

## CONDITIONS OF URBAN SLUMS AND ITS QUALITY OF LIFE IN INDIA: A REGIONAL ANALYSIS

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*Slums are those areas which have the highest concentration of people under the worst shelter, physical and environmental conditions in urban region. This study attempts to understand the conditions and the quality of life in the urban slums of six different regions in India using the urban slums 69<sup>th</sup> round national sample survey data. Bivariate analysis was used to examine the conditions and composite index, and standard deviation technique was used to understand the quality of life.*

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### INTRODUCTION

With faster urbanization rate, Asia and Africa is expected to experience a drastic population shift in the coming decades. It is estimated that vast majority of the increase in urban population worldwide will confine in Asian and African countries. According to United Nation, World urbanization prospects (2014), India alone is expected to add 404 million urban dwellers to the world's urban population between 2014 and 2050. Urban cities are basically hub for economic activities where trade and commerce takes place, location of government offices, educational institutions, industries, availability of improve transport and communication facilities, healthcare, accessibility to better opportunities, socially diverse environment and many others. The share of urban population in India grew from 28% in 2001 to 31% in 2011 as per Census India data, urban cities of India today have more than 377 million population and is increasing over time. The push and pull factors has driven many people to migrate to urban cities and eventually resulted in rapid and unplanned urbanization. The rise in unplanned urbanization stimulated by fast growing population density is quite alarming as it threatens the sustainable development of urban cities. UN Habitat, world cities report (2016) has highlighted that mounting number of slum dwellers and in other informal settlements in urban cities particularly in the developing world have been one of the constant cause of concern for policy makers in the last 20 years. Slum and poverty go hand in hand (D'souza, 1979) and the severity of slums problem is the reflection of static development level and wide inequality in the income and wealth of the citizens. India's economy has grown by an average of 8 percent annually over the past few years, and yet a quarter of its population of 1.1 billion still lives on less than a dollar per day.

Rural to urban population flow accompanied with the lack of preparedness by the government in its urban planning vision has left many poor families with no choice but to live in low cost housing and to compromise with insufficient, overcrowding and dilapidated spaces. UN-Habitat recognized areas with lack of durable housing, insufficient living space, unavailability of adequate drinking water, sanitation and lack of security of tenure as slums. However, the definition of slums varies from country to country, region to region and by different competent and authoritative bodies. Government of India in its Improvement and Clearance of Slum Areas Act of 1956 specified slums as the areas that are in any respect unfit for human habitation or are by reason of dilapidation, overcrowding, faulty arrangement and design of such buildings, narrowness or faulty arrangement of streets, lack of ventilation, light or sanitation facilities, or any combination of these factors, are detrimental to safety, health or morals.

Registrar General of India in Census India data of 2011 too uses the same definition as the Government of India, Improvement and Clearance of Slum Areas Act of 1956 and categorize slums into three main types (i) notified (ii) recognized and (iii) identified slums. This study uses the National Sample Survey Office, Ministry of Statistics and Programme Implementation, Government of India definition of Slums where in its 69th NSS round of 2012 have identified slums as (i) notified slums meaning those slums notified by the respective municipalities, corporations, local bodies or development authorities and (ii) non notified, cluster of 20 households with pre-defining criteria as crowding, inadequate access to sanitation and drinking water and unhygienic conditions. Ministry of Housing and Urban Poverty Alleviation (MoHUPA) recently in 2016 defined slum as a compact area of at least 300 people or about 60-70 households of poorly built tenements in an unhygienic environment with inadequate infrastructure and lacking basic facilities. United Nations Development Programme (UNDP) in its Sustainable Development Goals has emphasized through Goal 11: Sustainable Cities and Communities to ensure accessibility to safe and affordable housing and up-gradation of slums in urban spaces of the world.

Recognizing that people have a fundamental right to live with basic dignity and in decent conditions, Government of India has implemented a number housing related policies at different points of time incorporating slum rehabilitation in cities development framework. Government of India in 2005 instituted an ambitious project- “Jawaharlal Nehru National Urban Renewal Mission (JNNURM)” under Basic Services to the Urban Poor (BSUP) and Integrated Housing and Slum Development Programme (IHSDP) where it introduced provisions towards making housing available for the urban poor through fund allocation. Likewise government undertook others ventures like National Urban Livelihoods Mission, Rajiv Rinn Yojana etc. refinancing schemes such as Urban Housing Fund Refinance Scheme, Special Refinance Scheme for Low Income housing, Refinance Scheme for Construction Finance for Affordable Housing. Indian government again initiated a scheme called “Rajiv Awas Yojana” in 2011 with the aim to curb the slum problem across the country by providing the slum dwellers a decent shelter, basic amenities and a dignified life. The government in jointly in collaboration with the state governments and private players envisaged through this scheme to accommodate urban poor through affordable housing in its effort to build a slum-free cities in India. Ministry of Housing and Urban Poverty Alleviation (MoHUPA) started a new scheme named Pradhan Mantri Awas Yojana (PMAY) in 2015 with the prospect to achieve a slum-free India by 2022 in its vision of “housing for all” expedition. Studies have shown that the number of slums are reducing in India where it reduced to 33510 slums in 2012 from 51688 in the year 2002 (MoSPI NSS report 2015). The reason for the declining number of slums and the comparatively low growth rate of urban slum population as compared to the urban population could be accredited to the government policies in the slum-free campaign and another explanation for this is the low domestic migration rates among the economically weak population (Kumar, 2010).

Census India reveals that slums households in India were around 13 million in 2011 and India’s slum population has increased to over 65 million in 2011 from 52 million in 2001. The slum population is estimated to have reach 104 million by 2017 and this pose as a challenge for urban planners towards achieving sustainable urban development and to provide even a minimum quality of life for the urban population. It is generally known that slums lacks basic amenities and

services like proper housing, safe drinking water and sanitation, healthcare, education among others which have direct or indirect effects on the health status and quality of life of the slum dwellers. Many studies have emphasized on the linkage between the health conditions of people residing in the urban slums against a backdrop of unfit living conditions in the urban slums exposure to unhygienic living environment, economic burden are some of the major reasons for widespread chronic diseases in urban slums around the world. 86-90% of the slum households in Mumbai reported to respiratory problems like cough, cold, breathing problem, fever and other allergies. Malaria is also rampant, more than two-fifth of the households complained having digestive problems like diarrhea, heartburn, constipation and around 38 percent of the slum dwellers reported having aches and pains in the body (IIPS, 2016). Adane et al. (2017) explains that poor hygienic state of sanitation facilities in the slum were the high risk factor for developing acute diarrheal problems among children. One plausible reason for low health condition in urban slums of India could be because of low utilization of modern scientific healthcare as study found that most of the people in slums around Mumbai opted for traditional healers and public hospitals are geographically remoteness to the slums (IIPS, 2016). Better health is the outcome of having greater access to healthcare facilities and it is this irregularity of healthcare utilization which cause uneven gap in the health status of different slums. Agarwal and Taneja (2005) pointed that there exist disparity in health conditions of children among different urban slums of India. Study found that slums with low accessibility to services like providing adequate water electricity, drainage etc. were found to be in much poorer child health condition as compared to the slums with better accessibility to such services. Usmani and Ahmad (2018) in their study illustrated that the urban poor slum population were more vulnerable to diseases and have high infant and child under nutrition as compared even to rural population. Another important finding in the study was the low prevalence of healthcare utilization among the slum residents with less access to healthcare facilities as immunization, antenatal care, delivery by health professionals etc. Studies also elucidate that lifestyle related diseases is more common among the slum population for instance hypertension, atherosclerosis, heart diseases, diabetes, stroke and other non-communicable diseases were found to have high prevalence in urban slums of India (Anand et al., 2007; Karthikeyan, 2016). The general explanation to the high non-communicable situation in such areas can be relate to the high prevalence of tobacco, alcohol consumption, lack of physical activities, unhealthy diet intake etc.

World Health Organisation defines Quality of Life as individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept affected in a complex way by the person's physical health, psychological state, level of independence, social relationships, personal beliefs and their relationship to salient features of their environment (WHO, 1997). Quality of life is multidimensional and that coverage may be categorised within five dimensions: physical wellbeing, material wellbeing, social wellbeing, emotional wellbeing, and development and activity (Felce & Perry, 1995). Though urbanization is said to be the sign of progress and development but the reality is, poverty is growing faster in urban areas than in rural areas which could be accounted to high cost of living. The high concentration of poverty driven migrants in urban centres pushes them to settle in worse living condition with extremely poor hygiene and unsafe environment eventually leads to degradation of quality of life and formation of slums.

Numerous studies have highlighted that slum residents are more at risk for decline in the quality of life, Izutsu et al. (2006) in a comparative study between the adolescents from slum and non-slum areas of Dhaka found that adolescents from slum areas reported to have lower quality of life and worse physical condition. Similarly, Sundari (2003) studied the quality of life of migrant household living in slums of Coimbatore, a city located in South Indian state of Tamil Nadu. The study found that the conditions of household in the slums were deplorable with insufficiency in a basic necessities and is unfit for health with women and children the worse sufferers. The study concluded that the household of migrant slum dwellers have very low quality of life after considering the different aspects of living conditions surrounding the slums. ElFouly and El Aziz (2017) in their study to understand the immediate indicators needed to enhance the quality of life in the unsafe slums of Egypt is the better provision in making necessary arrangement for cheap water supply, improved sanitation and proper waste management. Literature basically emphasized that deteriorating conditions of slums is having degrading effect on the quality of life of slum dwellers, but it is a known fact that all slums are not alike and varies from region to region or place to place. Whether much improved slums are concentrated only on areas where socio-economic conditions are much developed or vice-versa, whether the place effect determine the level of quality of life of slum is another dimension which is not much explored. Only a dearth number of studies have attempted to understand the variations in the quality of life in India for instance Jha and Tripathi (2014) have attempted to identify the slums with different levels of Quality of Life using the composite Index and Standard deviation techniques. They found that Varanasi city has slums which are categorized as very low and low categories based on quality of life using the different indicators of well-being. India is a diverse country with varying culture, traditions and socio-economic development among the regions, it is important to understand the differentials of quality of life of slums located at different regions of the country.

Although India is progressing in its effort to expunge slum problems but the pursuit to achieve slum-free nation and furthermore having a sustainable development in urban areas has still a long way to go. With the enormity of India's population, United Nations Millennium Development Goals report, 2014 reported that in 2010, one third of the world's 1.2 billion extreme poor lived in India alone which is obvious that India will be having more slums if urban population is left unchecked and urgent response is not given. According to U.N.'s '2014 Revision of the World Urbanisation Prospects report, India will add 404 million urban dwellers between 2014 and 2050, therefore comprehensive, idealistic and systematic urban planning is the need of the hour to usher sustainable urban growth in Indian cities. India's slum population at present is more than the population of Italy or UK (Salve, 2015) and the seriousness of their plight can be understood by the fact that slum dwellers who accounts for around 27 percent of the country's population occupy only 5 percent of the urban land area (Swani, 2017). With the present slum scenario, government is left with an uphill task of not only in eradicating the existing slums but to prevent its further development as it likely that slum problems will proliferate into sleepy towns and semi-rural areas (Dash, 2013). Different regions or states of India have different socio-economic development which is commonly associated with population growth and urbanization, urban slum and informal settlements occur mostly in regions or states which are socially and economically developed as these places attracts more of the poor population. Maharashtra and Andhra Pradesh have the largest slum population as per census India 2011, however in contrary to this, in a recent

state wise study on slum-like households in India it was revealed that states with the highest slum-like households are Chhattisgarh (18%), Odisha (17%), Jharkhand (14%), Tamil Nadu (11%) and Bihar (10%) as in 2008-09 (Chopra, 2017). The reason to this variation as mentioned could be because of the different operational definitions used in Census and Survey data, the other could be the different points of time. Another possible reason which need further probe is the conditions of slums; whether the improvement in slum conditions of some states or region is faster than the other is another rationalization to understand the variation. As great strides have been made by the government towards slum free campaign through national mission, but evidence have suggests that slum problem is not homogeneous, different regions responds differently towards slum issues, therefore a comparative study of slum pertaining to development of slum conditions and its quality of life based on regional level is very relevant for urban planner to realize the goal of sustainable urban development. Moreover, there are dearth number of studies which highlights the regional variation in the condition and quality of life among the urban slums of India. This paper is intended to study the improvement of conditions of urban slums in different regions of India and to examine the regional level quality of life of urban slums in India and lastly to compare the quality of life of urban slums of different regions of India.

#### **DATA AND METHODOLOGY**

The National Sample Survey Organisation (NSSO) conducted all India Survey on urban slums and slum households in the 69th round from July to December 2012. The information collected on this survey included information on drinking water, sanitation, hygiene and housing condition of urban households and urban slums. The slums sample were taken using the random sampling technique from the urban blocks of the whole country and overall the survey multi-stage stratified sampling were done in the survey study. It is the fifth survey done for collecting information from slums in India. The survey captured many slums characteristics such as proportions of slums without electricity, drainage facility available, major source of drinking water, latrine facility, garbage disposal, household structure etc. and information were taken relating to slums which are notified and not notified. Total sample surveyed is 881 throughout the country. In this paper, an attempt was made to merge the states according to their region such as Northern, eastern, western, central, southern and North-eastern regions of India. Descriptive statistics and Composite Index and Standard Deviation Technique using relevant indicators were used to reach the objectives of the study.

For operational purposes, NSSO, 69<sup>th</sup> round defined slums were as follows:

- Areas notified as slums by the concerned municipalities, corporations, local bodies or development authorities were termed notified slums.
- Also, any compact settlement with a collection of poorly built tenements, mostly of temporary nature, crowded together, usually with inadequate sanitary and drinking water facilities in unhygienic conditions, was considered a slum by the survey, provided at least 20 households lived there. Such a settlement, if not a notified slum, was called a non-notified slum. (Note that while a non-notified slum had to consist of at least 20 households, no such restriction was imposed in case of notified slums.)
- Slums: The word “slum” covered both notified slums and non-notified slums.

## RESULTS AND DISCUSSION

### *Educational Facility*

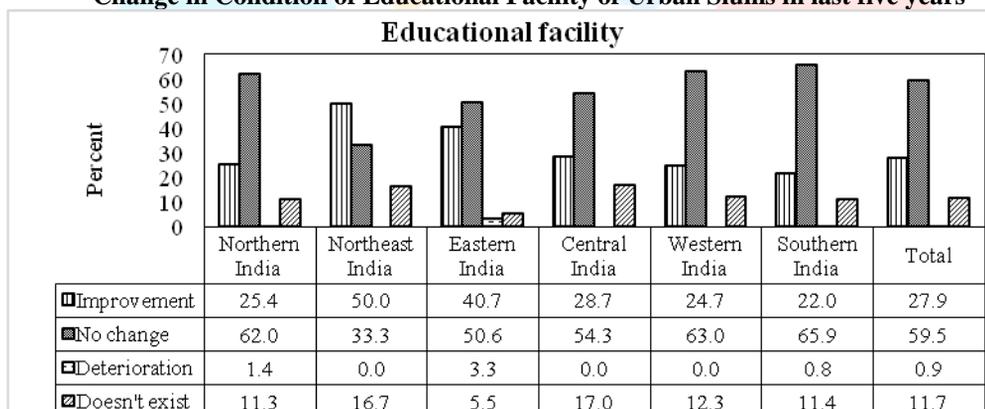
Educational facilities in urban slums are unevenly distributed in the regions. At aggregate level 60 per cent slums have shown no change, about 28 per cent have shown improvement. Still 12 per cent slums do not have educational facilities. These shares are similar across the regions except that improvement is relatively more in northeast region followed by eastern.

### *Drainage facility*

Only about one-third of slums across the country have witnessed improvement in drainage facilities while more than 45 per cent shows no change. In northeast India drainage facilities do not exist in half the slums while the remaining half shows no change in situation. Improvement is relatively more in southern region.

**Figure 1**

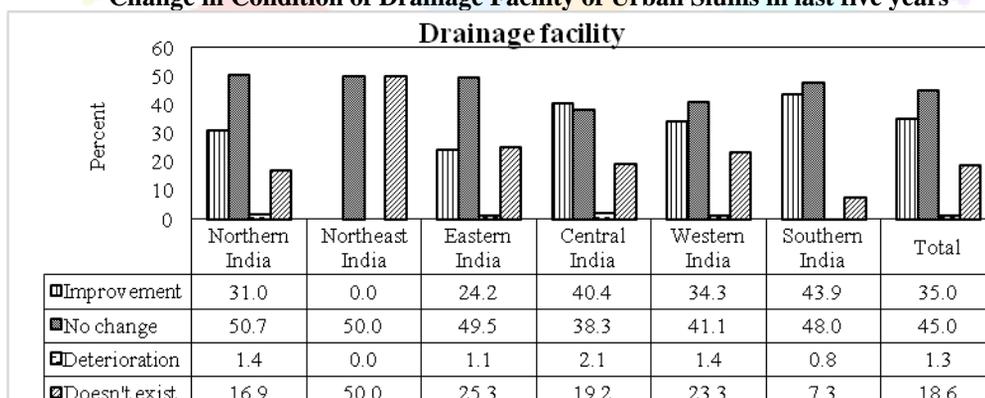
**Change in Condition of Educational Facility of Urban Slums in last five years**



Source: Source: Author's calculation based on NSSO 69th round.

**Figure 2**

**Change in Condition of Drainage Facility of Urban Slums in last five years**



Source: Author's calculation based on NSSO 69th round.

**Medical Facilities**

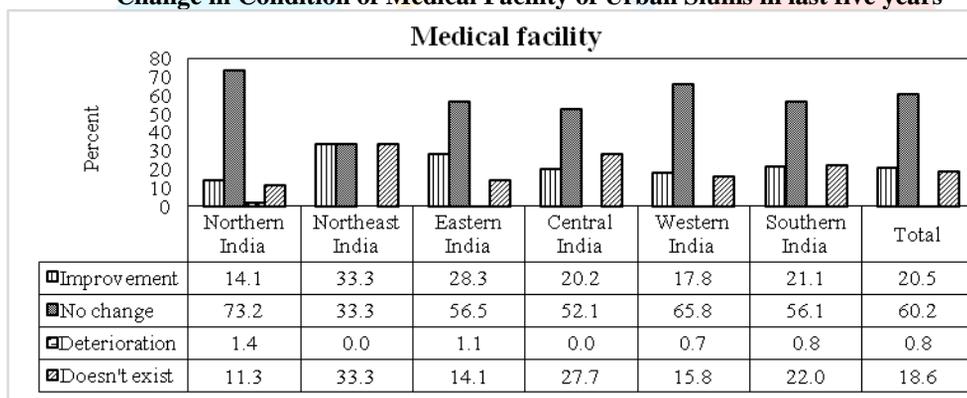
In 20 per cent slums across the country medical facilities do not exist. There has been no change in situation in 60 per cent of slums while in the remaining one-fifth there has been improvement. Non-existence is relatively more in northeastern region, followed by central India. However, improvement has also been relatively more in northeastern region, followed by eastern India. In other regions, the pattern is almost similar.

**Road Approaching the Slum**

Approach roads are existent in almost all the slums. There is an overall improvement in the situation in all the regions, especially in northern India, followed by central and southern India. Situation has not changed in Further in case of no change northeast is sharing highest percentage i.e. 66.7 percent and 52.1 in western India; 44.6 percent in eastern India; 43.1 southern India.

Figure 3

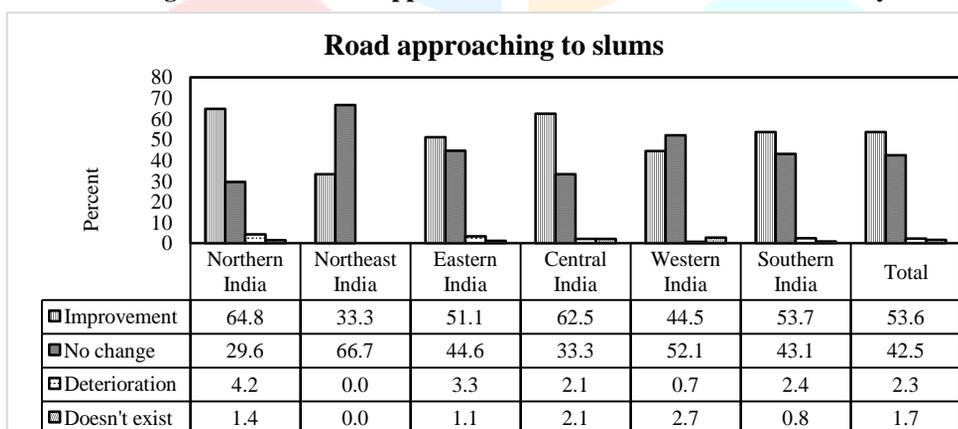
**Change in Condition of Medical Facility of Urban Slums in last five years**



Source: Author's calculation based on NSSO 69th round.

Figure 4

**Change in Condition of Approach Roads of Urban Slums in last five years**



Source: Author's calculation based on NSSO 69th round.

### Road within the Slum

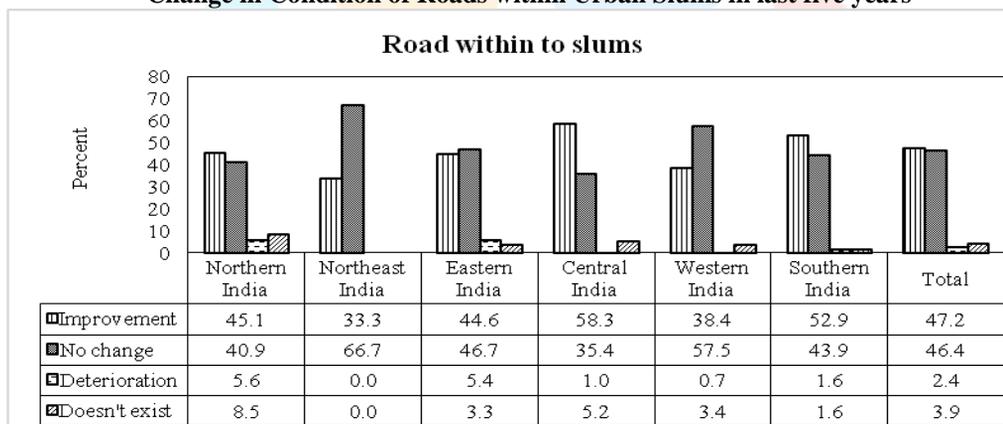
Central India has seen the most significant improvement in availability of roads within slums followed by Southern India. Western and North-eastern states have witnessed the least improvement. Even then, there are slums where no roads exist till now.

### Water Supply condition

Water supply condition has seen substantial improvement in all the regions, especially in Southern states. However, water supply still does not exist in one-third of the slums in north-eastern India. In northern India more than 10 per cent of slums have witnessed deterioration in water availability.

Figure 5

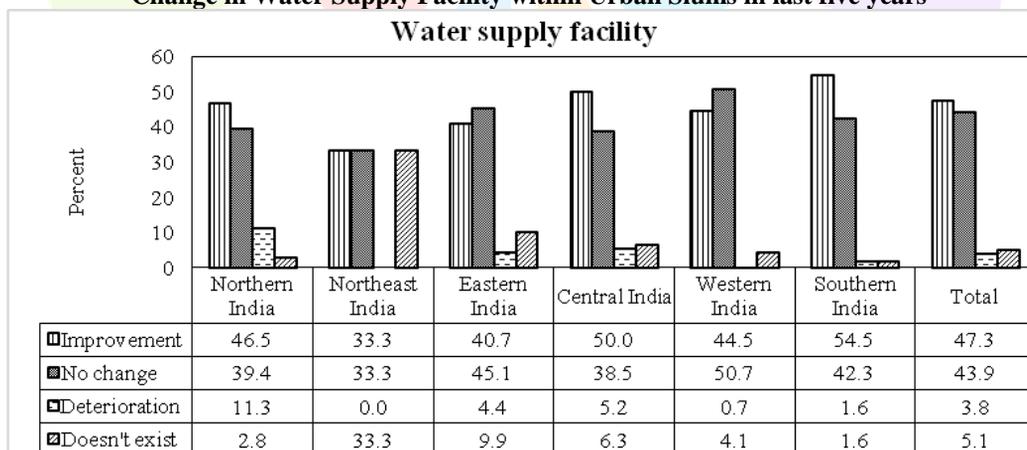
Change in Condition of Roads within Urban Slums in last five years



Source: Author's calculation based on NSSO 69th round.

Figure 6

Change in Water Supply Facility within Urban Slums in last five years



Source: Author's calculation based on NSSO 69th round.

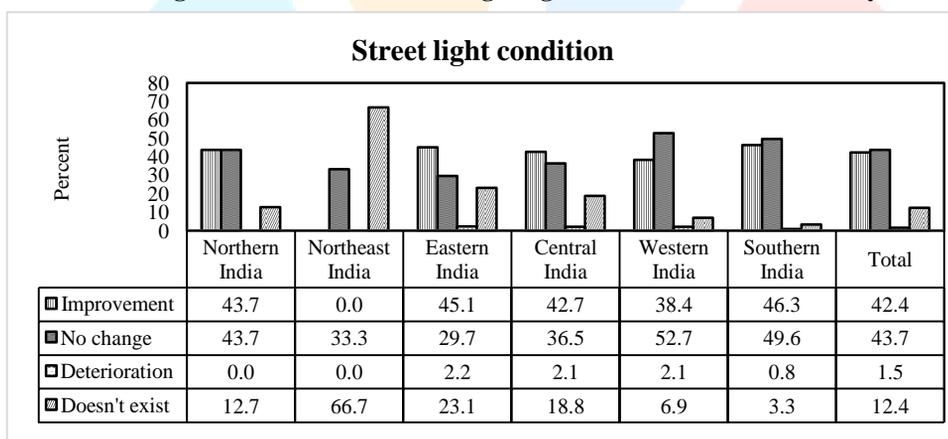
**Street lighting**

It is observed that in about 12 per cent of the slums street light facility does not exist. This proportion is extremely high in north-eastern India where just one-third of the slums have street lighting and where the situation has not improved in any slums over the last five years. At the aggregate level and also in the other regions, situations of street lighting has improved in around 40 per cent of the slums.

**Electricity**

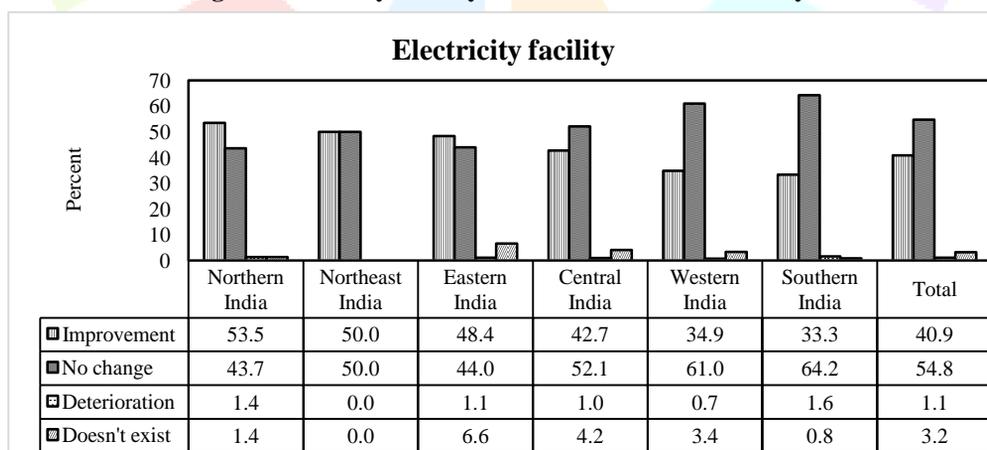
Electricity facilities in the slums have improved dramatically in the northern and the north-eastern states. Non-availability of electricity is highest in eastern region followed by central region.

**Figure 7**  
**Change in Condition of Street Lighting in Urban Slums in last five years**



Source: Author's calculation based on NSSO 69th round.

**Figure 8**  
**Change in Electricity Facility in Urban Slums in last five years**



Source: Author's calculation based on NSSO 69th round.

### *Latrine facilities*

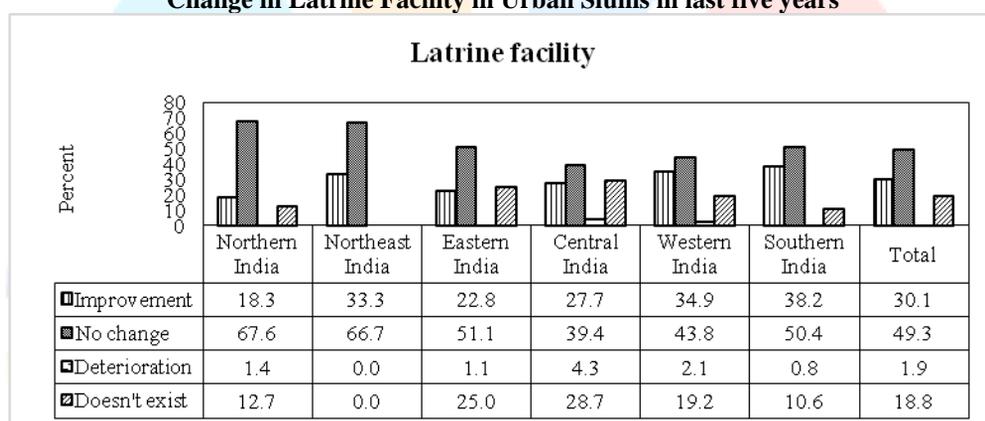
Latrine facilities is perhaps the most critical lacunae with close to one-fifth of the slums not having this facility and have to resort to open defecation. Situation is particularly poor in central India. In about one-third of the slums situation has improved in the last five years, though the pace of progress is slowest in northern region.

### *Sewerage condition*

Sewerage facility is also equally poor and in more than one-third of the slums this facility is non-existent, especially so in central and eastern states. While in more than half of the slums there has been no change in last five years, in about one-fifth there has been some improvement over this period.

**Figure 9**

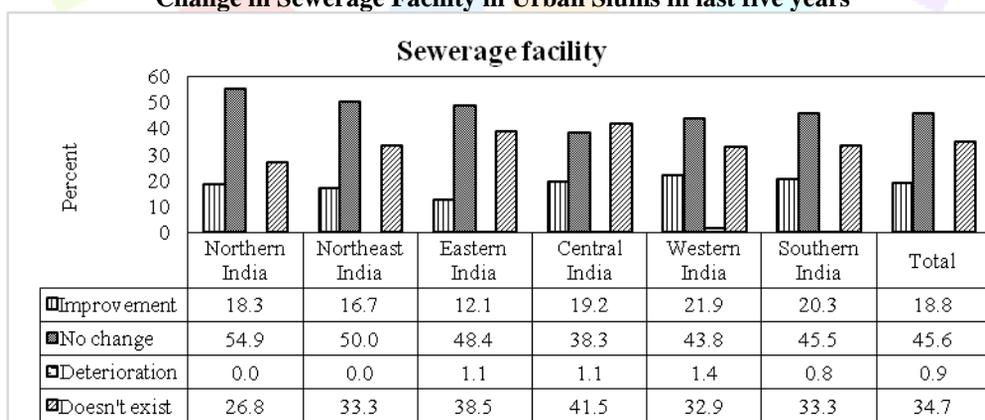
**Change in Latrine Facility in Urban Slums in last five years**



Source: Author's calculation based on NSSO 69th round.

**Figure 10**

**Change in Sewerage Facility in Urban Slums in last five years**

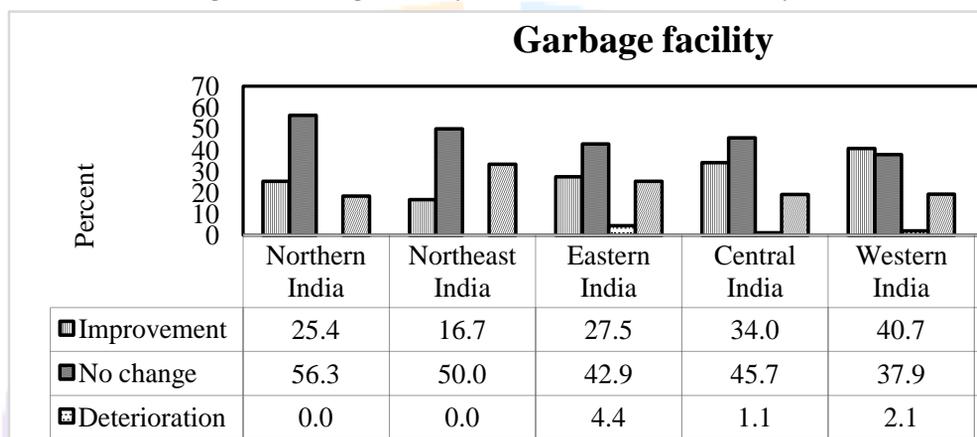


Source: Author's calculation based on NSSO 69th round.

### Garbage collection & disposal facility

Garbage collection and disposal is another area of concern as its absence directly affects health and environment. In more than 17 per cent of slums there is no garbage collection facility, more so in north-eastern and eastern India. Situation has improved substantially in southern regions, followed by western states.

Figure 10  
Change in Sewerage Facility in Urban Slums in last five years



Source: Author's calculation based on NSSO 69th round.

### QUALITY OF LIFE

In the present study altogether 12 variables are considered for the measuring the quality of life in the urban slum of different region of India (Table 1). These are: *Source of Drinking Water*(X1), *Sources of Electricity* (X2), *Garbage Disposal* (X3), *Latrine facility* (X4), *Drainage facility* (X5), *Whether Waterlogged during Rainy season*(X6), *House Types* (X7), *Physical Location of Slum* (X8), *Type of area surrounding the slum* (X9), *Road Approach to the Slum* (X10), *Distance of the Government Primary School* (X11), and *Distant of Government Hospital* (X12). For all these indicators, a scaling method was adopted where the best possible option for a particular facility was provided higher score compared to the worst possible option (see Table 1 for details).

After calculating the composite score, we notice that apart from southern India the quality of life in urban slums is still poor (Table 2). As the analysis shows that people in North-eastern and Eastern India still don't have the basics need like good sources of water. And when we talk in terms of garbage management which has to do with health and hygiene than the study shows that 54 percent slums in eastern India still don't have any kind of management for garbage disposal, while 63 percent of the urban slums still do not have any kind of toilet facilities. Drainage system is poor in all the regions but more so in northeastern India, followed by eastern India. Water logging after rains is also a serious issue as 40-50 percent urban slums still face this problem every year. About 30 percent of the houses are still *kutcha* in northeastern and northern India. Settlement of slums are mostly near drain/river bank in all the regions. Schools are sources of human capital formation and may bring in change the conditions of life to the children of slums dwellers. But we find that still about 30 percent of the schools are located more than 1 km away from the slums area in northeastern India. Similar figures are noted for hospitals too.

Table 1

## Selected Variables for Quality of Life in urban slums of India and their X Values

Variable	Parameters	Indicators	Score
X1	Major Source of Drinking Water	Tap	3
		Tube Well/Borehole	2
		Well	1
X2	Whether Slum has Electricity	Neither HH Nor Street	1
		Either HH Or Street Light	2
		HH & Street Lights	3
X3	Garbage Disposal	No Arrangement	1
		Residents	2
		Municipality/Corporate	3
X4	Latrine Facility	No Latrine	1
		Dry Pit	2
		Flush	3
X5	Drainage Type	No Drainage	1
		Open Drainage	2
		Covered Drainage	3
X6	Whether Water-logged During Rainfall	Yes	2
		No	1
X7	Type of Structure	Katcha	1
		Pucca	2
X8	Physical Location of the Slum	Drain/River Bank	1
		Railway Line	2
		Hilly Terrain	3
		Park/Open Space	4
X9	Area surrounding the Slum	Slums	3
		Industrial/Commercial	2
		Residential	1
X10	Approach Road to the Slum	Katcha	1
		Pucca	2
X11	Distance of Govt. Primary School	More Than 1km	1
		0.5-1km	2
		Less Than 0.5km	3
X12	Distance of Govt. Hospital	More Than 1km	1
		0.5-1km	2
		Less Than 0.5km	3

Table 2

## Composite Score for Urban Slums of India

	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	Aggregate
Northern India	2.8	2.6	1.9	2.0	1.7	1.5	1.8	2.4	1.7	1.8	2.4	1.6	24.0
NE India	2.2	2.3	2.2	2.6	1.5	1.5	1.7	2.2	1.0	1.7	2.3	2.0	23.1
Eastern India	2.4	2.5	1.9	1.7	1.6	1.5	1.8	1.6	1.4	1.8	2.6	1.5	22.2
Central India	2.6	2.7	2.2	2.0	1.7	1.4	1.9	2.3	1.6	1.9	2.3	1.5	24.1
Western India	2.8	2.7	2.3	2.2	2.1	1.4	1.9	2.5	1.6	1.8	2.4	1.7	25.3
Southern India	2.9	2.9	2.6	2.5	2.1	1.4	1.9	2.0	1.8	1.8	2.7	1.8	26.4

Source: Author's calculation based on NSSO 69th round.

## CONCLUSION

According to Census of India, increase in slum population from 2001 to 2011 across the country is 2.1 times of overall urban population and increase in slum households is 1.5 times of all urban households. Average household size in slum areas is also higher than that in overall urban areas. The slum dilemma still lingers and is rampant in the mega cities of India. If slum growth is uncontrolled and not contained effectively, it would be an imminent peril to the quality of life and sustainability of urban cities in general and the slum dwellers in particular. This study, using a composite score based on indicators of quality of life in urban slums, clearly brings out that urban slums located in Southern India are doing much better in terms of quality of life, followed by Western India. The slums in North-eastern and Eastern regions are lagging far behind. This hierarchy loosely reflects the order of socio-economic development of the regions in India. A factor that could pose as a conundrum towards 'Slum Free India' campaign is this regional disparity among them, which is widening over time. Among several reasons for disparities in regional development, one plausible reason is the sluggish economic growth, especially industrial development. This is pushing un-absorbed surplus primary sector labour into the cities, increasing the slum-density. Naturally the pressure and problems are more in the relatively lagging regions of the country. Degrading slum condition and poor quality of life underlines the need to have regional based contextual urban planning in India, especially in the lagging regions.

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