URBANIZATION AND EMERGING SLUMS: AN EMPIRICAL STUDY WITH REFERENCE TO THE INDIAN HIMALAYAN REGION (2001-2011)

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Abstract: Growth of urbanization and growth of slums is a simultaneous process. Indian Himalayan Region is experiencing a lot of rapid, unplanned and unregulated urban growth. . This region due to urbanization has resulted in the expansion of slums. The present paper attempted to study the growth of urban population, slum population and the salient features of the slum population from 2001 to 2011 in the five states i.e. Jammu and Kashmir, Uttarakhand, Meghalaya, Assam and Tripura which constitutes the part of Indian Himalayan region. The study has been based on secondary data sources and revealed an increase in slum population out of total urban population. The gender differentials in the literacy rate of the slum dwellers has been improving, but there is still low work participation rate among females. Also, the percentage of marginal workers in the slums is increasing. The increasing number of slums in the Indian Himalayan region became a major issue of discussion among the researchers and policymakers around the world.

Keywords: Gender Differentials, Indian Himalayan Region, Marginal Workers, Slums, Urbanization, Work Participation Rate.

I. INTRODUCTION

Urbanization is the process by which cities and towns grows and develop, has provoked its fair share of 'by-products'. One of the most 'persistent' among them happens to be the pockets of poverty and neighbourhood decay, famously called 'slums'. Urbanization as the process has been underway for more than 250 years ago but has become a global salient feature only in 21st century especially with its prime locus in the poorer parts of Asia and Africa (UN Habitat 2007). By the end of the year 2008, for the first time in history, humanity officially crossed the line from being a rural to an urban species. It is estimated that in the coming few years more of us will live in urban areas than in the countryside as the urban population is projected to increase 4.9 billion by 2030, i.e. roughly 60 per cent of the total world's population (UN 2007). With the growth of cities, the cost of housing and infrastructure is increasing on the one hand, and lack of affordable housing facility on the other hand often forced the urban poor to rely on or create their own informal infrastructure, giving way to dramatic growth of slums in urban centres. According to an estimate (UN-Habitat 2006), nearly 327 million people live in slums in Commonwealth countries and almost one in every sixth citizens.

The Indian Himalayan Region is responsible for providing water to a large part of Indian subcontinent and contains various flora and fauna, shows a thin and dispersed human population as compared to the national average but due to its physiographic condition and poor infrastructural development, the growth rate is much higher than the national average. Indian Himalayan Region states are experiencing a lot of rapid, unplanned and unregulated urban growth which is very alarming and create number of problems. In this situation, numbers of less known places of Indian Himalayan Region have begun to urbanize because of the extension of connectivity by rail, road and air, expansion of tourism, establishment of various districts, tehsils, block level offices, educational, medical institutions and economic globalization. While some regions are experiencing depopulation, others are seeing a concentration of population around market towns (MacDonald 1996). What differentiates urbanization in the Himalayan region from that of more developed countries is the context of continued high population growth throughout this region. (UNCSD 1995) This region due to rapid urbanization has resulted in the expansion of slums which became a major issue of discussion among the

researchers and policymakers around the world. In the preceding parts, paper will try to analyze the salient features of the slums and the slum dwellers of Indian Himalayan Region states.

II. MATERIALS AND METHODS

The basic purpose of this paper is to analyze the growth of urban population along with the slum population from 2001 to 2011 in the five states/ regions of the Indian Himalayan Region. The second aim of the present investigation is to explain the density, literacy, sex ratio and work participation rate among the slum dwellers of the Indian Himalayan Region as per 2001 and 2011 Census and various other government reports based on slums.

2.1 The Study Area

Indian Himalayan region is the study area in the present analysis and it includes five states out of total twelve i.e. Jammu and Kashmir, Uttarakhand, Assam, Tripura and Meghalaya. Geologically and structurally Meghalaya and some portion of North Eastern states originally belong to the genesis of Deccan Plateau. But keeping in mind the relief features of the whole region, it is considered as one unit for planning point of view. Jammu & Kashmir and Uttarakhand comprising a share of more than 50 percent geographical area in the Indian Himalayan Region, also stands 1st and 2nd in context of population size out of all Indian Himalayan Region states. Jammu & Kashmir sets the northern most limits of the Indian Himalayan Region followed by Uttarakhand, Meghalaya, Assam and Tripura. The total population of these states is 5 percent of the total population of India and out of total urban population, these five states contributes 3.29 percent of the total urban population. According to the 2011 Census, of the total slum population in India, 2.35 percent is found in the Indian Himalayan Region which has increased from 1.85 percent in 2001 census.

2.2 Data Source and Methodology

The data for the present analysis has been obtained from the secondary sources such as Census of India 2001 and 2011, Compendium of Ministry of Housing and Urban Poverty alleviation 2011, 2015 and NSSO 69th report 2012. The suitable analytical tools and techniques are used for analysis and interpretation of data. It is worth to mention that only five states i.e. Jammu and Kashmir, Uttarakhand, Assam, Meghalaya and Tripura out of total 12 states of the Indian Himalayan Region has been taken up for the study due to insufficiency of the statistics provided by the Governmental agencies. These are some of the limitations which have affected the data out- put considerably. However, the pace of urbanization and expansion of the slum areas in the twentieth century is amply visible in the Indian Himalayan region, thus the growth along with the salient features of the slums forms the core of the present study. Statistical techniques such as percentage method for calculation of urban and slum population, spearman's rank correlation method used to measure the relationship between literacy and sex ratio is applied and expressed as:

$P = 1 -   6\Sigma d^2/ n (n^2 - 1)$

Where, $d^2 =$ is the square of difference between the two ranks of each observation

$n =$ is the number of observations

Along with these statistical techniques, the data has been analyzed in Microsoft Excel Spreadsheet.

III. RESULTS AND DISCUSSION

The results obtained through the analysis of different data sets for the states of Indian Himalayan Region for the last 10 years from 2001 and 2011 are diagrammatically illustrated in Figs. 1,2,3,4 and data are registered in Tables 1 (a) (b), 2 (a) (b), 3 and 4. A brief account of these results is discussed in the following paragraphs.

3.1 Increase in Urbanization and Slum Population in the Indian Himalayan Region

India is rapidly urbanizing. According to the 2011 Census, the urban population grew to 377.1 million as compared to 286.1 million in 2001 census showing a growth of 2.76 percent per annum during 2001-2011. The level of urbanization in the country as a whole increased from 25.7 percent in 1991 to 27.82 percent in 2001 and to 31.14 percent in 2011 – an increase of 3.3 percentage points during 2001-2011 compared to an increase of 2.1 percentage points during 1991-2001. A large number of new cities and towns emerged during the decade, contributing significantly to the increase in number of slums. In 2001, India has 52,371,589 people living in slums which has increased to 65,494,604 persons in 2011. Out of the total population of the five states, slum population has increased enormously except in Meghalaya. Tripura has recorded the highest percentage of slum population which increased from 1.49 percent in 2001 to 3.80 percent in 2011 out of the total population of the state. Except Meghalaya, all the Indian Himalayan States has shown a rise in percentage of the urban population and so the case for slum population percentage from 2001 to 2011 (Table 1 (a) (b)). Jammu and Kashmir has recorded highest increase in number of slum population from 373,898 in 2001 to 662,062 in 2011 as illustrated in Fig. 1.

Table 1 (a): Percentage Distribution of Total Population, Urban Population and Slum Population out of Total Urban Population in Indian Himalayan States-2001

States	Total Population (%)	Urban Population (%)	Slum Population out of Total Urban Population (%)
Meghalaya	4.56	4.97	1.20
Tripura	6.3	5.97	0.52
Assam	52.46	37.65	0.98
Uttarakhand	16.71	23.85	3.83
Jammu & Kashmir	19.97	27.55	4.09
Total	100	100	10.63

Source: Calculated by Authors

Table 1 (b): Percentage Distribution of Total Population, Urban Population and Slum Population out of Total Urban Population in Indian Himalayan States-2011

States	Total Population (%)	Urban Population (%)	Slum Population out of Total Urban Population (%)
Meghalaya	4.91	4.79	0.46
Tripura	6.08	7.73	1.12
Assam	51.60	35.36	1.59
Uttarakhand	16.68	24.52	3.92
Jammu & Kashmir	20.74	27.60	5.32
Total	100	100	12.42

Source: Calculated by Authors

Fig. 2 reveals that with the increase in slum population, number of cities/ towns reporting slums in all the states of the Indian Himalayan Region has increased sharply. Jammu and Kashmir has reported maximum increase in number from 12 in 2001 to 40 in 2011 followed by Assam from 12 in 2001 to 31 in 2011. Uttarakhand had 19 cities/ towns reporting slums in 2001 which has

increased to 31 in 2011, and in case of Meghalaya only 2 cities/towns has increased from 4 in 2001 to 6 in 2011. In total 51 cities/ towns reporting slums in 2001 has gone up to 123 in 2011 in Indian Himalayan Region states.
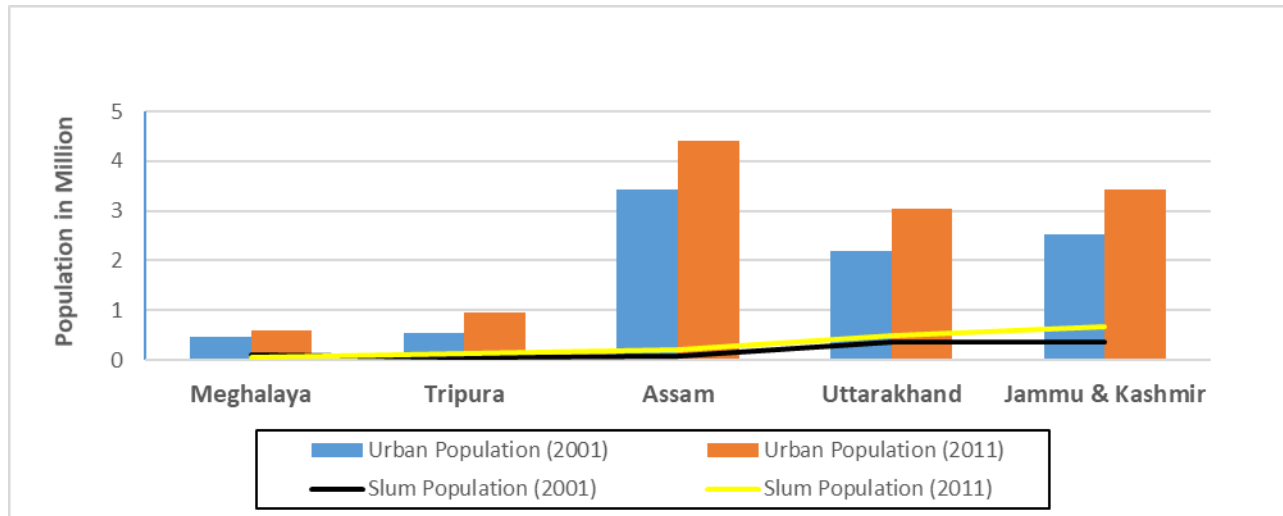

Figure 1: State-wise Total Number of Urban Population, Slum Population- 2001 and 2011
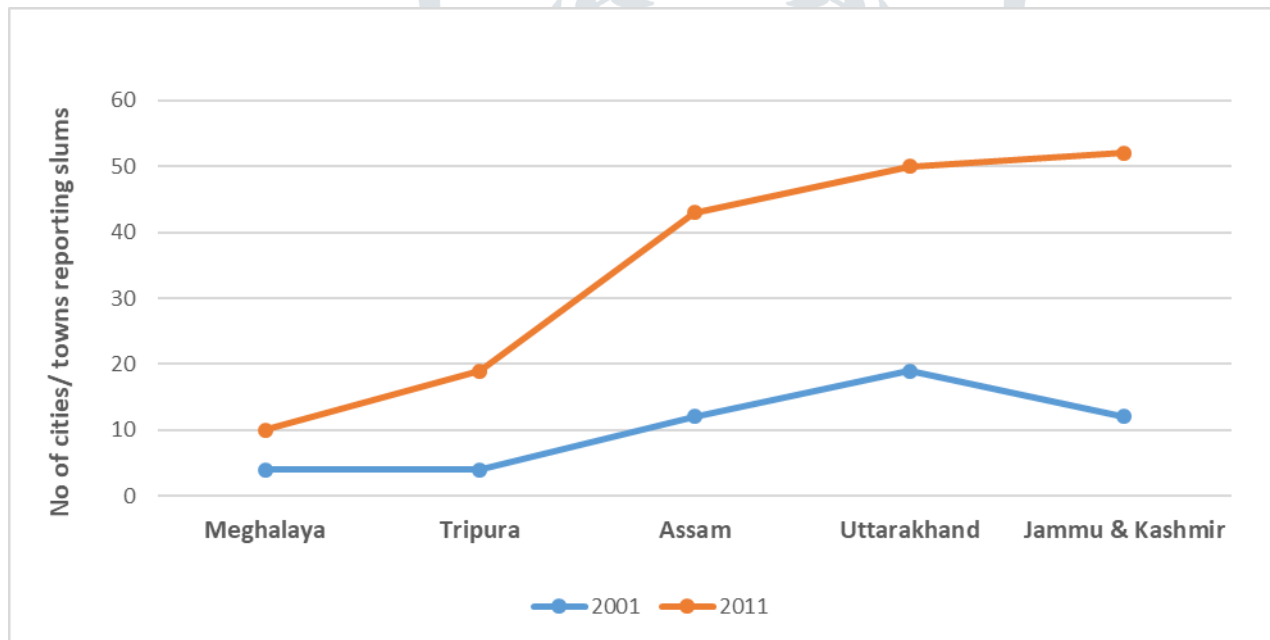

Figure 2: State-wise Total Number of Cities/ Towns reporting Slums- 2001 and 2011

3.2 Literacy and Sex Ratio

Literacy affects to various attributes of the population such as fertility, mortality, birth rate, living of standard, migration, status of women and sex ratio. The knowledge of sex ratio is crucial for the understanding the condition of women in the society. For the calculation of correlation among two variables, the literacy is considered to be an independent variable, while sex ratio is considered as dependent variable. Table 2 (a) reveals that Meghalaya and Tripura has high literacy rate and sex ratio among there slum population. Uttarakhand has recorded lowest literacy rate of 67.2 percent with 880 females per 1000 males among their slum population in 2001. Table 2 (a) also reveals the value of P which is (0.9) shows a positive correlation among the two variables i.e. literacy rate and sex ratio which means an increase in literacy rate is leading to increased sex ratio. Table 2 (b) illustrates that with

the passage of time from year 2001 to 2011, the percentage of literacy level and sex ratio among the slum population of the Indian Himalayan states has shown an increasing trend. All the states showed a rising literacy levels and sex ratio. Meghalaya is the only state which has downfall in sex ratio among slum population from 1007 in 2001 to 998 in 2011. Table 2 (b) also defines value for P which is (0.8), showing a positive correlation among the variables. From both the P values of 2001 and 2011, it can be inferred that due to rising literacy levels among slum population, sex ratio is also showing an increasing trend, education among females of Indian Himalayan states is increasing. The decreasing gender differentials among slum population of the concerned states can be seen in Table 3 which in itself shows that female literacy rate is increasing and the gaps among male and female literacy level is narrowing.

Table 2 (a): Percentage Distribution of Slum Literacy, Sex Ratio and P Value as per the Literacy Rate- 2001

States	Literacy	Sex Ratio	R1	R2	d=R1-R2	d²
Meghalaya	88.1	1007	1	1	0	0
Tripura	86.6	974	2	2	0	0
Assam	74.9	900	3	3	0	0
Uttarakhand	67.2	880	5	4	1	1
Jammu & Kashmir	67.5	867	4	5	-1	1
						Σd² = 2

Source: Calculated by Authors

Table 2 (b): Percentage Distribution of Slum Literacy, Sex Ratio and P Value as per the Literacy Rate- 2011

States	Literacy	Sex Ratio	R1	R2	d=R1-R2	d²
Meghalaya	89	998	2	1	1	1
Tripura	90.7	993	1	2	-1	1
Assam	81.6	945	3	3	0	0
Uttarakhand	76.9	893	4	5	-1	1
Jammu & Kashmir	68	933	5	4	1	1
						Σd² = 4

Source: Calculated by Authors

Table 3: State-wise Gender Differentials among Literacy Rate of Slum Population- 2001 and 2011

| States	2001	2011
Meghalaya	5.5	3.7
Tripura	9.4	5.3
Assam	12.9	10.1
Uttarakhand	15.9	11.9
Jammu & Kashmir	17.2	15.7

Source: Calculated by Authors

3.3 Work Participation Rate and Classification among Slum Dwellers- 2001 and 2011

At India level the work participation rate among the slum dwellers in 2001 demonstrates that 33.1 percent of the slum dwellers were workers, which is quite close to the urban Work Participation Rate of 32.3 per cent. Table 4 reveals that the work participation rate among slum dwellers in the Himalayan states are close to national average in both 2001 and 2011. The participation rate has increased immensely in all the Himalayan states as in the case of Uttarakhand, it was 27.7 percent in 2001 and it has increased to 32.2 percent in 2011. In Tripura it increased from 31.1 percent in 2001 to 36.4 percent in 2011. Sex wise pattern among slum dwellers at India level reveals that in 2001 every second male in the slums is a worker (51.1 percent) while female work participation rate was low at 12.8 per cent. But in 2011 it has increased to 54.3 percent for males and for females it has gone to 17.1 percent. In 2001 out of total five Himalayan states, only two states i.e. Tripura and Assam has the male work participation rate above 50 percent. In 2011 along with these two states, Uttarakhand has also recorded male work participation rate above 50 percent. But on the other hand, Uttarakhand has reported the lowest work participation rate among females which was 7 percent in 2001 and 10.7 percent in 2011. Among female work participation rate, Meghalaya has reported the highest percentage of 20.5 in 2001 and 22 percent in 2011.

The main workers in Indian slums form 89.3 per cent of the total workers in 2001 and 86.5 percent in 2011. It is evident from Fig 3&4, in 2001 three Himalayan states such as Meghalaya, Tripura and Assam has main workers above 90 percent and rest in Uttarakhand and Jammu & Kashmir it was 89 percent and 88.9 percent. In 2011, the scenario for main workers got changed and only Meghalaya has 90.5 percent of main workers among its slum population which seems to be economically more vibrant state as in comparison of other Himalayan states. Jammu & Kashmir has recorded the highest percentage of marginal workers which was 11.1 percent in 2001 and 27.1 percent in 2011. Uttarakhand has 11 percent of marginal workers out of there slum population which was 13.4 percent in 2011.

Table 4: State- wise Work Participation Rate in Slum Population- 2001 and 2011

States	Work Participation Rate (2001)			Work Participation Rate (2011)		
	Person	Male	Female	Person	Male	Female
Meghalaya	32.3	44.2	20.5	34	45.9	22
Tripura	31.1	50.5	11.1	36.4	56.7	16
Assam	31.9	52.3	9.2	36.3	57.7	13.7
Uttarakhand	27.7	45.9	7.0	32.2	51.3	10.7
Jammu & Kashmir	30.4	47.9	10.3	30.7	46.5	13.7
India	**33.1**	**51.1**	**12.8**	**36.4**	**54.3**	**17.1**
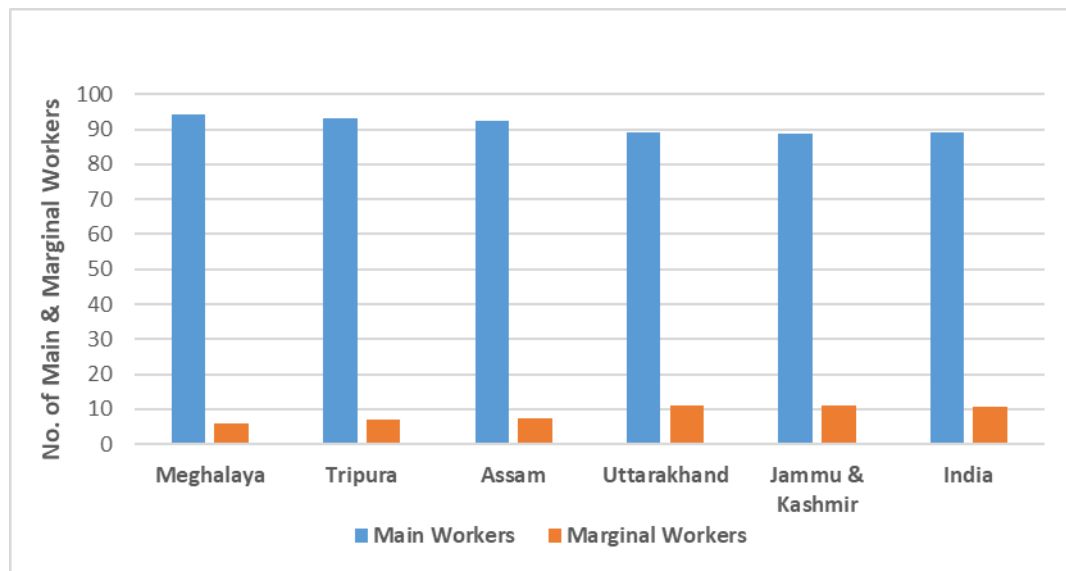
Figure 3: State-wise Main and Marginal Worker among Slum Population- 2001

Figure 4: State-wise Main and Marginal Worker among Slum Population- 2011

IV. CONCLUSION

The study reveals that the process of urbanization in the five states of the Indian Himalayan Region has been very significant and rapid changes have recently taken place in the region. The main reasons for these increasing trends are population growth and thus leading to the blooming of slums. As the Urban population has been increased from 2001 to 2011, simultaneously slum population has also been increased from 10.63 percent to 12.42 percent out of total urban population. Number of cities and towns having slums in all the five states of the Indian Himalayan Region has increased enormously, it was 51 in numbers in 2001 which rose to 123 in 2011. Among the slum dwellers it was found that there existed a positive correlation between the literacy rates and sex ratio but on the other hand the work participation rate among females is very low. Also, the percentage of marginal workers is rising as compared to the main workers in 2001 and 2011. In 2001, among all five states, three states has main workers close to 90 percent but in 2011 only one state has 90 percent of main workers out of there slum working population. These increasing trends in number of slums and slum population in few areas are very critical for the Himalayan region as this will not only disrupt the fragile ecological system through the devastation of forests and biodiversity, destruction of wildlife habitats, degradation of land, disruption of hydrological system and micro-climatic changes, but will also adversely affect the productivity of the rural ecosystem and

livelihood securities of rural communities, particularly marginalized groups and the poor in the region. In the future slums won't just be an inevitable challenge, they will start to become obstacles in the way of achieving sustainable development goals.

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