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ORIGINAL ARTICLE

# Rural Out-Migration and Levels of Socio-Economic Deprivation in India

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**Abstract:**
*The present study aims to analyse the interstate variations in the volume of rural out-migration and levels of deprivation and to examine the causal relationship between rural out-migration and selected socio-economic variables of deprivation among the states and union territories (UTs) of India. The entire research work is based on secondary sources of data, collected from the office of the Registrar General of India, State Primary Census Abstract, 2001, SRS Bulletins of 2008 and Planning Commission of India, 2004-05. The boundary of a state/union territory has been taken as the smallest unit of study.*
***Keywords:*** *Out-migration; Deprivation; Z-score; Determinants; States; Union Territories*

## INTRODUCTION

In many parts of the world, at both regional and small area levels, change in population composition due to internal and international migration is greater than the differences resulting from natural change (Champion, Fotheringham, Rees, Boyle, & Stillwell, 1998; Scott & Kilbey, 1999) or biological change. Thus, migration along with mortality and fertility is the only source of population change and thereby it is very important owing to its impact on demographic, economic and social conditions of a region or country (Khan, 2010:160). It can either depopulate or overpopulate an area depending upon the level of economic activities (Bhagat, 2005).

Migration is a purposive move in response to perceived spatial diversity, and therefore the basis for an explanation of the spatial patterns of movement must lie in those patterns of diversity that gave rise to it (White & Woods, 1980:55). It is not merely a process of shifting people from one place to another rather it is a fundamental process to change the structure of population (Bhende and Kanitkar, 1978), and it contributes a lot for the understanding of the space-content and space-relations of a particular geographical area. Migration involves three types of changes i.e., change in the area of out-migration, changes in the area of in-migration and change in the migrants themselves (Ghosh, 1985:34 -35).

Studies of temporary migration in developing countries often focus on rural out migration and are preoccupied with problems it may bring to cities (Yang, 1994). Rural out-migration not only affects the migrants itself but also the other people which are directly or indirectly related with them. It increased the

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responsibility of the family members, women's work burdens, creating socio-economic deprivation and insecure future and compounds their difficulties of basic survival, except for a scope for their children to go to the big city (Jetley, S., 1987) or to the places of better opportunity areas. Migrants differ from the rest of the population in terms of their age, sex, life stage, housing tenure, socio-economic status and educational achievement (Boyle, Halfacree & Robinson, 1998; Buck, Gershuny, Rose, & Scott, 1994; Champion et al., 1998), and hence, it should be made modifications in the structure of society both at the places of origin and destination. Therefore, it would not be wrong to say that migration shapes both the societies of out-migration and in-migration respectively.

Deprivation is usually taken to be a state of disadvantage relative to the local community or the wider society or nation to which an individual, family or group belongs (Townsend, 1987). A large body of research has pointed out that people who have a low income may not have the status, equivalent to, the status of the section of population that is most materially deprived (Berthoud, Bryan & Berdasi, 2004; Bradshaw & Finch, 2003; Callan, Nolan & Whelan, 1993). People can be deprived of adequate education, housing of good quality, rewarding employment, sufficient income, good health and opportunities for enjoyment. Thus, in absolute terms, deprivation reflects the inability of an individual to satisfy his/her basic minimum needs of the life and it prevents people from participating in the development process.

The relative deprivation theory of migration builds upon the new economics of the migration framework (Stark, 1991; Stark & Bloom, 1985). Proponents of the relative deprivation approach argue that individuals or households migrate not only to maximize absolute income, but also to improve their position compared to other relevant reference groups (Stark, 1984, 1991; Stark & Taylor, 1991). These proponents use the term relative deprivation, which refers to lower incomes earned by individuals compared to those of their neighbours. Thus, migration is likely to perpetuate in the area as long as household members feel deprived of as compared to their neighbours in the community, because individuals from a relatively more deprived household more likely to migrate for work reasons compared to those from a relatively less deprived household (Bhandari, 2004). Therefore, the present study investigates the causal relationship between the volume of rural out-migration and level of deprivation among the states and UTs of the country.

## OBJECTIVES:

**The specific objectives of the present study are:**

(i)To analyse the spatial variations in the volume of rural out-migration and levels of deprivation in India.
(ii)To examine the causal relationship between rural out-migration (dependent variable) and selected socio-economic variables (independent variables) of deprivation.

## DATABASE AND METHODOLOGY

The present research work is entirely based on secondary sources of data collected from Census of India publications, Migration Table-D0603, State Primary Census Abstract, Office of the Registrar General of India, New Delhi, 2001-2008, state-wise indicators of socio-economic deprivation collected from Statistical Reports, 2006 and Sample Registration System Bulletins, 2008. The Census of India counts and publishes data on causes of migration based on Place of Birth (POB) and Place of Last Residence (POLR) If the place of birth or place of last residence is different from the place of enumeration, a person is said to be a migrant (Lobo, 2004). This makes it possible to identify intra-district, inter-district, and inter-state migration (Bhagat and Mohanty 2009:11). The data on place of last residence provides information about the reasons of migration categorized on the basis of age, sex and duration of residence. The categories of data on duration of residence of migrants at their destinations are less than one year, one to four years, five to nine years, more than nine years and all durations.

However, in the present study, the data regarding only those rural out-migrants have been taken into account whose duration of residence at destination was 1 to 4 years, considering that among the migrants whose duration of residence was less than one year, some of them may only be seasonal/casual migrants and those whose duration of residence was more than four years may have somewhat different problems, causes and patterns of migration, as compared to the migrants of 1 to 4 years. The data have been converted into percentage and processed in tabular form. The boundary of a state/UT has been considered as the smallest unit of study.

In the present analysis, a set of fifteen indicators of deprivation from the various sectors have been taken into account to determine the level of deprivation in the twenty eight states and seven union territories of India. These indicators fall into the categories like population composition, illiteracy, health, unemployment, household size and economic activities.

To find out the areal variations of socio-economic deprivation, in the first step, the raw data for each variable has been computed into standard score. It is generally known as Z value or Z-score. The score quantify the departure of individual observations, expressed in a comparable form. This means it becomes a linear transformation of the original data (Smith, 1973). It may be expressed as:

$$Z_{ij} = \frac{X_{ij} - \overline{X_i}}{\sigma_i}$$

Where, Z ij indicates Standardized value of the variable i in state/UT j; X ij for Actual value of variable i in state/UT j; Xi for Mean value of variable i in all states/UTs; and σi for Standard deviation of variable i in all states/UTs.

In the second step, the Z-scores of all variables have been added state/UT wise and the average has taken out for these variables which may be called as composite score (CS) for each state/UT and may be algebraically expressed as:

$$CS = \frac{\sum Z_{ij}}{N}$$

Where, CS is composite score, N refers to the number of variables; ΣZij indicates z-scores of all variables i in state/UT j.

The positive values relating to the state/UT's Z-score explain high level of socio-economic deprivation and negative values the low level of socio-economic deprivation in the study area. The correlation co-efficient is worked out between rural out-migration (dependent variable) and selected variables of deprivation (independent variables) and student t-test technique is applied to find out the determinants which are significant at 1 per cent and 5 per cent levels.

The correlation co-efficient has been computed on the basis of the Karl Pearson's correlation co-efficient (r) method which is as follows:

**TABLE 1: STATE/UT WISE DISTRIBUTION OF RURAL OUT-MIGRATION AND LEVEL OF DEPRIVATION IN INDIA**

| States | Z-Score of Rural Out-Migration | Composite Mean Z-Score of Levels of Deprivation | Rural Out-Migration vis-à-vis Levels of Deprivation |
|---|---|---|---|
| Andhra Pradesh | 0.13 | 0.00 | $M_2D_2$ |
| Arunachal Pradesh | -0.56 | -0.37 | $M_3D_2$ |
| Assam | -0.22 | 0.44 | $M_2D_2$ |
| Bihar | 2.78 | 1.41 | $M_1D_1$ |
| Chhattisgarh | -0.05 | 0.67 | $M_2D_1$ |
| Goa | -0.55 | -0.56 | $M_3D_3$ |
| Gujarat | -0.21 | 0.11 | $M_2D_2$ |
| Haryana | 0.13 | 0.14 | $M_2D_2$ |
| Himachal Pradesh | -0.36 | -0.46 | $M_3D_3$ |
| Jammu & Kashmir | -0.46 | 0.02 | $M_3D_2$ |
| Jharkhand | 0.25 | 0.84 | $M_2D_1$ |
| Karnataka | 0.31 | 0.03 | $M_1D_1$ |
| Kerala | -0.14 | -0.52 | $M_2D_3$ |
| Madhya Pradesh | 0.46 | 0.87 | $M_1D_1$ |
| Maharashtra | 0.17 | 0.07 | $M_2D_2$ |
| Manipur | -0.53 | -0.39 | $M_3D_2$ |
| Meghalaya | -0.56 | 0.18 | $M_3D_2$ |
| Mizoram | -0.47 | -0.71 | $M_3D_3$ |
| Nagaland | -0.50 | -0.32 | $M_3D_2$ |
| Orissa | 0.09 | 0.71 | $M_2D_1$ |
| Punjab | -0.09 | -0.14 | $M_2D_2$ |
| Rajasthan | 0.66 | 0.55 | $M_1D_1$ |
| Sikkim | -0.57 | -0.55 | $M_3D_3$ |

| | | | |
|---|---|---|---|
| Tamil Nadu | 0.10 | -0.34 | $M_2D_2$ |
| Tripura | -0.55 | -0.12 | $M_3D_2$ |
| Uttrakhand | -0.13 | 0.27 | $M_3D_2$ |
| Uttar Pradesh | 4.53 | 1.33 | $M_1D_1$ |
| West Bengal | 0.14 | 0.28 | $M_2D_2$ |
| **Union Territories** | | | |
| Andaman & Nicobar Islands | -0.57 | -0.69 | $M_3D_3$ |
| Chandigarh | -0.54 | -0.95 | $M_3D_3$ |
| Dadar & Nagar Haveli | -0.57 | 0.23 | $M_3D_2$ |
| Daman & Diu | -0.57 | -0.72 | $M_3D_3$ |
| Delhi | -0.46 | -0.62 | $M_3D_3$ |
| Lakshadweep | -0.57 | -0.25 | $M_3D_2$ |
| Pondicherry | -0.55 | -0.36 | $M_3D_2$ |

**Source**: *Calculation is based on State Level Published Data and Statistical Reports, 2006, Sample Registration System Bulletins, 2008, Census of India, 2001, Migration Table-D0603, Office of the Registrar General of India, New Delhi.*

Note: M1= High Level of Rural Out-migration, M2= Medium Level of Rural Out-Migration, M3 = Low Level of Rural Out- Migration; D1= High Level of Deprivation, D2 = Medium Level of Deprivation and D3 = Low level of Deprivation.

$$r = \frac{\Sigma xy - \Sigma x \Sigma y / n}{\sqrt{\Sigma x^2 - \frac{(\Sigma x^2)}{n}} \sqrt{\Sigma y^2 - \frac{(\Sigma y^2)}{n}}}$$

Where: r is the co-efficient of correlation;
x, y are the two given variables; n is the number of observation.
To find out the computed't' value, student t-test technique is used which is given below:

$$t = r\sqrt{\frac{(n-2)}{1-r^2}}$$

Where: t is the calculated value of 't' in the test of significance; n is the number of observation; r is the computed value of co-efficient of correlation.

To compute the statistical data by applying the advanced statistical techniques, the SPSS Software (Version 16.0) and R Software (Version 2.12.2) have been used. Besides, advanced statistical/cartographic techniques, GIS-Arc view programme (Version 3.2 a) has been applied to show the spatial patterns of rural out-migration and level of socio-economic deprivation among the states and UTs of India through maps.

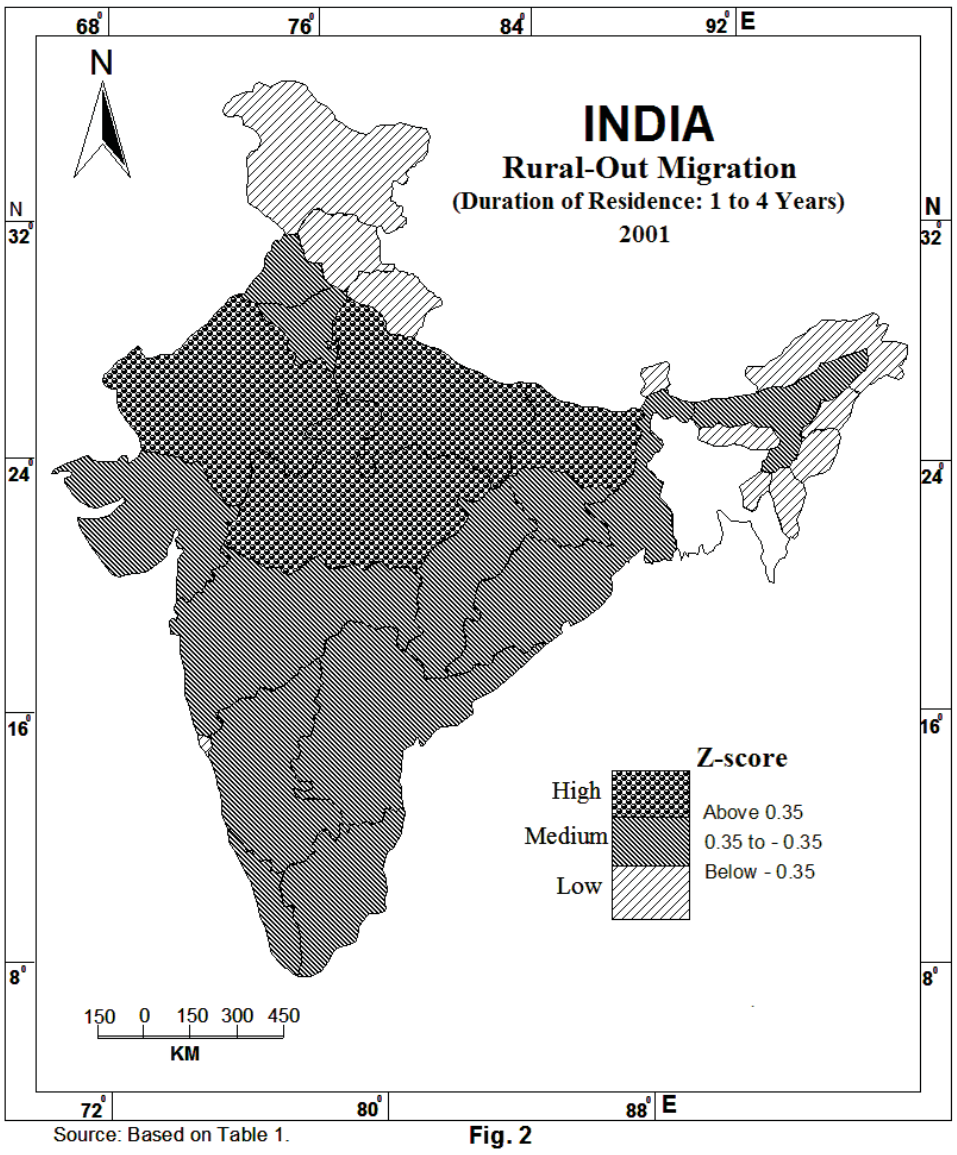
## RURAL OUT-MIGRATION IN INDIA

Table 1 envisages the state and union territory wise Z-score values of rural out-migration in India. The whole range of spatial variations of rural out-migration may be arranged into three categories such as, high (above 0.35 score), medium (0.35 to - 0.35 score) and low (below - 0.35 score) as given in Table 2.

Table 2: State-Wise Rural Out-Migration in India

| Category | Z- score | No. of States | Percentage of total States | States |
|---|---|---|---|---|
| High | Above 0.35 | 04 | 14.29 | Uttar Pradesh, Bihar, Rajasthan, Madhya Pradesh |
| Medium | 0.35 to - 0.35 | 13 | 46.43 | Andhra Pradesh, Karnataka Assam, Gujarat, Tamil Nadu, West Bengal, Jharkhand, Chhattisgarh, Maharashtra, Orissa, Haryana, , Kerala, Punjab |
| Low | Below - 0.35 | 11 | 39.28 | Arunachal Pradesh, Goa, Himachal Pradesh, Jammu & Kashmir, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, Uttarakhand. |
| **Total** | | **28** | **100.00** | **-** |

**Source:** *Based on Table 1.*




Source: Based on Table 1.

**Fig. 2**

Table 2 indicates that there are four states (Uttar Pradesh, Bihar, Rajasthan and Madhya Pradesh) of India having high level (above 0.35 score) of rural out-migration and form an extensive dominant contiguous region in the central part of the country (Fig. 2). The thirteen states of the country fall under the medium rate (0.35 to - 0.35 score) of rural out-migration that constitute two remarkable regions in the study area. The first extensive contiguous region ranges over the whole of peninsular, eastern and north-eastern parts of the country, extending from Gujarat in the west and Kerala in the south to the state of Assam in the north-eastern part of the country. Second region lies in the north-western part comprising the states of Punjab and Haryana.

About thirty nine per cent states of India come under the low level (below - 0.35 score) of rural out-migration, these states are Jammu & Kashmir, Himachal Pradesh, Uttrakhand, Goa, Sikkim, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura and Meghalaya, in which six states namely Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura and Meghalaya form an identifiable region in the north-eastern part and three states viz., Jammu & Kashmir, Himachal Pradesh and Uttrakhand make a notable region in the northern part, while other two remaining states (Sikkim and Goa) do not make any contiguous region in the country.

An examination of data given in Table 1 clearly shows that all the UTs of the country fall under the category of low level of rural out-migration (below – 0.35 score) and their respective z-score values are (-

0.57 score) in Andaman & Nicobar Islands, Dadar & Nagar Haveli, Daman & Diu and Lakshadweep (- 0.55 score) in Pondicherry, (- 0.54 score) Chandigarh and (- 0.46 score) in Delhi, respectively.

## LEVELS OF SOCIO-ECONOMIC DEPRIVATION IN INDIA

The states of India have been arranged into three groups i.e., high (above 0.45 score), medium (0.45 to - 0.45 score) and low (below - 0.45 score) in terms of level of socio-economic deprivation (Table 3 and Fig. 3).
The states of Rajasthan, Uttar Pradesh, Madhya Pradesh, Bihar, Jharkhand, Chhattisgarh and Orissa witnessed the high level of deprivation (above 0.45 score) in the country. Among them, seven states, namely, Jharkhand, Orissa, Chhattisgarh, Madhya Pradesh, Bihar, Rajasthan, Uttar Pradesh (JOCHHAMBRU), [1] extending from Rajasthan in the west to Orissa in the east constitutes an extensive region, spreading over the western, central and eastern parts of the country (Fig. 3).

Table 3 exhibits that there are sixteen states of medium level (0.45 to - 0.45 score) of socio-economic deprivation and make three separate regions in the country. Among them, the states of Gujarat, Maharashtra, Karnataka, Andhra Pradesh and Tamil Nadu form a first principal region in the peninsular part of the country. The states of Jammu & Kashmir, Punjab, Haryana and Uttrakhand make an isolated region in the northern, West Bengal, Assam, Arunachal Pradesh, Nagaland, Manipur, Tripura and Meghalaya in eastern and north- eastern parts of India.

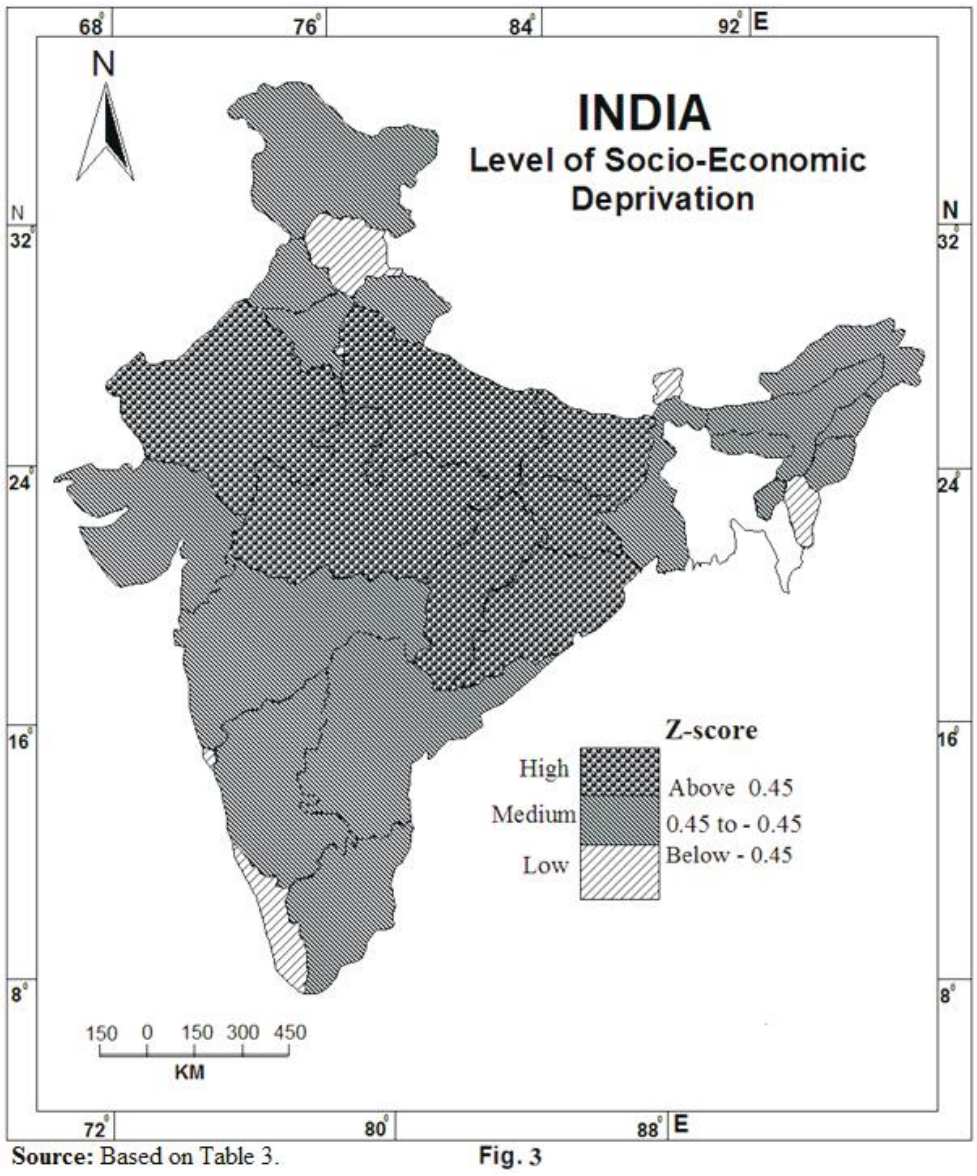
**TABLE 3: STATE-WISE LEVEL OF DEPRIVATION IN INDIA**

| Category | Composite Mean Z- score | No. of States | Percentage of total States | States |
|---|---|---|---|---|
| High | Above 0.45 | 07 | 25.00 | Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh. |
| Medium | 0.45 to - 0.45 | 16 | 57.14 | Andhra Pradesh, Arunachal Pradesh, Assam, Gujarat, Haryana, Jammu & Kashmir, Karnataka, Maharashtra, Manipur, Meghalaya, Nagaland, Punjab Tamil Nadu, Tripura, Uttarakhand, West Bengal. |
| Low | Below - 0.45 | 05 | 17.86 | Goa, Himachal Pradesh, Mizoram, Sikkim, Kerala. |
| **Total** | | **28** | **100.00** | **-** |

**Source:** *Based on Table 1.*

The states scoring the Z-score value below - 0.35 are grouped under low level of socio-economic deprivation. An analysis of Table 3 and Figure 3 reveal that there are five states (Goa, Himachal Pradesh, Mizoram, Sikkim, Kerala) having low level of socio-economic deprivation and are widely scattered in the country.

The level of deprivation among the UTs is entirely different from the states of the country; none of the UTs of India has the high level (above 0.45 index value) of socio-economic deprivation. The three UTs namely, Dadar & Nagar Haveli (0.23 score), Lakshadweep (- 0.25 score) and Pondicherry (-0.36 score) witness medium level (0.45 to - 0.45 score) of socio-economic deprivation. The remaining four UTs come under the low level (below - 0.45 score) of socio-economic deprivation viz. Andaman & Nicobar Islands (- 0.69 score), Delhi (-0.62 score), Daman & Diu (-0.72 score), Chandigarh (- 0.95 score), (vide Table 1).




**Source:** Based on Table 3. **Fig. 3**

## RELATIONSHIP BETWEEN RURAL OUT-MIGRATION AND LEVELS OF SOCIO-ECONOMIC DEPRIVATION IN INDIA

The relationship between rural out-migration and level of socio-economic deprivation among the states and UTs of India is dimensionally shown in Figure 4. The abscissa represents the rural out-migration and ordinate shows the level of deprivation. The states/UTs with reference to composite mean z-scores of rural out-migration and level of socio-economic deprivation may be arranged into three grades i.e. high, medium and low.

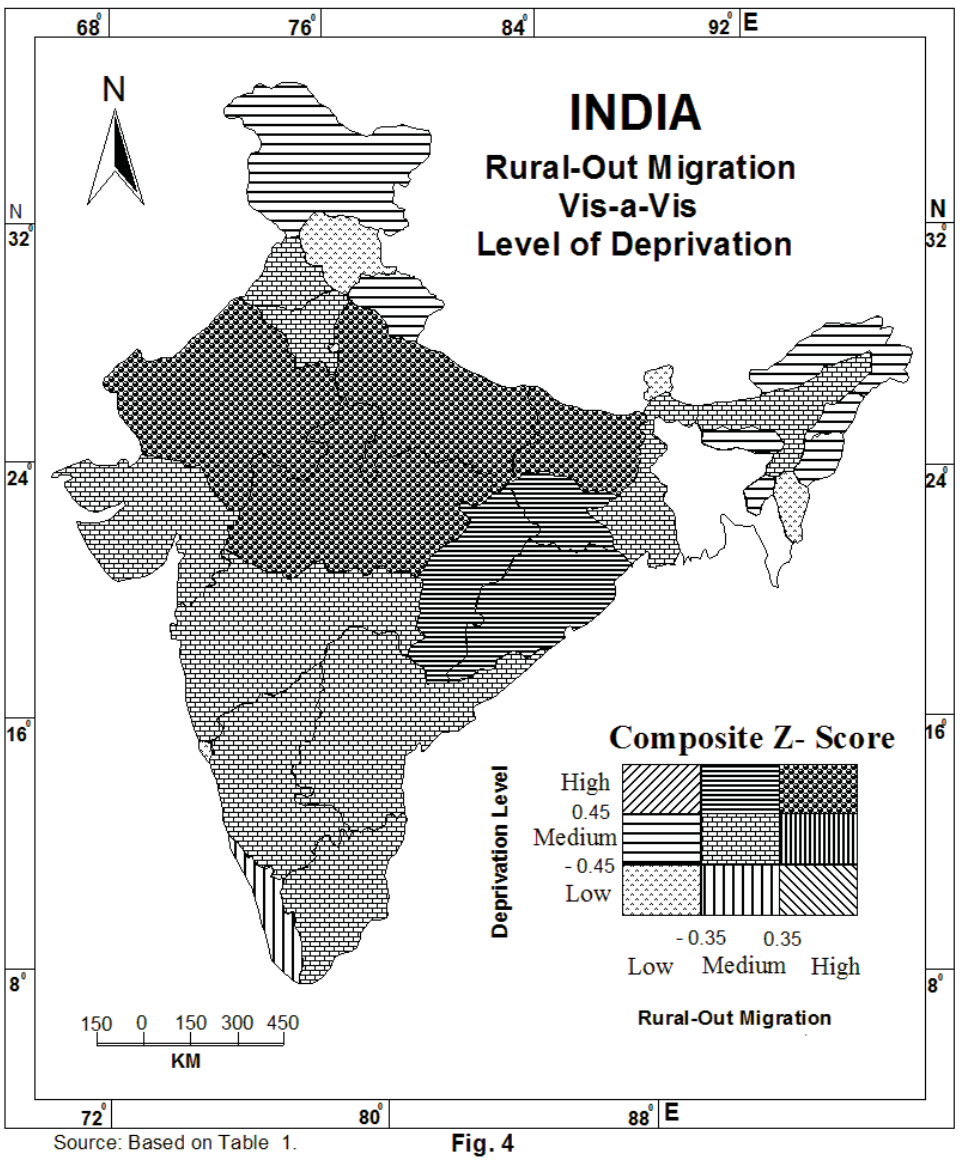
The states of Uttar Pradesh, Bihar, Rajasthan and Madhya Pradesh have high level of rural out-migration as well as socio-economic deprivation and make an extensive principal region in the central part of the country, while, the medium level of socio-economic deprivation and rural out-migration has been recorded in nine states, out of them, two states (Punjab and Haryana) form an identifiable region in the north-western part, five states (Gujarat, Maharashtra, Karnataka, Andhra Pradesh and Tamil Nadu) make out a notable region in the peninsular part, while, the two states (West Bengal and Assam) constitutes an isolated region in the eastern part of the country. Moreover, the low grade of deprivation and rural out-migration is witnessed by the states of Goa, Mizoram, Sikkim and Himachal Pradesh, which are distinct

from each other in the country.

However, the three states viz., Jharkhand, Orissa, and Chhattisgarh formed a contiguous large region of high level of socio-economic deprivation but medium level of rural out-migration in eastern part of the country, while, two identifiable regions, one formed by the states of Jammu & Kashmir and Uttarakhand situated in the northern part and another by the states of Arunachal Pradesh, Nagaland, Manipur, Tripura and Meghalaya located in the north-eastern part of the country, experience the medium level of socio-economic deprivation but low level of rural out-migration.

## CORRELATION (R) BETWEEN RURAL OUT-MIGRATION AND OTHER SELECTED VARIABLES IN INDIA

The simple associations between rural out-migration and each of the selected independent variables of socio-economic deprivation have been computed and tested with the assumption that the linear relationship existed in all the cases. The perusal of the Table 4 reveals that out of fifteen independent variables, the coefficient of correlation of five variables such as, X2 (Illiteracy rate, r = 0.484), X3 (Birth rate per thousand population, r = 0.460), X4 (Household size, r = 0.495), X8 (Percentage of beggars & vagrants to total non-working population,




Source: Based on Table 1. **Fig. 4**

## TABLE 4: RESULTS OF CORRELATION MATRIX BETWEEN RURAL OUT-MIGRATION AND OTHER SELECTED INDICATORS OF DEPRIVATION IN INDIA

| Variables | Pop ($Y_1$) | IR ($Y_2$) | BR ($Y_3$) | HS ($Y_4$) | UR ($Y_5$) | WAL ($Y_6$) | MAW ($Y_7$) | BV ($Y_8$) | RPR ($Y_9$) | PR ($Y_{10}$) | HSLS ($Y_{11}$) | ROM ($Y_{12}$) | R. POP ($Y_{13}$) | SLH ($Y_{14}$) | GSA ($Y_{15}$) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $X_1$ | **1.000** | 0.409 * | 0.590 * | 0.360 ** | 0.340 ** | -0.214 | 0.140 | 0.206 | 0.694 * | 0.302 | 0.391 ** | **0.357** ** | .409** | 0.115 | 0.305 |
| $X_2$ | 0.409 ** | **1.000** | 0.696 * | 0.222 | 0.566 * | -0.030 | 0.115 | 0.101 | 0.395 ** | 0.176 | 0.465 * | **0.484** * | .590* | 0.196 | .360** |
| $X_3$ | 0.590 * | 0.696 * | **1.000** | 0.309 | 0.484 * | -0.112 | 0.196 | 0.375 ** | 0.427 ** | 0.420 ** | 0.403 * | **0.460** * | .429** | 0.074 | .441* |
| $X_4$ | 0.360 ** | 0.222 | 0.309 | **1.000** | 0.139 | 0.208 | -0.194 | 0.575 * | 0.463 * | 0.542 * | 0.426 * | **0.495** * | .340** | 0.27 | 0.155 |
| $X_5$ | 0.340 ** | .566 * | 0.484 * | 0.139 | **1.000** | 0.347 ** | 0.270 | -0.102 | 0.538 * | 0.169 | 0.129 | **0.094** | -0.214 | -0.247 | -.371* |
| $X_6$ | -0.214 | -0.030 | -0.112 | 0.208 | .347 ** | **1.000** | -0.247 | 0.034 | 0.015 | 0.148 | -0.037 | **0.033** | 0.206 | -0.183 | 0.192 |
| $X_7$ | 0.140 | 0.115 | 0.196 | -0.194 | 0.270 | -0.247 | **1.000** | -0.183 | -0.153 | -0.040 | -0.141 | **-0.113** | .694* | -0.153 | 0.307 |
| $X_8$ | 0.206 | 0.101 | 0.375 ** | 0.575 * | -0.102 | 0.034 | -0.183 | **1.000** | 0.078 | 0.494 * | 0.443 * | **0.476** * | 0.302 | -0.04 | 0.292 |
| $X_9$ | 0.694 * | 0.395 ** | 0.427 ** | 0.463 * | 0.538* | 0.015 | -0.153 | 0.078 | **1.000** | 0.348 ** | 0.465 * | **0.390** ** | .391** | -0.141 | 0.135 |
| $X_{10}$ | 0.302 | 0.176 | 0.420 ** | 0.542 * | 0.169 | 0.148 | -0.04 | 0.494 * | 0.348 ** | **1.000** | 0.342 ** | **0.346** ** | .357** | -0.113 | 0.229 |
| $X_{11}$ | 0.391 ** | 0.465 * | 0.403 ** | 0.426 * | 0.129 | -0.037 | -0.141 | 0.443 * | 0.465 * | 0.342 ** | **1.000** | **0.933** * | -0.218 | 0.036 | 0.092 |
| $X_{12}$ | 0.357 ** | 0.484 * | 0.460 * | 0.495 * | 0.094 | 0.033 | -0.113 | 0.476 * | 0.390 ** | 0.346 ** | 0.933 * | **1.000** | 0.245 | -0.106 | 0.184 |
| $X_{13}$ | .409* | .590** | .429* | .340* | -0.214 | 0.206 | .694** | 0.302 | .391* | .357* | -0.218 | **0.245** | **1.000** | 0.140 | 0.457* |
| $X_{14}$ | 0.115 | 0.196 | 0.074 | 0.27 | -0.247 | -0.183 | -0.153 | -0.04 | -0.141 | -0.113 | 0.036 | **-0.106** | 0.140 | **1.000** | 0.379** |
| $X_{15}$ | 0.305 | .360* | .441** | 0.155 | -.371* | 0.192 | 0.307 | 0.292 | 0.135 | 0.229 | 0.092 | **0.184** | 0.457* | 0.379** | **1.000** |

* Significant at 1 per cent level; ** Significant at 5 per cent level

NOTE: Pop= Population 0-6 years; IR= Illiteracy Rate; BR= Birth Rate; HS= Household Size; UR= Unemployment Rate; WAL= Workers engaged in Agriculture labour; MAW= Marginal Workers, BV = Beggars and Vagrants, RPR= Rural Poverty Rate; PR= Poverty Rate; HSLS= Houseless Population; ROM= Rural-Out Migrants, R. POP = Rural Population, SLH = Size of Land Holdings, GSA = Gross Sown Area.

Selected Indicators: X1= Percentage of population below 6 years to total population; X2= Illiteracy rate; X3= Birth rate per thousand population; X4= Household size; X5= Unemployment rate; X6= Percentage of main workers engaged in agriculture labour; X7= Percentage of marginal workers to total working population; X8= Percentage of beggars & vagrants to total non-working population; X9= Percentage of rural population below poverty line; X10= Percentage of population below poverty line; X11= Percentage of houseless population to total population; X12= Percentage of rural-out migrants to total rural-out migrants, X13= Percentage of rural population to total population, X14= Size of land holdings (hectares), X15= Gross sown area per 1000 person.

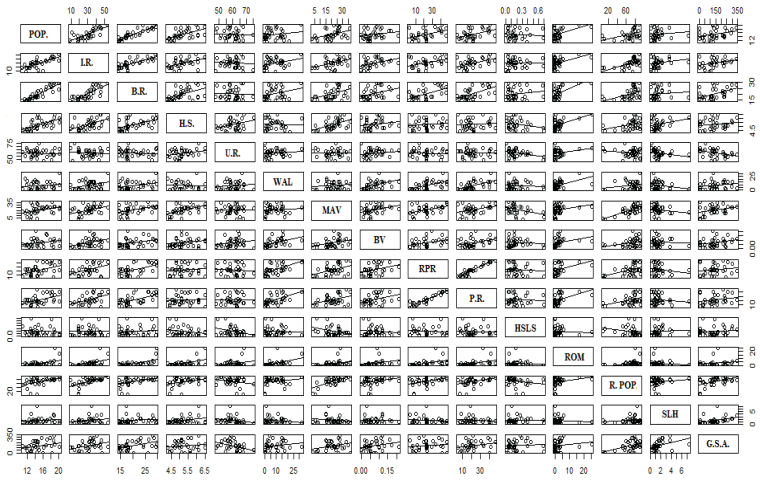



Fig: 5

Note: Figure 5 shows a scatter plot matrix which depicts pair-wise scatter plot of all the variables together with fitted line in each panel. Thus, a linear relationship among all the variables can be seen in a single plot.r = 0.476), X11 (Percentage of houseless population to total population, r = 0.933) are significant at the confidence level of 99 per cent which are also positively correlated with the rural out-migration, whereas, the variable of X1 (percentage of population below 6 years to total population, r = 0.357), X9 (percentage of rural population below poverty line, r = 0.390), X10(percentage of population below poverty line, r = 0.346) which are significant at the level of 95 per cent and is positively correlated with rural out-migration (Y1). Instead of one star and double stars variables, others variables are also correlated with rural out-migration but not up to a significant level.

## CONCLUSION

The overall analysis of the study reveals that the level of rural out-migration is low in northern and north-eastern states of India, and it is high in the western, central and eastern states extending from the state of Rajasthan in the west to the state of Bihar in the east. Likewise, the level of deprivation is high in the states extending from Rajasthan in the west to Orissa in the east, medium level in the southern, north-western and north-eastern states of India, while the states of Uttaranchal, Sikkim, Mizoram, Goa and Kerala witnessed the low level of deprivation in the country.

It may also be surmised that there is a perfect positive correlation between rural out-migration and level of socio-economic deprivation in the seventeen states of India, out of which, four states viz., Rajasthan, Uttar Pradesh, Madhya Pradesh and Bihar have high level of rural out-migration and deprivation, while the states of Gujarat, Maharashtra, Karnataka, Andhra Pradesh, Tamil Nadu, West Bengal, Assam, Punjab and Haryana experience the medium level of rural out-migration and deprivation. Moreover, the low level of rural out-migration and deprivation has been witnessed in the states of Uttaranchal, Goa, Sikkim and Mizoram.

The outcome of student 't' test elucidate that the Illiteracy rate, Birth rate per thousand population, Household size, Percentage of beggars & vagrants to total non-working population, Percentage of houseless population to total population, percentage of population below 6 years to total population, percentage of rural population below poverty line, percentage of population below poverty line are the major factors of high level of deprivation among the states and UTs, which have been motivated the rural poor people for out-migration in the country.

## END NOTE:

[1] 'JOCHHAMBRU' means the struggling states of India viz., J - Jharkhand, O - Orissa, CHHA - Chhattisgarh, M - Madhya Pradesh, B - Bihar, R - Rajasthan and U - Uttar Pradesh, which form an extensive contiguous region of high level of socio-economic deprivation, spreading over the western, central and eastern parts of India, and, wherein, the Government of India and the Governments of respective states have launched a number of developmental programmes to come out from the clutches of high level of deprivation. If, in these states, the level of socio-economic standard of living of the people is improved, as, now, there is a great ray of hope, India will, surely, be in the row of developed nations of the world by 2030.

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