradesh followed by western (7 districts), and Central region (1 district).
Map 4.8

UTTAR PRADESH
AVAILABILITY OF PRIMARY SCHOOLS
(PER LAKH POPULATION) -2008

Number of Primary Schools in Per lakh Population

- LESS THAN 63.25
- 63.25 - 71.95
- 71.95 - 91.27
- 91.27 - MORE THAN

1 cm = 100 km

0 50 100 200 300 Kilometers
Bundelkhand region does not have any districts in this category. The data (table 4.8) concludes that low educational infrastructure facilities at the basic level are quite common among the districts of eastern Uttar Pradesh.

**Medium Availability of Schools** (Between Quartile1 and Quartile2): The medium level of primary school facilities is equally distributed all across the state and no one region is dominant in this category, although, eastern Uttar Pradesh alone has 10 districts (37 percent of all the districts of the region) under this category. So, it can be easily concluded that most of the districts of eastern Uttar Pradesh either lie in lesser proportion category or medium category.

**High Availability of Schools** (Between Quartile2 and Quartile3): High level of availability of Primary schools is also evenly distributed all over the regions of Uttar Pradesh. The districts which come in this category are Muzaffarnagar, Baghpat, Bulandshahr, Mathura, Pilibhit, Shahjahanpur, Kheri, Unnao, Rae Bareli, Kannauj, Banda, Barabanki, Bahraich, Mau, Ballia, Mirzapur and Sonebhadra.

**Table 4.8**

<table>
<thead>
<tr>
<th>Region</th>
<th>LESSER (&lt;63.25)</th>
<th>MEDIUM (63.25-71.95)</th>
<th>HIGH (71.95-91.27)</th>
<th>VERY HIGH (&gt;91.27)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WESTERN</td>
<td>7 (26.92)</td>
<td>4 (15.38)</td>
<td>7 (26.92)</td>
<td>8 (30.77)</td>
</tr>
<tr>
<td>EASTERN</td>
<td>9 (33.33)</td>
<td>10 (37.04)</td>
<td>6 (22.22)</td>
<td>2 (7.41)</td>
</tr>
<tr>
<td>CENTRAL</td>
<td>1 (10.00)</td>
<td>3 (30.00)</td>
<td>3 (30.00)</td>
<td>3 (30.00)</td>
</tr>
<tr>
<td>BUNDELKHAND</td>
<td>0 (0.00)</td>
<td>1 (14.28)</td>
<td>1 (14.28)</td>
<td>5 (71.43)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>17 (24.28)</td>
<td>18 (25.71)</td>
<td>17 (24.28)</td>
<td>18 (25.71)</td>
</tr>
</tbody>
</table>


**Very High Number of Schools** (Above Quartile3): Very high availability of primary schools is quite common in the western part of the state. The districts like Bijnor, Rampur, Jyotiba Phule Nagar, Etah, Mainpuri and Farrukhabad show a very high level of availability of schools. Besides this, two districts of eastern Uttar Pradesh also exhibit very high level of schools. Five districts of Bundelkhand districts also show very high proportion of presence of primary schools. So, the Bundelkhand region also shows higher accessibility to primary schools.
4.2.9. Allopathic Hospitals, Dispensaries and Public Health Centres (PHCs)

Health is one of the most important indicators of human development. In rural areas, health is very much associated with the presence of hospitals, dispensaries, clinics and Public Health Centres (PHCs). Mere presence and absence of these agencies make a big difference in the overall health status and human development of the people of the area. This study has taken the number of allopathic hospitals, dispensaries and PHCs per lakh population as an indicator of rural development. The districts of Uttar Pradesh have been classified into four parts on the basis of the presence and number of allopathic hospitals, dispensaries and PHCs per lakh population:

**Low Proportion** (Below Quartile 1): There is no sharp variation has been found among the districts situated in the state. Western, Eastern and Central region have the districts which have lesser number of health facilities.

**Medium Proportion** (Between Quartile 1 and Quartile 2): There are a total of 17 districts which come in this category. Out of which six districts belong to western region, seven to eastern region, and four to central region and none district from Bundelkhand region is reported in this category.

**High Proportion** (Between Quartile 2 and Quartile 3): Both eastern as well as western part of the state has 9 districts each under this group. One district of central region and two districts of Bundelkhand region fall in this category. The higher accessibility of Hospitals and PHCs is quite equally distributed in all the regions of the state and is not found as concentrated in a region or two (Table 4.9).

**Very High Proportion** (Above Quartile 3): Very high availability of Hospitals and PHCs is also not a unique feature of any one particular region. Rather it is evenly distributed in...

---

### Table 4.9

**Number of Districts Classified by Availability of Allopathic Hospitals, Dispensaries and PHCs (Per Lakh Population) in Different Regions of Uttar Pradesh (2008)**

<table>
<thead>
<tr>
<th>REGION</th>
<th>LOW (&lt;2.275)</th>
<th>MEDIUM (2.275-2.600)</th>
<th>HIGH (2.600-3.300)</th>
<th>VERY HIGH (≥3.300)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WESTERN</td>
<td>7 (26.92)</td>
<td>6 (23.08)</td>
<td>9 (34.62)</td>
<td>4 (15.38)</td>
</tr>
<tr>
<td>EASTERN</td>
<td>7 (25.93)</td>
<td>7 (25.93)</td>
<td>9 (33.33)</td>
<td>4 (14.81)</td>
</tr>
<tr>
<td>CENTRAL</td>
<td>3 (30.00)</td>
<td>4 (40.00)</td>
<td>1 (10.00)</td>
<td>2 (20.00)</td>
</tr>
<tr>
<td>BUNDELKHAND</td>
<td>0 (0.00)</td>
<td>0 (0.00)</td>
<td>2 (28.57)</td>
<td>5 (71.43)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>17 (24.28)</td>
<td>17 (24.28)</td>
<td>21 (30.00)</td>
<td>15 (21.43)</td>
</tr>
</tbody>
</table>

Map 4.9

UTTAR PRADESH
AVAILABILITY OF ALLOPATHIC HOSPITALS, DISPENSARIES
AND PUBLIC HEALTH CENTRES
(2008)

Number of Allopathic Hospitals, Dispensaries and PHCs
(Per lakh Population)

- LESS THAN 2.26
- 2.26 - 2.60
- 2.60 - 3.30
- MORE THAN 3.30

1 cm = 100 km

0 50 100 200 300 Kilometers
all the four regions of the state. There are four districts each from the western and eastern region and two and five districts enjoy higher accessibility to hospitals and PHCs in Central and Bundelkhand regions respectively.

The overall regional pattern of hospitals and PHCs suggests that there is no concentration in any of the region of the state. But these PHCs and hospitals are evenly distributed in all the parts of the state.

4.2.10. Tele-density (Number of Telephones per Lakh Population)

The means of information and technology are also one of the most useful indicators of development. The development of an area is very much characterized by the level of accessibility it has by means of tools of information and technology. The most common means of such kind in the rural areas of Uttar Pradesh is telephone. For the analysis of regional pattern of means of communication, tele-density (number of telephones per lakh rural population in a district) has been taken as an indicator for the study. There has been found a sharp difference between all the regions of the state. The data have been classified into four parts on the basis of quartile values (Table 4.10):

Low Tele-density (Below Quartile 1): Low tele-density is very much prevalent among the districts of eastern Uttar Pradesh. 11 districts are classified under this category from the eastern Uttar Pradesh. Important districts are Ambedkarnagar, Shravasti, Balrampur, Siddharthnagar, Basti, Sant Kabir Nagar, Maharajganj, Kushinagar, and Chandauli.

<table>
<thead>
<tr>
<th>REGION</th>
<th>LOW (&lt;688.92)</th>
<th>MEDIUM (688.92-1001.6)</th>
<th>HIGH (1001.6-1520.3)</th>
<th>VERY HIGH (&gt;1520.3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WESTERN</td>
<td>4 (15.38)</td>
<td>1 (3.84)</td>
<td>10 (38.46)</td>
<td>11 (42.31)</td>
</tr>
<tr>
<td>EASTERN</td>
<td>11 (40.74)</td>
<td>7 (25.93)</td>
<td>6 (22.22)</td>
<td>3 (11.11)</td>
</tr>
<tr>
<td>CENTRAL</td>
<td>1 (10.00)</td>
<td>6 (60.00)</td>
<td>1 (10.00)</td>
<td>2 (20.00)</td>
</tr>
<tr>
<td>BUNDELKHAND</td>
<td>1 (14.28)</td>
<td>3 (42.86)</td>
<td>2 (28.58)</td>
<td>1 (14.28)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>17 (24.28)</td>
<td>17 (24.28)</td>
<td>19 (27.15)</td>
<td>17 (24.28)</td>
</tr>
</tbody>
</table>


Medium Tele-density (Between Quartile 1 and Quartile2): Most of the districts in this category belong particularly to eastern Uttar Pradesh. Six districts of central region also belong to this group. Some of the important districts which come in this category are
UTTAR PRADESH
TELE-DENSITY
(2008)

Number of Telephones
(Per Lakh Population)

- LESS THAN 688.93
- 688.93 - 1001.60
- 1001.60 - 1520.30
- MORE THAN 1520.30

1 cm = 100 km
Bahraich, Gonda, Deoria, Azamgarh, Ballia, Sant Ravidas Nagar Bhadohi, Mirzapur, Kheri, Sitapur, Hardoi and Rae Bareli.

**High Tele-density** (Between Quartile2 and Quartile3): High tele-density means higher level of communication system in the region. And higher level of communication facility means overall higher development. Most of the districts under this group belong to western Uttar Pradesh. Such districts are Moradabad, Rampur, Jyotiba Phule Nagar, Baghpat, Aligarh, Firozabad, Mainpuri, Bareilly etc. From eastern Uttar Pradesh, six districts come under this group. These are Sultanpur, Mau, Jaunpur, Ghazipur, Sonbhadra, and Faizabad.

**Very High Tele-density** (Above Quartile3): Very high tele-density is very much dominant by the districts of western Uttar Pradesh. Out of 17 districts in this group, seven belong to western part of the state. The districts which fall in this category are Saharanpur, Muzaffarnagar, Bijnor, Meerut, Ghaziabad, Gautam Buddha Nagar, Bulandshahr, Mathura, Agra, Farrukhabad and Kannauj. Three districts which come from eastern Uttar Pradesh are Varanasi, Gorakhpur, and Allahabad. All these districts have big urban centre which have great influence on the accessibility to telephones and means of communication.

In short we can come to the conclusion that there is a concentration of high tele-density in the western part of the state in comparison to other parts of the state. On the other hand, low and medium tele-density is particularly concentrated in the districts of eastern Uttar Pradesh.

If we draw a cursory glance over the above discussion, it becomes very much evident that phenomena of rural development have been very much attributed by the agricultural development. The areas which have got a thrust in the form of Green revolution in 1970s got an early start in the field of agricultural development. In return, they also excelled in the field of infrastructure and socio-economic development. The rural areas in the districts of western Uttar Pradesh like Ghaziabad, Gautam Buddha Nagar, Meerut, Baghpat, Bulandshahr etc. are well developed in comparison to the rural areas of eastern and Bundelkhand region of Uttar Pradesh. The districts like Ghaziabad, Gautam Buddha Nagar, Meerut, Baghpat, Bulandshahr, Mathura, Lucknow and Auraiya show a very high level of overall rural development. These districts have also an impact
of nearness from the very big metropolitan centres like Delhi. Lucknow is the capital therefore; it is very obvious that it would have a high level of rural development.

The districts like Farrukhabad, Kanpur Nagar, Varanasi, Etawah, Jalaun, Barabanki, Mainpuri, Rae Bareli, Muzaffarnagar, Kanpur Dehat, Saharanpur and Aligarh also show high level of rural development. Basically these districts either have the impact of green revolution in their development or they have some nearness effect from the big urban centres where the overall infrastructure and basic amenities are very adequate. Districts like Unnao, Deoria, Hamirpur, Bijnor, Jhansi, Pratapgarh, Shahjahanpur, Agra, Faizabad, Firozabad etc. exhibit moderate level of rural development. On the other hand, the districts of eastern Uttar Pradesh like Ghazipur, Mau, Azamgarh, Gorakhpur, Basti, Gonda, Siddharthnagar, Sant Kabir Nagar, Bahraich, Maharajganj, Shravasti, Kushinagar, and Balrampur show either medium or low level of rural development. So, it is very much evident from the above discussion that there has been a general regional trend of decreasing rural development from the western Uttar Pradesh towards the eastern Uttar Pradesh with a few exceptions in between like Varanasi.

4.3. Outmigration from Uttar Pradesh at the District Level

The inter-state outmigration from Uttar Pradesh has already been discussed in the previous chapter. The present discussion is entirely based on the outmigration from rural Uttar Pradesh at the district level. The present study has taken rural male outmigration to be discussed as an indicator of outmigration from the rural areas because most of the males are migratory because of economic reason which is generally attributed by the level of development in a region. Since we have to analyze the relationship between the level of rural development and rural outmigration, male migration from rural areas, therefore, will be more viable indicator for this study. The discussion would comprise of the level of out migration on the basis of two variables:

1. Rate of Intra-district Rural Male Outmigration
2. Rate of Inter-district Rural Male Outmigration (within the state only)
4.3.1 Intra-District Rural Male Outmigration

Intra-district rural male out-migration rate is defined as the proportion of total rural male migrants to total rural male population of the district within the district boundaries. It means the migration of male from rural areas to the urban and to the rural areas within the district boundary during a distinct time period is called as intra-district rural male out-migration. Rapid growth of population causes big family size which in turn gives rise to high level of demographic dependency ratio, higher labour land ratio and decreasing farm size. This ultimately converts into high rate of rural poverty. Apart from this, many rural areas in the country witness the low farm productivity. So, the on farm employment opportunities diminish and many times people are severely in the grip of the debt trap. In such conditions, it is very difficult for the person specially the responsible male member to remain at the native place as he does not have any source of income to earn his and his families bread. And it is very much pertinent that household heads and senior members of the households have social and economic responsibilities of the family in India. In such conditions, people migrate to the nearest rural or urban centres where they can get a job, win bread and look after the family as well. Such centres are most often situated within the district.

Besides this, "Eat less and live near" is the well known propositions, although not necessarily among all the villagers but among the most of the rural folks of Uttar Pradesh which restricts the migrants to move out towards a distant place. Therefore, majority of the migrants migrate within the district. One of the most important things which is necessary to be mentioned here is that most of the intra-district outmigration is constituted by the females as in most of the cases the relationships are built in nearby places for social and cultural reasons. People from adjacent territorial units are generally familiar with each other and it gives a sense of social security among the people while bonding matrimonial ties. Therefore, intra-district rural out-migration is very much attributed by female migration in Uttar Pradesh.

But the present study is entirely focused on male outmigration due to its relation with the level of development and economy of the region. The highest intra-district rural male out-migration is seen in Ghaziabad (6.65 percent) which has attracted many migrants from the rural areas towards city areas because of its rapid industrialization and
increasing employment opportunities. The lowest intra-district rural outmigration has been witnessed in Balrampur (1.35 percent). The level of intra-district rural male outmigration in the districts of Uttar Pradesh can be classified into following four groups depending on the quartile values of their migration rate:

**Low Intra-district Rural Male Outmigration Rate (Below Quartile 1):** Intra-district rural outmigration is very decided by the level of development in the district itself. Higher the level of development in the region, lesser would be the chances of migration outside the region. It suggests that low intra-district rural male outmigration rate will correspond to low level of development in the region because intra-district outmigration is also intra-district in-migration. Low level of intra-district rural male outmigration is a characteristic feature of the eastern Uttar Pradesh where more than 44 percent of the districts fall in this category. The districts which fall in this category are Kaushambi, Faizabad, Ambedkarnagar, Bahraich, Shravasti, Balrampur, Gonda, Sant Kabir Nagar, Kushinagar, and Ghazipur. Most of the districts belong to Terai Belt and have fewer adequacies of resources. Some of the districts of western Uttar Pradesh also belong to this group. These districts are Hathras, Budaun, and Farrukhabad etc. None of the districts from Central as well as Bundelkhand region exhibit low level of rural male outmigration at the intra-district level.

**Table 4.11**

<table>
<thead>
<tr>
<th>Region</th>
<th>LOW (&lt;1.83)</th>
<th>MEDIUM (1.83-2.13)</th>
<th>HIGH (2.13-2.64)</th>
<th>VERY HIGH (&gt;2.64)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WESTERN</td>
<td>5 (19.23)</td>
<td>5 (19.23)</td>
<td>8 (30.77)</td>
<td>8 (30.77)</td>
</tr>
<tr>
<td>EASTERN</td>
<td>12 (44.44)</td>
<td>11 (40.74)</td>
<td>3 (11.11)</td>
<td>1 (3.70)</td>
</tr>
<tr>
<td>CENTRAL</td>
<td>0 (0.00)</td>
<td>2 (20.00)</td>
<td>3 (30.00)</td>
<td>5 (50.00)</td>
</tr>
<tr>
<td>BUNDELKHAND</td>
<td>0 (0.00)</td>
<td>1 (14.28)</td>
<td>1 (14.28)</td>
<td>5 (71.44)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>17 (24.28)</td>
<td>18 (25.71)</td>
<td>17 (24.28)</td>
<td>18 (25.71)</td>
</tr>
</tbody>
</table>

*Source: Table D-11, Census of India 2001.*

**Medium Intra-district Rural Male Outmigration Rate (Between Quartile1 and Quartile2):** Of the total 70 districts, 18 districts of the state fall in this group. This group also have higher proportion of districts from eastern Uttar Pradesh (11 districts), followed by western (5 districts) and Central region (2 districts). Only one district (Mahoba) of Bundelkhand region falls in this group of moderate level of intra-district rural male
Map 4.11

UTTAR PRADESH
INTRA-DISTRICT RURAL MALE OUTMIGRATION
(2001)

Intra-District Rural Male Outmigration

1 cm = 100 km

0 50 100 200 300
Kilometers

LESS THAN 1.83%
1.83% - 2.13%
2.13% - 2.64%
MORE THAN 2.64%
outmigration. Moreover, other districts belonging to this group are Pratapgarh, Sultanpur, Siddharthnagar, Basti, Gorakhpur, Deoria, Mau, Ballia, Jaunpur, Chaudauli, Varanasi, Moradabad, Rampur, Jyotiba Phule Nagar, Mainpuri, and Kanpur Nagar.

**High Intra-district Rural Male Outmigration Rate (Between Quartile2 and Quartile3):** High intra-district rural male outmigration rate is very common among the districts of Western Uttar Pradesh region where 8 districts fall in this category only. These districts are Saharanpur, Bijnor, Baghpat, Bulandshahr, Aligarh, Agra, Bareilly, and Pilibhit. Three districts each from eastern and central Uttar Pradesh region fall in this group. The districts are Sitapur, Rae Bareli, Fatehpur, Allahabad, Maharajganj, and Azamgarh.

**Very High Intra-district Rural Male Outmigration Rate (Above Quartile3):** Since very high level of intra-district rural male outmigration is also the intra-district immigration, so, it can be assumed that very high rate of intra-district rural male outmigration will definitely be a reason of great amount of pull factors applied in the region.

Very high rate of intra-district rural male outmigration seems to be a characteristic of western Uttar Pradesh region (8 districts) followed by central (5 districts) and Bundelkhand (5 districts) regions. Only one district (Sonbhadra) from eastern Uttar Pradesh falls in this category. Other districts which belong to this group are Muzaffarnagar, Meerut, Ghaziabad, Gautam Buddha Nagar, Mathura, Kheri, Lucknow, Unnao, Etawah, Kanpur Dehat, Jalaun, Jhansi, Lalitpur, and Hamirpur. Most of these districts have big urban centres which provide job opportunities to the local people migrating from the rural areas of the districts.

Intra-district rural outmigration can be said to be short distance movement. The cause of movement within the district of movement can be generalized as the districts having big urban centres, high infrastructure facilities, good socio-economic conditions have higher rate of intra-district rural male outmigration. The need for outmigration in most of the rural areas is due to the rapid growth of population to level beyond the carrying capacity of the land. This particular exercise concludes that most of the people go short distances provided they can avail most of the facilities in nearby places for which the migration is due.
4.3.2. Inter-District Rural Male Outmigration

The inter-district rural male outmigration can be defined as the proportion of total rural male migrants to total rural male population of the district migrating to another district during a definite time period. This incorporates migration from rural areas to urban areas as well as to rural areas. The phenomena of rapidly increasing population and its increasing pressure on social and economic infrastructure in rural areas are the features which has been common among most of the districts in Uttar Pradesh. The most important reasons among all the reasons of rural out-migration from the districts have been increasing pressure on land holdings due to increasing population. The farm size is decreasing day by day and people are not able to generate enough produce to sustain their livelihood. This factor is very much significant in case of males while the main reason for female rural outmigration is marriages.

The most of the inter-district rural male out-migration have been triggered by drought and flood. Uttar Pradesh is the land where both the conditions can be seen simultaneously over time and space. These are the conditions which make the season lean for agriculture. Apart from this, the location of urban industrial concentrations and major construction sites, within the state is a strong pull factor. Above all out-migration from a particular region perpetuates itself. The pioneer out-migrants not only generate more out-migration from their native areas but also determine the direction and sphere of the economic activities of their follower out-migrants in most of the cases. Thus rural unemployment and under-employment, increasing population, lack of adequate cultivable plots, increasing population pressure upon a very meager amount of land, chronic food and drought, almost a total lack of rural industries, acute shortage of basic amenities of life in the villages and so on make rural life completely stagnant and deadly, where from the peasants and workers are compelled to leave tottering villages and crowd into distant cities and other agriculturally prosperous regions (Kumar 2005: 78).

The present study is entirely based on the inter-district outmigration within the state boundaries only. The regional pattern of inter-district rural male outmigration does not show any pockets or clustering of low or high outmigration rate rather it present an even regional pattern of outmigration rate, although, a huge variation in the rate of inter-district rural male outmigration is found among the districts. Kanpur Dehat has a very
high rate of inter-district rural male outmigration rate (9.71 percent) due to its vicinity to Kanpur industrial city which provide huge employment opportunities to the rural folks of the region and destination of many of the rural male migrants from the neighboring districts. Kheri shows lowest (0.33 percent) inter-district rural male outmigration rate. The level of inter-district rural male out-migration in different regions as well as the different districts of Uttar Pradesh can be classified into following classes on the basis of the quartile values:

Low Inter-district Rural Male Outmigration Rate (Below Quartile 1): The low level of inter-district rural male outmigration is very much common in the eastern part of Uttar Pradesh. Since inter-district rural outmigration is more prevalent in those districts where there is proximity of big urban centres in neighboring districts, the rate of inter-district rural male outmigration is low in 10 districts of eastern Uttar Pradesh. Moreover, there has been a tradition of migration of bigger metropolitan cities rather than smaller or bigger towns (Premi 1980). So, the districts of Uttar Pradesh follow such patterns. The districts of eastern Uttar Pradesh which fall in this category are Kaushambi, Ambedkarnagar, Bahrain, Shrawasti, Balrampur, Siddharthnagar, Maharajganj, Kushinagar, Sant Ravidas Nagar Bhadohi and Sonbhadra. On the other hand, some districts of western Uttar Pradesh (5 districts) and Bundelkhand region (2 districts) also fall in this category. These districts are Saharanpur, Bijnor, Jyotiba Phule Nagar, Pilibhit, Kheri, Lalitpur and Kheri. Most of the above mentioned districts are situated away from the districts which either have high infrastructural, socio-economic facilities or big urban centres.

Medium Inter-district Rural Male Outmigration Rate (Between Quartile1 and Quartile2): Medium inter-district rural male outmigration is very common among the district of western Uttar Pradesh region. Of the total 26 districts, 10 districts of the western Uttar Pradesh fall in this category. These districts are Moradabad, Rampur, Ghaziabad, Mathura, Agra, Firozabad, Budaun, Bareilly, Shahjahanpur, and Auraiya. Apart from this, there are 9 more districts come in this category. These districts are Sitapur, Lucknow, Rae Bareli, Kannauj (from Central region), Jhansi, Mahoba (from Bundelkhand region), Allahabad, Sant Kabir Nagar, and Chandauli (from Eastern region). These districts show a moderate level of inter-district male rural outmigration
UTTAR PRADESH
INTER-DISTRICT RURAL MALE OUTMIGRATION (2001)

Inter-District Rural Male Outmigration

- LESS THAN 1.36%
- 1.36% - 1.92%
- 1.92% - 2.70%
- MORE THAN 2.70%

1 cm = 100 km

Map 4.12

UTTAR PRADESH
INTER-DISTRICT RURAL MALE OUTMIGRATION (2001)
Table 4.12

Number of Districts Classified by Rate of Intra-district Rural Male Outmigration in Different Regions of Uttar Pradesh (2001)

<table>
<thead>
<tr>
<th>Region</th>
<th>LOW (&lt;1.36)</th>
<th>MEDIUM (1.36-1.92)</th>
<th>HIGH (1.92-2.70)</th>
<th>VERY HIGH (&gt;2.70)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WESTERN</td>
<td>5 (19.23)</td>
<td>10 (38.46)</td>
<td>2 (7.69)</td>
<td>9 (34.62)</td>
</tr>
<tr>
<td>EASTERN</td>
<td>10 (37.04)</td>
<td>3 (11.11)</td>
<td>10 (37.04)</td>
<td>3 (11.11)</td>
</tr>
<tr>
<td>CENTRAL</td>
<td>0 (0.00)</td>
<td>4 (40.00)</td>
<td>3 (30.00)</td>
<td>3 (30.00)</td>
</tr>
<tr>
<td>BUNDELKHAND</td>
<td>2 (28.57)</td>
<td>2 (28.57)</td>
<td>2 (28.57)</td>
<td>1 (14.29)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>17 (24.28)</td>
<td>18 (25.71)</td>
<td>17 (24.28)</td>
<td>18 (25.71)</td>
</tr>
</tbody>
</table>


because most of these districts are big urban centres and can soak most of the out-migrating population to other districts.

High Inter-district Rural Male Outmigration Rate (Between Quartile2 and Quartile3): Of the total 17 districts falling in this category, 10 belong to eastern part of Uttar Pradesh. These districts are Pratapgarh, Sultanpur, Gonda, Basti, Azamgarh, Mau, Jaunpur, Varanasi, and Mirzapur. Most of these districts are situated to the districts which have big urban centres like Lucknow, Allahabad, Varanasi and Gorakhpur. These cities attract many migrants from the above mentioned districts. Two districts each from western and Bundelkhand region fall in this group. These districts are Muzaffarnagar, Hathras, and Banda. Three districts (Hardoi, Kanpur Nagar, and Jalaun) of Central Uttar Pradesh also fall in this category.

Very High Inter-district Rural Male Outmigration Rate (Above Quartile3): Very high rate of inter-district rural male out-migration can be described as a characteristics of those regions where either there is a lack of adequate resources (push factors) or other developed regions with good infrastructure facilities (pull factors) are situated in the vicinity of those places. Very high rate of inter-district rural male outmigration is very much prevalent in the districts of western Uttar Pradesh. Of the total 18 districts, 9 districts belong to the western region. These districts are Meerut, Baghat, Gautam Buddha Nagar, Bulandshahr, Aligarh, Etah, Mainpuri, Farrukhabad, and Etawah. Three districts each from central and eastern Uttar Pradesh and one district (Hamirpur) from Bundelkhand district fall in this category. These districts are Unnao, Kanpur Dehat, Fatehpur, Faizabad, Gorakhpur, Deoria, and Ballia. Most of these districts have big urban
centres in their vicinity in their neighboring districts to soak up the exodus of the people from those districts.

Therefore, it can be concluded that the districts which have more developed infrastructure have higher level of intra-district rural male outmigration. And on the other hand, the districts which are situated in the vicinity of big urban centres in other districts have higher rate of inter-district rural male outmigration.

4.4. Interrelationship between Rural Development and Rural Outmigration

Rural development is considered to be highly linked with phenomena of outmigration as discussed earlier. Rural development and rural outmigration seem to be cause and effect of each other in the long run. Rural outmigration is also considered to be the harbinger of socio-economic change in the rural society. Before looking into the causal relationship between migration and rural development through stepwise regression analysis an attempt has been made to see correlation of rural development and rural outmigration in the following section:

4.4.1 Correlation Analysis

Rural male outmigration has been taken as the indicator of outmigration from the rural areas since male migration is mostly characterized and stimulated by the factors of rural development. Table 4.13 indicates the zero order correlation matrix of the indicators of rural development (explanatory variables) and rural outmigration (dependent variables). The matrix suggests that in general level of agricultural development is positively correlated with the intra-district rural male outmigration while most of the rural development indicators show negative correlation with the inter-district outmigration.

Literacy is one of the most important aspects of socio-economic development of any society. In the correlation matrix highest positive correlation coefficient with intra-state rural male outmigration is found with literacy ($r=0.497$, significant at 1 percent level of significance). Apart from this literacy also shows positive correlation with inter-district rural male outmigration ($r=0.297$, significant at 5 percent level of
The degree and nature of correlation between the phenomena depend on the distance of migration. In case of districts of Uttar Pradesh, very few people migrate to long distances for the education. Generally, it has been seen that after completing the primary and secondary education people further migrate to nearby cities of the same district where they can get higher secondary and graduate level education. At the same time such facilities may not be adequate in nearby places. So, the education also behaves as an important factor of rural outmigration to long distances (inter-district) as well but for very few people.

Table 4.13
Correlation Matrix of Intra-district and Inter-district Rural Male Outmigration with Variables of Rural Development in Districts of Uttar Pradesh (2001)

<table>
<thead>
<tr>
<th>Variables (Independent/Dependent)</th>
<th>Intra-district Rural Male Outmigration</th>
<th>Inter-district Rural Male Outmigration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Density</td>
<td>-0.303*</td>
<td>0.27</td>
</tr>
<tr>
<td>Rural Literacy</td>
<td>0.497**</td>
<td>0.297*</td>
</tr>
<tr>
<td>Average Farm Size</td>
<td>0.281*</td>
<td>-0.418**</td>
</tr>
<tr>
<td>Net Area Sown to Total Geog. Area</td>
<td>0.345*</td>
<td>0.124</td>
</tr>
<tr>
<td>Consumption of Fertilizer</td>
<td>0.329*</td>
<td>-0.313*</td>
</tr>
<tr>
<td>Primary Agricultural Loan Providing co. Societies</td>
<td>-0.227*</td>
<td>0.143</td>
</tr>
<tr>
<td>Percentage of Electrified Villages</td>
<td>0.277*</td>
<td>-0.236*</td>
</tr>
<tr>
<td>Number of Primary Schools/Lakh Population</td>
<td>0.13</td>
<td>0.171</td>
</tr>
<tr>
<td>Hospitals/PHCs</td>
<td>0.236*</td>
<td>-0.298*</td>
</tr>
<tr>
<td>Tele-density</td>
<td>0.347**</td>
<td>-0.262*</td>
</tr>
</tbody>
</table>

*=Significant At 5% Level  **=Significant At 1% Level

The average size of the farms shows a positive correlation (=0.281) with intra-district rural male outmigration but it bears a negative correlation (r=-0.481) with the inter-district outmigration. It means that larger the size of the farms higher will be the shortest migrations and it will reduce the medium distance out-migration. The relationship between these indicators is significant at 1% and 5% level of significance.

The Table 4.13 also shows that net sown area is positively correlated with both intra-district (r=.345) and inter-district (r=.124) rural male outmigration. The value of correlation coefficient for intra-district rural outmigration is significant at 5% level of significance while for inter-district rural outmigration it is not significant. Thus, it
suggests that any positive change in net sown area will stimulate both intra-district and inter-district rural male outmigration.

Application of fertilizers per hectare of land is another important and significant parameter and input to measure the level of agricultural development. The increase in use of fertilizer would bring a significant positive change in agricultural productivity, which in turn will lead towards agricultural development. The consumption of fertilizers is positively associated with intra-district outmigration which is substantiated by the positive bearing of correlation coefficient $r = -0.329$. On the other hand, application of fertilizers in the field is negatively correlated with inter-district out-migration and the values of correlation coefficient are found to be significant at 5% level of significance.

Intra-district rural male outmigration from rural areas is negatively correlated with the presence of loan cooperative societies while inter-district migration is positively correlated. On one hand the correlation coefficient between intra-district rural male outmigration and loan cooperative ($r = -0.227$) societies are significant at 5 percent level of significance but on the other hand correlation between inter-district rural male outmigration ($r = 0.143$) is not significant. The loan cooperative societies make the peasants more economic secure and confident. This is the reason why the peasants can relieve some of the members of the household to move to the distant places to earn more from some other sources. The effect of cooperative societies on long distant migration is not significant, though it seems to be a push factor to some extent.

Electricity is one of the important aspects necessary for the multi-dimensional development of villages since it has many uses in the production process. It also enables the usage of consumer goods like many electric appliances in day to day life. From the correlation matrix it is evident that it has a dual impact on the outmigration phenomenon. On one hand it promotes the rural outmigration at local level since it is positively correlated ($r = 0.272$) to intra-district rural male out migration and on the other hand it inhibits the long distant outmigration from the rural areas as it is negatively correlated ($r = -0.236$) to the inter-district rural male outmigration. Both the values of correlation coefficient are significant at 5 percent level of significance. Many of the districts in Uttar Pradesh have households industries like power loom and handloom which need electricity to run and further it will need more hands to work and ultimately it inhibits
long distance outmigration. Apart from this where electricity is accessible for the people, the rural folks can avail the services of pumping set and other electrical appliances in the field, which eventually enhance the farm productivity and can sustain big families and therefore restrain long distance outmigration from the rural areas.

Telephone is one of the fastest modes of communication in the day to day life. The facility of telephone seems to have a very high correlation both with the intra-district and inter-district male outmigration from the rural areas. On one hand intra-district male outmigration is positively correlated with telephone facility while on other hand inter-district male outmigration is negatively correlated. The correlation coefficient between intra-district male outmigration and telephone facility is $r = 0.347$, while for inter-district outmigration it is $r = -0.262$ and these values are significant at 1 percent and 5 percent level of significance respectively. It can be inferred that people with telephone facility generally do not prefer to migrate long distances (inter-district) rather they migrate to nearby towns from where they can be in touch with the family in the rural areas by means of developed communication system.

Agricultural density is also an important indicator of population resource ratio of a region. The correlation between agricultural density and intra-district rural male outmigration is computed as negative, while it is positively correlated with inter-district rural male outmigration (though not significantly). It infers that wherever agricultural density is high, people will prefer to go long distances rather than short destinations.

The facilities like education in form of availability of primary schools and health facilities like availability of hospitals also seem to affect the rural outmigration. But here their role in deciding the outmigration from rural areas is not significant. But both the factors are positively correlated with the outmigration from rural areas for near and distant places.

The above discussion can be summarized by saying that the high level of rural development leads towards short distant (intra-district) outmigration from the rural areas while low level of rural development stimulates the medium level (inter-district) outmigration from rural areas in the districts of Uttar Pradesh.
4.4.2 Stepwise Regression Analysis

To explain the relationship of each of the explanatory variable in analysing rural outmigration, stepwise regression analysis has been carried out in the following section. It has been used to avoid the problem of multi-collinearity. Different indicators of rural development (independent variables) have been used besides inter-district and intra-district rural male outmigration (dependent variables). Although, stepwise regression analysis has its own flaws as it eliminates highly correlated variables. It can be used effectively when there are prior guidelines as well as the number of variables is also small. Stepwise regression analysis enquires about the contribution about an added variable in explaining the dependent variable. It also helps in identifying that whether the inclusion of a particular variable is worth enough or not. Apart from this, it also keeps vigil over the changes in the value regression coefficient and standard error. In this analysis, the contribution of independent variables has been tested by t-test. Furthermore, F ratio is also computed to test the goodness of fit. Adjusted R square is the square of multiple correlation coefficients adjusted to the degree of freedom that indicates the proportion of total variance accounted for by the equation. The stepwise regression discussion has been classified into two heads:

I. Intra-district Rural Male Outmigration and Rural Development
II. Inter-district Rural Male Outmigration and Rural Development

Intra-district Rural Male Outmigration and Rural Development

Table 4.14 shows the stepwise regression results for intra-district rural male outmigration and rural development variables. The table suggests that the literacy alone explains 20.7 percent variation in the intra-district rural male outmigration. The values of regression coefficient and F are also significant at 1 percent level of significance. In the second step, another variable, percentage of net area sown to total area has been added. The value of R square increase by .049 which indicates that the variable net area sown to total area alone defines 4.9 percent variation in the intra-district rural male outmigration. The F value and regression coefficient are again significant at the 1 percent level of significance. In third step, the next variable Primary agricultural loan cooperatives...
societies has been included. This time the value of R square has been increased by .051 point. It means that a Primary agricultural loans cooperative society alone explains 5.1 percent of the variations in rural male outmigration at intra-district level. The regression coefficient and F values are significant at the 1 percent level of significance. In the fourth stage, another variable named number of telephones per lakh population have been added. After including this variable, the R square value has increased by .084 points.

Table 4.14
Stepwise Regression Results of Intra-District Rural Male Outmigration and Different Variables of Rural Development (2001)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Intercept</th>
<th>Regression Coefficient</th>
<th>t</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Increase in R Square</th>
<th>F</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X₂</td>
<td>-1.697</td>
<td>0.455</td>
<td>4.183**</td>
<td>0.207</td>
<td>0.195</td>
<td>17.495**</td>
<td>0.017</td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X₂</td>
<td></td>
<td>0.479</td>
<td>4.484**</td>
<td></td>
<td></td>
<td></td>
<td>0.016</td>
<td></td>
</tr>
<tr>
<td>X₄</td>
<td>-4.137</td>
<td>0.222</td>
<td>2.077**</td>
<td>0.256</td>
<td>0.233</td>
<td>0.049</td>
<td>11.336**</td>
<td>0.015</td>
</tr>
<tr>
<td>Step 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X₂</td>
<td></td>
<td>0.514</td>
<td>4.891**</td>
<td></td>
<td></td>
<td></td>
<td>0.016</td>
<td></td>
</tr>
<tr>
<td>X₄</td>
<td></td>
<td>0.24</td>
<td>2.300*</td>
<td></td>
<td></td>
<td></td>
<td>0.015</td>
<td></td>
</tr>
<tr>
<td>X₆</td>
<td>-5.703</td>
<td>0.23</td>
<td>2.198*</td>
<td>0.307</td>
<td>0.275</td>
<td>0.051</td>
<td>9.607**</td>
<td>0.0124</td>
</tr>
<tr>
<td>Step 4</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>X₂</td>
<td></td>
<td>0.411</td>
<td>3.912**</td>
<td></td>
<td></td>
<td></td>
<td>0.016</td>
<td></td>
</tr>
<tr>
<td>X₄</td>
<td></td>
<td>0.261</td>
<td>2.643**</td>
<td></td>
<td></td>
<td></td>
<td>0.014</td>
<td></td>
</tr>
<tr>
<td>X₆</td>
<td></td>
<td>0.326</td>
<td>3.138**</td>
<td></td>
<td></td>
<td></td>
<td>0.123</td>
<td></td>
</tr>
<tr>
<td>X₁₀</td>
<td>-5.802</td>
<td>0.328</td>
<td>2.976**</td>
<td>0.391</td>
<td>0.353</td>
<td>0.084</td>
<td>10.289**</td>
<td>0</td>
</tr>
</tbody>
</table>

*=significant at 5% level of significance, **=significant at 1% level of significance

Variables of Rural Development (Independent Variable):
X₂ = Rural Literacy
X₄ = Percentage of net area sown in total area
X₆ = Primary agriculture loan cooperative societies per lakh population
X₁₀ = Number of telephones/ Lakh population

Dependent Variable = Intra-district rural male outmigration

\[ Y = -5.802 + 0.411X₂ + 0.261X₄ + 0.326X₆ - 0.328X₁₀ \]

It suggests that availability of telephone alone explain 8.4 percent variations in the intra-district rural male outmigration. The F value and regression coefficient values are
again significant at the 1 percent level of significance. The overall R square value for the fifth step is .391. This suggests that these four variables alone explain 39.1 percent variations in the intra-district rural male outmigration.

In the fifth step, a new variable, number of primary school per lakh population has been added. This raises the value of R square 0.497. It infers that number of schools per lakh population alone causes 10.7 percent variation in intra-district rural male outmigration. At the sixth stage, the variable consumption of fertilizer per hectare has been included. This again raises the value of R square to 0.562. It explains that the above mentioned six variables alone explain 56.2 percent variation in the intra-district rural male outmigration phenomena.

In short we can say that all the above mentioned variables of rural development promote intra-district outmigration. It means that rural development restricts the migrants to local areas and it stimulates short distance migration. It is also be noted that although there could be more factors other than these which can cause the short distance outmigration which will be further analyzed in the primary analysis of the field survey data in the subsequent chapters.

**Inter-district Rural Male Outmigration and Rural Development**

Table 4.15 suggests that a telephone per lakh population (Explanatory variable) is the most important variable of inter-district rural male outmigration. It alone explains 53.3 percent variation of inter-district outmigration. It is also significant at 1 percent level of confidence and F value is also significant at 1 percent level of significance. The equation suggests that telephone availability has negative effect on inter-district rural male outmigration. It concludes that higher level of communication does not encourage long distance movement (inter-district) in the districts of Uttar Pradesh. The inclusion of Agricultural Density variable in Step 2 improves the overall fitness of the equation considerably as the value of R square increase from .533 to .646 and Adjusted R square from .526 to .636. Thus, the contribution of agricultural density alone constitutes 11.3 percent in the explanation of intra-district outmigration. The regression coefficient and F value are also significant at 1 percent level. Moreover, agricultural density also affects
the intra-district rural male outmigration positively. If the agricultural density is high in a district, it will promote the people to migrate outside the district so that population resource ratio can be minimized. Again in Step 3, the same process has been repeated and the new variable percentage of net area sown to total area has been added. Again the value of R square is increased by .088 points.

Table 4.15
Stepwise Regression Result of Inter-District Rural Male Outmigration and Different Variables of Rural Development (2001)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Intercept</th>
<th>Regression Coefficient</th>
<th>t</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Increase in R Square</th>
<th>F</th>
<th>SE</th>
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<td>.533</td>
<td>.526</td>
<td>77.534**</td>
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<tr>
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<td>-.650</td>
<td>-8.710**</td>
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<tr>
<td>X1</td>
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<td>-4.673**</td>
<td>.646</td>
<td>.636</td>
<td>.113</td>
<td>61.210**</td>
<td>.001</td>
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<td>X10</td>
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<td>-.612</td>
<td>-9.319**</td>
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<td>4.681**</td>
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<td>.722</td>
<td>.088</td>
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<tr>
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<td></td>
</tr>
<tr>
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<tr>
<td>X10</td>
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<tr>
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<td>-8.091**</td>
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<td>5.494**</td>
<td>.794</td>
<td>.781</td>
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<td>-4.335**</td>
<td>.303</td>
<td>2.456*</td>
<td>.812</td>
<td>.797</td>
<td>.018</td>
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<td>.797</td>
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<td>-3.900**</td>
<td>.163</td>
<td>2.991**</td>
<td>.835</td>
<td>.819</td>
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<tr>
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<td>-2.972**</td>
<td>.163</td>
<td>2.991**</td>
<td>.835</td>
<td>.819</td>
<td>.023</td>
<td>.301</td>
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</table>

*=significant at 5% level of significance. **=significant at 1% level of significance

Variables of Rural Development (Independent Variable)
X1 = Agricultural Density
X2 = Average size of farms (in hectares)
X3 = Percentage of net area sown to total area
X4 = Percentage of electrified villages in total inhabited villages
X5 = Number of allopathic hospitals, dispensaries and Public Health Centres per lakh population
X6 = Number of telephones per lakh population
Dependent Variable = Inter-district rural male outmigration

Y = 98.185 - .488X10 - .517X1 + .349X4 - .252X9 + .163X5 - .169X7

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It means the newly included variable alone describe the inter-district rural male outmigration by 8.8 percent. This value is also significant at 1 percent level of significance. Higher percentage of net area sown to total geographical area will definitely cause more acreage for cultivation. This will cause more production and in result will relieve some members of the households to move long distances to do some other job. The person engaged in another job can become a source of income from means other than agriculture.

In the fourth step, the new variable average size of the farm has been added to the above mentioned variables. Again the value of R square is increased by .060 points. It suggests that newly included variable (average size of the farm) describe the dependent variable by 6 percent. The value of regression coefficients and F are also significant at 1 percent level of significance. Average size of the farm also has an inverse relationship (table 4.13) with inter-district rural male outmigration. Bigger farm size will require more labour for agriculture and therefore will inhibit inter-district male outmigration.

In the fifth and sixth stage, number of hospitals and percentage of electrified villages have been added respectively. Both the variables describe the equation by 1.8 percent and 2.3 percent respectively on their own. The equation suggests that these five variables alone explain 83.5 percent variation in the inter-district rural male outmigration.

4.5. Summary and Conclusions:

This chapter has tried to briefly illustrate the regional pattern of rural development along with rural outmigration both at the regional and district level in Uttar Pradesh. Although, the result of the analysis does not show any distinct clustering of any of the characteristics, the analysis of rural development and rural outmigration in Uttar Pradesh explains that level of rural development is generally high in western districts in comparison to other regions of Uttar Pradesh. Apart from this, some pockets of central Uttar Pradesh also experience higher level of rural development, while low level of rural development can be witnessed as a common feature among the districts of eastern Uttar Pradesh region. As far as the migration is concerned intra-district rural male outmigration is very common among the districts of western and central regions of Uttar Pradesh.
Pradesh. The reason behind that is, that most of these districts have big urban centres like Ghaziabad, NOIDA, Lucknow, and Kanpur which attract the population from the hinterland to cities within the district itself. On the contrary low rate of intra-district rural male outmigration can be witnessed in the districts of eastern Uttar Pradesh. The pattern of inter-district rural male outmigration is very evenly distributed but the pockets of high rate of inter-district rural outmigration are very much prevalent among the districts of eastern Uttar Pradesh.

Comparatively high rural development in western districts has made people to think beyond food and clothes and they mostly migrate to the cities for better status and living conditions. Most of these people migrate towards the more developed cities in their vicinity and even within the districts like Ghaziabad, Lucknow, Kanpur, NOIDA and Meerut, which experience high intra-district as well as inter-district in-migration rate.

The districts in eastern Uttar Pradesh show high level of inter-district outmigration and a comparatively low level of agricultural productivity. In such cases the pressure on land mounts which causes people to migrate. At the same time, the literacy is also very low, so, the migrants are mostly unskilled labourers. This is the reason why they migrate to long distances where they can get the work at high rates of daily wages.

The low level of socio-economic and agricultural development leads towards long distant outmigration (inter-district) from the rural areas while the high level of development restricts the outmigration to local nearby areas. High level of education, social positions and money push people to migrate long distances to enjoy the best living conditions and amenities in big urban centres while low level of socio-economic standard pushes people to migrate to earn their bread and butter and such people are mostly unskilled so go nearby areas.

Most of the rural development indicators promote intra-district rural male outmigration while inhibiting long distance inter-district outmigration. So, in short we can conclude that rural development inhibits long distance outmigration from the rural areas and stimulate short distance outmigration in the districts of Uttar Pradesh.