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## LIVING ENVIRONMENT AND HEALTH STATUS OF SLUM POPULATION IN HISAR CITY

### Doctoral Dissertation Abstract (2019)

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The twenty-first century has undergone a tremendous change where urbanization and industrialization have marked an important imprint on the sustainability of population growth. One of the distressing manifestations of urbanization is the sporadic growth of slums. It is a problem which grows along with urbanization. Poverty and deficit of housing in rapidly growing cities are the reasons for the emergence of slums. Exodus of rural population to urban areas plays a major role in the creation of slums.

In India, majority of urban centres are facing the problem of slums. Likewise, Hisar city of Haryana is also facing this problem. Hisar, being a counter magnet city of Delhi, attracts large number of migrants from its surrounding rural areas, many of which belong to low income groups. These migrants are the prime factor in proliferation of slums in the city. The new settlers are lacking important amenities of life such as housing, drinking water supply, drainage etc. as they compromise to lead their lives in slums. This compromise calls for an investigation to underline all the allied aspects which directly and indirectly affect the physical, psychological and economic dimensions of the slum dwellers in Hisar city.

### Objectives of the Study

Major objectives of the present study are:

- to understand the process of evolution, growth, and diffusion of slums in the study area;
- to analyze the socio-economic, living conditions and health status of slum dwellers and
- to examine the effects of government policies on slum dwellers.

### Database and Methodology

The study is based on both primary and secondary sources of data. Information such as city map, ward-wise population, number of households and list of slum colonies has been collected from different offices such as municipality and Haryana Urban Development Authority, Hisar. Apart from that relevant information about slums has been extracted from volumes of Census of India for the year 2001 and 2011.

There have been 14,961 households settled in 36 slum colonies confined to 21 slum clusters in 2001. Out of these, only 600 households, comprising 4 per cent of total households, have been selected through proportionate random sampling for collection of



primary data. A structured interview schedule has been applied to collect information about housing conditions, sanitary conditions, drainage, drinking water supply, demographic characteristics, employment, health status and causes of residing in slums. To assess the quality of water, 100 samples have been taken from different clusters of slums.

Health status of the sampled households has been analyzed by measuring Body Mass Index (BMI) of the selected age group of children and their level of immunization. To measure the BMI, a sample of 1167 randomly selected children has been taken. The immunization status of the 0-5 year age group children has been analyzed by statistical tests like Chi square and F test. The characteristics like the spatial pattern and concentration of the slum clusters have been analyzed with the help of Nearest Neighbor Analysis (NNA) technique. Z-score has been used to calculate composite index of development of different slum clusters in the study area.

### Major Findings

Slums development in Hisar has taken place under three temporal phases of 1966-1980, 1981-1995 and 1996-2011. All these break points in the time period refer to important events in the history of the city affecting the growth of slums. Slums are located near the railway lines, major transport alignments, along the canal and industrial areas. These spread widely throughout the city in small clusters.

The economic conditions of the slum dwellers are not good, since their income is low, as they are mostly migrants engaged in very low-level menial jobs like hawker, sweeper, vendor, rag pickers, household servants etc. The basic amenities in the slum areas are at a satisfactory level; especially, in

case of availability of bathroom, toilet, separate kitchen facility, water supply, street light, electricity connection and drainage facility, however, quality of the service is an issue with most households. About two-third of the slum dwellers depend on tap water for drinking purpose while one-third of population depends on hand pump.

It has been observed that the tap water is safer than hand pump water for human consumption from the point of view of observed levels of pH, EC, Ca, Mg, K, Cl, CO<sub>3</sub> and HCO<sub>3</sub>. While, pH of hand pump water varies from 6.29 to 8.97. However, except in the localities such as Maharishi Dayanand Colony, Devi Bhawan Colony, Dhakka Basti Nazdeek Petrol Pump, Gobind Nagar, Dabra Chowk, Durga Colony, Majdoor Basti, Tibba Danasar, Shiv Nagar and Mahabir Colony, all the water samples fall within the acceptable limits. Samples of these localities have been found to be slightly alkaline in nature. Electrical conductivity of tap water of the studied samples has varied between 230-882 µmhos/cm which is within the prescribed limit. On the other hand, electrical conductivity of hand pump water has varied from 1073-11130 µmhos/cm. It exceeds the desirable limit in most of the localities. Similarly, the concentration of sodium (Na<sup>+</sup>) of tap water samples of Hisar city has ranged from 2.07-31.47 and thus all the samples of Hisar city have been found to be in the permissible range. However, the hand pump water of Hisar city is mostly found to be affected by sodium hazard showing high sodium concentration (56-440 mg/l) at most of the sampled sites.

It is evident from the present study that more than half of the children are under nourished whereas one-third of them have normal weight. The problem of underweight

is more common in case of girl child, whereas male children are mostly overweight and obese than females. It reflects the maltreatment meted to female child in a male dominated society and that too at parent's level. Moreover, there is an increasing trend of junk food consumption due to which problem of overweight and obesity is becoming common especially among boys of better income groups, leading to number of diseases such as diabetes, shortsightedness etc. On the other hand, in scheduled caste and other castes, the highest proportion of children has been found in underweight category due to the low socio-economic conditions and poor cultural environment. The status of immunization is very low as only about two-thirds of the children have been covered under full immunization, because the parents of these children are casual labourers and do not have sufficient awareness about the immunization scheme. Consequently, some

of them have expressed apprehension about the side effects of these vaccines even though these are available free of cost. It is particularly low in case of measles.

The three basic slum intervention strategies adopted by the government (i) slum upgradation, (ii) in situ slum redevelopment and (iii) slum resettlement have been found to be useful for the betterment of the condition of slum dwellers in the study area. On the whole, the study reveals that the low level of education, early marriage, gender differences, unhygienic environment, poor livelihood, financial hurdles etc. are the major problems of slum dwellers towards healthy living environment in Hisar city. It has also become evident that slum dwellers are not much aware about the healthy and ideal living environment or it is out of their financial capability to avail such facilities, thus the government needs to intervene for the better livelihood of slum dwellers.

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