NGJI, An International Peer-Reviewed Journal
NGSI-BHU, ISSN: 0027-9374/2020/1726
Vol. 66, No. 1, March 2020

Geographical Patterns of Multidimensional Poverty and Deprivation in Uttar Pradesh

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Abstract

Based on Census data (2011) by districts this study attempts to analyze the inter-district variations in the levels of poverty as well as levels of deprivation in Uttar Pradesh. To find out the magnitude of variations among indicators of poverty and deprivation; causal relationship between level of poverty (dependent) and explanatory indicators of deprivation (independent) have been taken into account. To fulfil the objectives, Z- score, coefficient of variation, and correlation coefficient techniques have been used in this study. The study reveals that 51 per cent districts of the state recorded high level (above state average) of poverty, while 40 per cent districts witnessed high level of deprivation. Similarly, 49 per cent and 60 per cent districts registered low level (below state average) of poverty and deprivation respectively. The level of poverty is high in southeastern part of the state, and it is low in the west northern part. The level of deprivation is high in the northeastern part and low in the western and central south parts of the study area. It has been found that infant mortality rate and illiteracy rate are the major determinants of high level of multidimensional poverty among the districts of Uttar Pradesh.

Keywords: poverty, deprivation, Z- scores, distinct region, spatial variation

Introduction

The Census of India (2011) shows that 28.30 per cent of rural poor and 25.70 per cent urban poor are below the poverty line. There exists a wide disparity in rural poverty across the Indian states. Uttar Pradesh is characterized by high rural poverty. It is home to 200 million people, 60 million of who are poor. The pace of poverty reduction in the state has been slower than the rest of the country. The meaning of poor may be obvious, but defining it is complex, because definitions of poverty vary across the space and time - sometimes measuring income and sometimes measuring spending - poverty is a slippery construct (Krueger, 2005). It is clearly socio - economic construct, this empirically based definition underscores its technical, economic, social, legal and political aspects of multi-dimensions. Poverty is a situation that gives rise to a feeling of a discrepancy between what one has and what one should have (Qureshi, 2004). Poverty can be also defined as a state or condition in which a person or community lacks the financial resources and essentials to enjoy a minimum standard of life and well-being that's considered acceptable in society. Generally,

poverty refers to the lack of minimum living standard and is measured by resources or income required to reach this minimum. It could be defined as the extreme low standard of living, in either absolute or relative terms to society. Absolute poverty, a household or an individual has to be poor if it fails to meet a subsistence level of living whereas the relative poverty approach focuses on the relative deprived units of society. The concept of absolute poverty is more relevant and applicable in the developing societies while the opinion of relative poverty fits to the developed societies. Absolute poverty refers to a state of deprivation and could be identified in terms of hunger and malnutrition.

Poverty is a state of deprivation and can be defined as social phenomenon where the part of a structure of the society could not meet even the minimum requirement of living (Khan et al., 2014). Deprivation in capabilities is the result of lack of opportunity signifying that society has not provided people with access to the means to develop or maintain essential human capabilities. It is reflected in a lack of basic capabilities, when people are unable to reach a certain level of basic achievements or functioning (Haldar and Roy, 2006). Deprivation is a relatively disadvantageous factor that prevents a part of society from participating in the development process. In other words, it is an outcome of the process that constrains reliable distinct portions of population to meet even the minimum requirements for their social development (Singhal and Gill, 1991). In a society, several forms of deprivation is usually observed. It witness to durable goods or assets and basic services or amenities and households dwelling characteristics. The existing literature indicates that one's socio- economic status and poverty are more or less related to deprivation (Ansary and Das, 2018). On this account, poverty and deprivation are multidimensional and they should be analyzed on the basis of multidisciplinary approaches, i.e., geographical, economic, social and political. Considering the various multidimensional aspects of poverty and deprivation there are need for a multidimensional poverty/deprivation index which may be helpful in scientific studies for the geographical distribution patterns (Mishra, 2011). In the spatial perspective, the geographical tools for multidimensional poverty analysis are better suited to estimate and evaluate the situation of hunger and deprivation spread over various regions. Poverty and deprivation, as a complex socio -economic phenomena and multidimensional problem have close association with the spatial scenario of assets and resources. Several researchers of India and abroad, namely, Alkire (2011), Nayak (2014), Dongde and Robert (2016), White (2017), Mridu and Mishra (2018) and Glassman (2019) have adopted the set of various parameters of indicators of multidimensional poverty as well as deprivation, include not only measures of income poverty and income inequality, but also educational disadvantages, health inequalities, unemployment and nature of worklessness. This will certainly reveal the complex nature of poverty and deprivation in a geographical area and also the need to tackle it through an inclusive approach.

The major objectives of the present study are, to analyze the spatial patterns of levels of poverty as well as levels of deprivation; to find out the dimensions of relationship between levels of poverty and levels of deprivation; to examine the indicator-wise magnitude of variations in poverty and deprivation and; to identify the levels of degree of relationship between socio - economic indicators of deprivation and levels of poverty in Uttar Pradesh. It is hypothesized that levels of

poverty and levels of deprivation are directly related.

The study area

The study area is located between the latitudinal extension of 23º 52′ N to 30º 25′ N and longitudinal extension of 77º 04′ E to 84º 38′ E (Figure 1). It is the highest populous states of India (2011), contributing to 16.49 per cent of the country's population, against 7.34 per cent of its share in the geographical area of the country. Density of population in the state is 829 persons per km² against national average of 382 persons per km². However, the state recorded less sex ratio of 912 females per thousand males against 943 registered by the country as a whole. The culture of study area is an Indian culture which has its roots in the Hindi and Urdu literature. It is one of the states out of Ten Indian States in terms of number of functioning district hospitals. The state mainly enjoys a tropical monsoonal climate with hot summers and cold winters. There are numerous types of minerals in the state and many industries have come up based on the minerals. From demographic-socio-cultural, political and economic point of view, the state represents the typical Indian conditions; therefore, it is an ideal field to study the geographical patterns of levels of multidimensional poverty and deprivation.

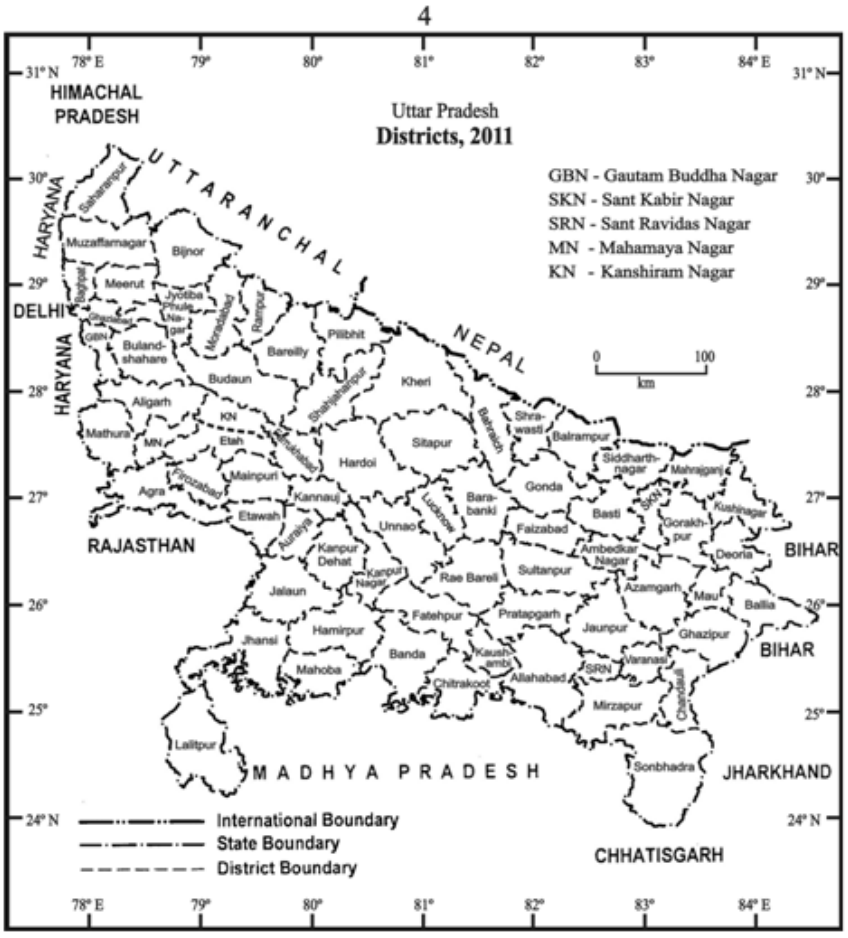

Figure 1: Location and extent of the study area

Data sources and methodology

The present study is entirely based on secondary sources of data, related to various parameters obtained from Census of India (2011) and Directorate of Economics and Statistics, Uttar Pradesh (2014). The district has been employed as the basic unit of the study. To identify the levels of poverty consolidated five multidimensional indicators: percentage of people not expected to survive to age 40 (Y_1), percentage of illiterate adults (Y_2), percentage of people without access to safe water (Y_3), percentage of people without access to health services (Y_4) and percentage of people without access to sanitation (Y_5). Three indicators on the three aspects of socio - economic deprivation has been considered for constructing the levels of deprivation, they are income deprivation: unemployment rate (X_1), health deprivation: infant mortality rate (X_2) and education deprivation: illiteracy rate (X_3). All indicators are selected keeping in mind the diversified conditions of multidimensional poverty and deprivation in the study area. In order to examine the spatial variations in the levels of poverty and deprivation at district level, Z- scores have been computed. Further composite Z- scores have been calculated by summing up the Z- scores of all the indicators. Similarly, indicator-wise coefficient of variation (CV) has been calculated to find out the variations in the levels of poverty and deprivation. The causal relationship between level of poverty and selected indicators of deprivation has been examined by applying Karl Pearson's technique of coefficient of correlation. Nature and extent of their relationship has been tested by applying t- test technique, to find out the determinants significant at the 0.01and 0.05 levels. Choropleth technique has been applied to show the spatial variations in the levels of poverty as well as levels of deprivation. Tables have also been prepared to interpret the results.

Results and discussion

Levels of poverty

The levels of poverty are marked by striking spatial variations among the districts of Uttar Pradesh. The scores of poverty vary widely in different parts of the study area from 4.75 for Pratapgarh district to -10.07 for Kanpur Nagar district with an overall average of 0.08 for the state as a whole. About 51 per cent districts have the scores above the state average on the positive scale (i.e., 'bad' sign). On the basis of the levels of poverty, the state has been conveniently divided into five types of areas (Figure 2).

Areas of very high level of poverty

The districts with composite Z-scores of more than 1.50 are categorized under the areas of very high level of poverty wherein twenty-five districts are counted (Table1). Among these, twenty-one districts namely, Pratapgarh ,Sultanpur, Barabanki, Rae Bareli, Siddharathanagar, Shrawasti, Bachraich, Sitapur, Gonda , Balrampur, Basti , Sant Kabir Nagar, Hamirpur , Mahoba , Unnao , Fatehpur, Banda, Chitrakoot, Ghazipur, Azamgarh and Hardoi having very high level of poverty is located in the souteastern part of the state (Figure 2). Remaining four districts of Kushinagar, Deoria, Mirzapur and Lalitpur belonging to this category of area scattered in eastern and southern parts of the study area. Thus, these areas of very high level of poverty have witnessed varying number of indicators where their performance is poor or very poor.

Areas of high level of poverty

The composite Z- score of the high level of poverty ranges between 0.50 and 1.50. Eight districts namely, Jaunpur , Kheri , Kanpur Dehat, Maharajganj , Ballia, Sonebhadra, Etah and Kanshiram Nagar fall in this category. Among these, two districts like Etah and Kanshiram Nagar constitute a mini region in

the western part of the state. Rest of the districts are scattered over the state. These areas are mostly characterized by high and medium levels of people without access to health services, safe water, sanitation, and people not survive to age 40 and adults illiteracy rate.

Areas of medium level of poverty

Nine districts of Mau, Budaun , Kaushambi , Chandauli, Mainpuri, Ambedkar Nagar, Faizabad, Shahjahanpur and Mathura, by recording Z- score values ranging between 0.50 to -0.50 fall under the category of medium level of poverty in the state. Two small regions are formed by two districts each located in western and eastern parts of the state (Figure 2).Thus, the average conditions of people not survive to age 40, adults illiteracy, without safe water as well as high proportion to people without sanitation for medium level of poverty in this area.

Table 1: Levels of poverty in Uttar Pradesh, 2011

Category	Composite Z- score	No. of districts	Percentage of total districts
Very high	More than 1.50	25	35.21
High	1.50 to 0.50	8	11.27
Medium	0.50 to -0.50	9	12.68
Low	-0.50 to -1.50	12	16.90
Very low	Less than -1.50	17	23.94
Total		71	100.00

Source : Calculated and compiled by the Author, based on Census of India, 2011; and Directorate of Economics and Statistics, 2014, Uttar Pradesh, Lucknow.

Note : A negative score value indicates that the level of poverty is better than the other, a positive the opposite.

Areas of low level of poverty

This category includes the districts registering the composite Z- score value ranging between -0.50 to -1.50. Twelve districts (Aligarh, Gorakhpur, Maharajganj, Sant Ravidas Nagar, Varanasi, Jalaun, Etawah, Auraiya, Farrukhabad, Kannauj, Pilibhit and Allahabad) fall under the low level of poverty. Three distinct regions comprising ten districts can be distinguished in the southwestern, eastern and western parts of the study area. The first region comprises the five districts of Farrukhabad, Kannauj, Etawah, Auraiya and Jalaun, second comprises the three districts, namely, Sant Ravidas Nagar,Varanasi and Allahabad; while the third includes two districts like Aligarh and Mahamaya Nagar. Two districts namely, Pilibhit and Gorakhpur belonging to this category of areas are scattered in the northern and eastern parts of the state and they fail to delimit any identifiable region. These areas of low level of poverty have witnessed to lack of basic needs recording to full majority of medium level of people not expected to survive to age 40, adult illiteracy, people without access to health services, sanitation as well as high level of people without safe water.

Areas of very low level of poverty

Comprising seventeen districts recording composite Z- score of less than -1.50 of poverty; this is the second largest area in terms of number of districts among all other areas described above. Twelve districts from these constitute a dominant and extensive contiguous region in the west northern part of the state. A

mini distinct region forming two districts of Agra and Firozabad are distinguished in the western part of the state. Remaining three districts of this slab (Jhansi, Kanpur Nagar and Lucknow) are far apart from the main region. Spatially speaking, that within this group of districts there are only eight districts of Bijnor, Meerut, Baghpat, Agra, Ghaziabad, Gautam Buddha Nagar, Lucknow and Kanpur Nagar having medium, low and very low levels of poverty with all the indicators taken up in this problem. These areas are mostly associated with very low proportion to people without sanitation, safe water and people expected to survive to age 40.This is good sign for reducing poverty level in the state.

Levels of deprivation

The composite Z- scores of deprivation vary from a maximum of 5.12 recorded by Budaun to minimum of -2.97 witnessed by Mathura district. The districts of Budaun, Bahraich and Shahjahanpur respectively have attain first, second and third position (on the positive scale, i.e., 'bad' sign) for the levels of deprivation in the state. On the other hand, the districts of Mathura, Gautam Buddha Nagar and Mau respectively recorded lowest level (on the negative scale, i.e., 'good' sign) of deprivation; whereas the state average is 0.05. On the whole, 40 per cent districts remain above the state average, while 60 per cent districts cannot cross the line of state average. Further, to describe the spatial variations in the levels of deprivation, following five categories of areas in a suitable manner, have been identified (Figure 2).

Areas of very high level of deprivation

Fourteen districts scoring composite Z-score more than 1.50 are included in this category of areas of very high level of deprivation (Table 2). A distinct region in northeastern part of the state comprises the all fourteen districts of Budaun, Bahraich, Shahjahanpur, Kanshiram Nagar, Rampur, Pilibhit, Shrawasti, Bareilly, Gonda, Etah, Sitapur, Hardoi, Balrampur and Moradabad. Leaving aside, the districts of Budaun, Bahraich and Shrawati have very high levels of infant mortality and illiteracy rates against high and low levels of unemployment rate. No doubt, infant mortality rate and illiteracy rate are the principal factors directly influencing to form this area of very high level of deprivation.

Areas of high level of deprivation

The composite Z- scores of the high level range between 1.50 to 0.50, nine districts are falling in this category (Table 2). Among these, Sant Kabir Nagar and Jyotiba Phule Nagar districts respectively have scored the highest (1.42) and lowest (0.59). Three distinct regions, small in size, are formed by two districts each under the areas of high level of deprivation. First and second regions, comprising the districts of Bijnor, Jyotiba Phule Nagar, Aligarh and Mahamaya Nagar lie in the western part of the state, while the third, located in the eastern part of the state to includes the districts of Basti and Sant Kabir Nagar. Rest of three districts of this slab (Firozabad,Hamirpur and Kheri) are scattered over the state and they do not form any identifiable region. Therefore, the area of high level of deprivation is strongly association with indicators of high levels of unemployment and medium levels of infant mortality and illiteracy rates.

Areas of medium level of deprivation

This category includes the districts registering the composite Z- score value ranging between 0.50 to -0.50. Eighteen districts (Deoria, Mainpuri, Muzaffarnagar, Siddharthanagar, Azamgarh, Barabanki, Farrukhabad, Kaushambi, Sant Ravidas Nagar, Rae Bareli, Sultanpur, Unnao, Pratapgarh, Agra, Kushinagar, Saharanpur, Allahabad and Etawah) fall under the medium level of deprivation. Nine districts among these form a

Table 2: Levels of deprivation in Uttar Pradesh, 2011

Category	Composite Z- score	No. of districts	Percentage of total districts
Very high	More than 1.50	14	19.72
High	1.50 to 0.50	9	12.68
Medium	0.50 to -0.50	18	25.35
Low	-0.50 to -1.50	16	22.53
Very low	Less than -1.50	14	19.72
Total		71	100.00

Source : Calculated and compiled by the Author, based on Census of India, 2011; and Directorate of Economics and Statistics, 2014, Uttar Pradesh, Lucknow.
Note : A negative score value indicates that the level of deprivation is better than the other, a positive the opposite.

contiguous distinct region in centraleast part of the state, another form in western part to includes the three districts of Mainpuri, Farrukhabad and Etawah, while, four districts form two distinct regions small in size, comprising two districts each, such as, Muzaffarnagar, Saharanpur, Deoria and Kushinagar, are located in western and eastern parts of the state respectively. All the districts have recognized various levels of performance ranging from high to very low in various indicators of deprivation. The area of medium level of deprivation has identified by the average levels of infant mortality rate and illiteracy rate and high level of unemployment rate.

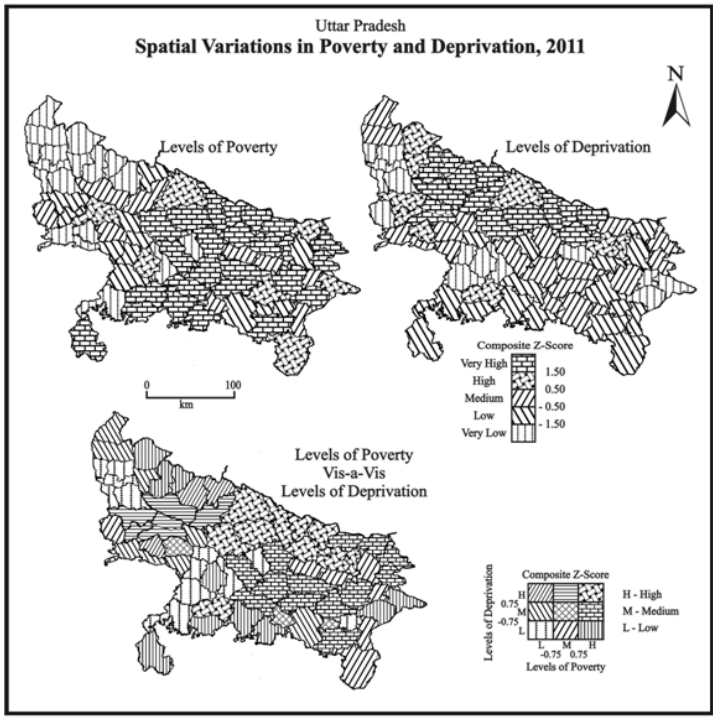

Figure 2: Spatial variation in poverty and deprivation

Areas of low level of deprivation

Sixteen districts recording composite Z-score values ranging between - 0.50 to -1.50 are considered as areas of low levels of deprivation. Fourteen districts among them form three distinct regions separately. First lies in the southern part to comprises the districts of Fatehpur, Banda, Chitrakoot, Mahoba, Lalitpur and Jhansi, second in the east southern part to includes the districts of Jaunpur, Mirzapur, Sonebhadra, Chandauli and Varanasi, while the third in the eastern part of the state recognized by the three districts, i. e., Maharajganj, Gorakhpur and Ambedkar Nagar. Two districts, namely, Lucknow and Kannauj belonging to this slab are scattered in the central part of the state (Figure2). Obviously, to come to the point of this area of low level of deprivation is associated with medium levels of unemployment and infant mortality as well as low level of illiteracy.

Areas of very low level of deprivation

This category of deprivation includes the fourteen districts recording composite Z-scores less than -1.50. The lowest district score is in Mathura (-2.97), followed by Gautam Buddha Nagar (-2.90),Mau (-2.59) and Baghpat (-2.32).Twelve districts among these constitute three identifiable regions in the state. First lies in the western part comprising the districts of Bulandshahare, Meerut, Ghaziabad, Baghpat and Gautam Buddha Nagar. Second ranges over the districts of Kanpur Dehat, Auraiya, Kanpur Nagar and Jalaun in a distinct form in the central south part of the study area. While the districts, namely, Ghazipur, Ballia and Mau make the third distinct region in the extremely eastern part of the state (Figure 2). Remaining two districts (Mathura and Faizabad) of this level are so scattered and they fail to form any recognizable region. Thus, the medium level of unemployment, low and very low levels of infant mortality and illiteracy are the strong factors responsible for the very low level of deprivation in the state.

Dimensions of relationship between poverty and deprivation

The spatial relationship between the levels of poverty and levels of deprivation among the districts of the state is dimensionally delineated in Figure 2. The abscissa indicates the levels of poverty and ordinate represents the levels of deprivation. The districts with reference to composite Z-score values of levels of poverty and levels of deprivation have been conveniently categorized in to three groups, i.e., high (more than 0.75), medium (0.75 to -0.75) and low (less than -0.75) respectively.

There are ten districts like Kheri, Sitapur, Hardoi, Hamirpur, Bahraich, Shrawasti, Balrampur, Gonda, Basti and Sant Kabir Nagar which have recorded high levels of poverty as well as high levels of deprivation. Nine districts among these form a distinct region in northeastern part of the state. Rest of only one district of Hamirpur is scattered in southern part of the state (Figure 2). It is interesting to note that this area is attributed to highly proportion to adults illiteracy, people without sanitation, unemployment and illiteracy. There are thirteen districts of Unnao, Rae Bareli, Fatehpur, Pratapgarh, Barabanki, Sultanpur, Siddharthanagar, Maharajganj, Kushinagar, Deoria, Azamgarh, Jaunpur and Mirzapur which have noted high level of poverty but medium level of deprivation. Twelve districts among these constitute two distinct regions in the central east and eastern parts of the state. It may be pointed out that this area is associated with high levels of not survive to age 40, without safe water and sanitation. The high level of poverty and low level of deprivation have been witnessed by ten districts, namely, Bijnor, Moradabad, Rampur, Kanpur Dehat, Lalitpur, Mahoba, Banda, Chitrakoot, Ballia and Ghazipur. Out of these eight districts form

three distinct regions in western, southern and eastern parts of the state (Figure 2). Rest of two districts, i.e., Kanpur Dehat and Lalitpur are disordered and they do not form any distinct region in this group. Thus, the high levels of all indicators are leading factors responsible for high level of poverty vi-a-vis low level of deprivation.

Six districts of Aligarh, Mahamaya Nagar, Budaun, Shahjahanpur, Etah and Kanshiram Nagar have counted medium level of poverty and high level of deprivation, constitute a distinct region in western part of the study area (Figure 2) . This area is enclosing association with total indicators of medium levels of poverty and deprivation. From this view point, it is very interesting to explore these patterns and find their correlates. The districts of Mainpuri, Kaushambi and Sant Ravidas Nagar are widely scattered and they fail to delimit any type of the area under the medium level of poverty as well as medium level of deprivation. There are seven districts of Mathura, Faizabad, Ambedkar Nagar, Gorakhpur, Mau, Chandauli and Sonebhadra which recognized under the medium level of poverty but low level of deprivation. Among these, a group of six districts constitute two distinct regions. One comprises the four districts of Faizabad, Ambedkar Nahar, Gorakhpur and Mau in eastern part, while the other comprising two districts namely, Chandauli and Sonebhadra in southern part of the state. The progress in this area has resulted medium levels of all indicators of poverty; and low and medium levels of all indicators of deprivation.

Three districts of Firozabad, Bareilly and Pilibhit have recorded low level of poverty and high level of deprivation. Among these, Bareilly and Pilibhit form a distinct region of small in size in western part of the state. It may be pointed out that medium and low levels of all indicators of poverty and high and medium levels of all indicators of deprivation, are the chief determinants boldly forming this area. Similarly, seven districts of Saharanpur, Muzaffarnagar, Agra, Etawah, Jyotiba Phule Nagar, Farrukhabad and Allahabad are witnessed with low level of poverty and medium level of deprivation. Among these, first four districts delimit two distinct regions of small in size on extremely western margin and west-southern corner of the study area (Figure 2). Rest of three districts are scattered and they do not construct any ideal region under this slab. There are twelve districts, namely, Meerut, Baghpat, Ghaziabad, Gautam Buddha Nagar, Bulandshahare, Lucknow, Kannauj., Auraiya, Kanpur Nagar, Jalaun, Jhansi and Varanasi which have identified under low level of poverty as well as low level of deprivation. Among these first ten districts form two distinct regions in western and central-west parts of the state. Remaining two districts, i. e., Lucknow and Varanasi are scattered over the central and eastern parts of the study area. This area may not attribute to one or two factors but two complex co-working factors. However, to mention a few of them, one has to consider the overwhelming dependence on deplorably low levels of people not expected to survive to age 40, adults illiteracy, without safe water, sanitation and illiteracy. These all have led to low levels of poverty vis-a-vis low levels of deprivation. To come into views from the above discussion that a dominant majority of high, medium and low levels of poverty as well as high, medium and low levels of deprivation districts within the group of dimensions of relationship was located in the state. It may also be noted that the state as a whole, has witnessed medium levels of both poverty and deprivation. This situation is most challenging for Uttar Pradesh.

Variations in the indicators of poverty and deprivation

Indicator-wise magnitude of variations in levels of poverty and deprivation has been presented in this study by calculating coefficient of variation (Table 3). The calculated value of CV lies between 0 to 1. In case of perfect equality, i.e., no variation at all the value of CV will be 0 and higher the calculated value of CV, more is the level of variation and vice -versa. Maximum variation in poverty level has been witnessed in case of Y_3 (48.79) followed by Y_2 (32.22), Y_5 (18.87), Y_1 (15.61) and Y_4 (6.88) (Table 3). Similarly, maximum variation in deprivation has been noticed in infant mortality (25.57), followed by illiteracy (23.99) and unemployment (6.44). The study highlights that inter - indicator variations in people without access to health services have very low; while in case of people without access to safe water have very high. Contrarily, in case of unemployment rate, the value of coefficient of variation has very low. However, in case of infant mortality such variation has highly proportion to deprivation. Thus, poverty has witnessed coefficient of variation (42 per cent point) with comparison to deprivation (19 per cent point), suggesting more variations in levels of poverty than levels of deprivation.

Table 3 : Coefficient of variation (CV) among indicators of poverty and deprivation in Uttar Pradesh, 2011

Indicators of poverty and deprivation	Mean	SD	CV(Per Cent)
Percentage of people not expected to survive to age 40 (Y_1)	13.20	2.06	15.61
Percentage of adults illiterate (Y_2)	41.50	13.37	32.22
Percentage of people without access to safe water (Y_3)	39.66	19.35	48.79
Percentage of people without access to health services (Y_4)	99.14	6.82	6.88
Percentage of people without access to sanitation (Y_5)	82.96	15.65	18.87
Unemployment rate (X_1)	66.75	4.30	6.44
Infant mortality rate (X_2)	94.89	24.26	25.57
Illiteracy rate (X_3)	30.55	7.33	23.99

Source : Calculated and compiled by the Author.

Measurement of relationship

To provide statistical support to above mentioned observations, coefficient of correlation between composite Z- score (level of poverty) and associated explanatory socio-economic indicators of deprivation have been calculated and the results are presented in Table 4. It reveals positive relationship between score of poverty and X_2 (infant mortality rate : 0.471, significant at 0.01 level) and X_3 (illiteracy rate : 0.452, significant at 0.01 level) indicating that the area of high infant mortality rate and high illiteracy rate are having high rates of poverty. Similarly, negative relationship (-0.475, significant at 0.01 level), is found between rate of poverty and rate of unemployment (X_1). On the whole, statistical results of this study conclude that the levels of poverty and levels of deprivation are directly correlated (0.266) which is significant at 95 per cent level of probability with 69 degree of freedom. It can be said that proposed hypothesis holds true. Thus, the overall findings of the study prove the assumption that higher the level of poverty more is the level of deprivation and vice - versa with the respect of Uttar Pradesh.

Conclusion

From the above discussion, it can be concluded that twenty-five districts have recorded very high level of poverty, while,

Table 4: Correlation (r) between levels of poverty and other explanatory indicators of deprivation (X) in Uttar Pradesh, 2011

Indicators	Definition of indicators	Levels of poverty
X_1	Unemployment rate (percentage of non-workers to total population)	-0.475**
X_2	Infant mortality rate (no. of infant deaths in a year per thousand of live births)	0.471**
X_3	Illiteracy rate (percentage of illiterates to total population)	0.452**
Levels of deprivation		0.266*

Source: Calculated and compiled by the Author.
** Correlation is significant at the 0.01 level (2- tailed).
* Correlation is significant at the 0.05 level (2- tailed).

fourteen districts have reported very high level of deprivation. Similarly, seventeen districts have registered very low level of poverty against fourteen districts falling in this level of deprivation. The study highlights that 46 per cent, 22 per cent and 32 per cent districts of the state have registered high, medium and low levels of poverty respectively, along with 27 per cent, 32 per cent and 41 per cent deprivation level. Similar congruity can also be observed in the geographical patterns of the districts recording various levels of poverty and deprivation. High level of poverty is observed in the southeastern part of the state, and it is low in the west northern part. The level of deprivation is high in the northeastern part and low in the western and central south parts of the state. The study highlights that more coefficient of variations in levels of poverty than levels of deprivation. The study further concludes that the infant mortality and illiteracy rates are positively related to the level of poverty. On the whole result of this study concludes that the level of poverty and level of deprivation are directly related, in this way, higher the level of poverty more is the level of deprivation and vice -versa. The task of the planners, policy makers and well - wishers is to make an extensive policy and programme to reduce to levels of spatial variations in poverty as well as deprivation. The state should provide more sufficient amenities and facilities to reduce multidimensional poverty and inequalities between have and have not's. It should also extend hand in improving access for the poor to productive resources, basic services and social protection in depressed geographical areas. If these steps are suited, it will certainly minimize the gap in the levels of socio- economic well - being and prove to be advantageous for the denizens in every sphere of the state imparting them inner satisfaction, social protection and progress. The present study suggests investigating intensively the aspects dealt here, at micro level which will give us distinct picture of geographical patterns of multidimensional poverty and their determinants in the regions selected.

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