



Mapping of Regional Disparity in Standard of Living: Issues and Challenges to Urban Resilience in India

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Abstract

In India, regional disparity is striking in urban development; the southern and western states are more urbanised as well as having a large number of slums; but eastern states record low rates of urbanisation along with a huge proliferation of slum population; exerting pressure on basic urban amenities and infrastructure, which determine the Standard of Living. It throws a big challenge to national urban development programmes and raise two questions, why this regional anomaly exists and how it can be reduced to achieve urban resilience. Based on these two prime research questions, this paper is structured. There are two ways to measure Urban Deprivation; the first one is to identify spatial variation in the access and coverage of basic urban amenities and infrastructure; the second one is to analyse partial access to the same to measure the effectiveness of service delivery. Standard of Living and Urban Deprivation are measured through the access and partial access to basic amenities and infrastructure rather than income-expenditure criteria. Based on secondary data, this paper focuses only on slum households. Findings reveal that slum households of highly urbanised states have better access to basic amenities and infrastructure than their least urbanised counterparts; but the question of partial access is often overlooked and it leads to urban deprivation and reduces the individual household's potentiality of resilience.

Keywords: Regional Disparity, Slums, Amenities & Infrastructure, Access & Partial Access, Deprivation, Resilience

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Introduction

Postmodern cities are no longer considered as a mere space arbitrarily demarcated for administrative convenience and characterised by certain demographic and socioeconomic features only. However, they are envisioned as a process or system, in which wealth generation or accumulation continues along with the interspace or inter-regional exchange of production and collective consumption of urban wealth as well as services and amenities. Therefore, the planners of the postmodern cities put special emphasis on urban management, which helps in removing the structural problems in distributing urban amenities and infrastructure equally across the space within and outside the city limit. Continuous transformation of urban spaces in search best suited activities, not only pushing the urban poor further away from the city core towards the periphery,

but also reduces their ability to have a minimum standard of living, to achieve 'resilience' or capacity to recover from the unforeseen shock (natural & man-made calamities). This paper aims to develop a critical linkage between the access to urban amenities & infrastructure and urban resilience in the backdrop of regional disparity in urban slums across Indian states. Here, urban resilience is analysed and examined through the lens of relative poverty or deprivation. Therefore, Standard of Living is measured through the access and partial access to basic amenities and infrastructure rather than per capita income or household expenditure. Slum households are the focus of this study, because in the urban areas, slums are often taken as the hotspot of urban poverty.

Insight into recent literature

The new Millennium is marked by a least acknowledged fact that within the next twenty five years, more than fifty percent of the world's population is going to live in the cities (UNPFA, 1993). However, the process of urbanisation is not same across the world. In the developing countries like India, urbanisation is neither fuelled by economic growth nor by the industrial revolution; but by abject poverty in the rural areas and joblessness (Kothari & Kohli, 2002). Thus, it leads to unprecedented urban growth due to continuous rural to urban migration and increasing pressure on urban amenities and infrastructure. Right now, urban poverty has become a structural phenomena, which is often named as 'Urban penalty' (James Rice, 2008). This structural poverty, not only leads to slum proliferation and income poverty, but is also creating various forms of urban deprivation as well as vulnerabilities, which requires systematic investigation through theoretical as well as empirical literature review.

Urban System as the Producer of Amenities & Services

Cities as the space of 'Biotic Competition' gained popularity in the last century, in which continuous competition for urban space and victory of the best suited activities as well as the best adaptive population group got priority (Robert E. Park, 1925). According to Park, best suited economic activity and best adaptive groups push away other activities and groups from the city core to the periphery.

However, Manuel Castell has argued that cities are not only limited to a particular space or boundary arbitrarily demarcated for administrative convenience or planning purpose, but also a dynamic process or a continuous system, which has continuous interaction between the four elements, i.e. population, environment, social organisation and technology. This process or system produces certain goods and services, generates certain wealth or capital as well as infrastructure. Those goods and services are not for individual consumption, but for collective consumption and thus, exchange of production and produced wealth is necessarily being managed through careful planning (Castells, 1976). Thus, urban planning or management is the core component of every urban system and every city has two components, the first one is the city space and the second one is the process of collective consumption of goods and services. In this backdrop, Henry Lefebvre, proposed his famous concept, 'Right to the City' in which universal access to basic amenities and services for all got priority (Lefebvre, 1996).

Urban Poverty and Deprivation

Since the development of post-modernist theories in urbanisation, the discourse of urban poverty witnessed a paradigm shift. The concept of poverty based on income, expenditure and caloric intake got a huge blow by the academicians, who started talking about relative poverty

or deprivation. This concept implies a basic standard of living or a quality of life below that of the majority in a particular society or group, face hardship, inadequate access to resources and become underprivileged (D.T. Herbert 1975). It creates the Concept of Culture of Poverty (Oscar Lewis 1961; 1965; 1966) and reflects that urban deprivation is the result of the internal deficiency of the poor, and deprivation is the product of class-conflict within the prevailing social system.

The concept of urban deprivation analyses urban poverty from a different point of view, it analyses access to basic needs and calculate relative deprivation as well as Underserved Population (Oyen, 1996; Townsend, 1970, 1988 & 1993). 'Unsatisfied Basic Needs Index', 'Asset Index', 'Vulnerability and Participatory Methods' (Falkingham et al. 2002) developed to identify urban deprivation across space and population sub-groups. These methodologies are modified and adopted for this study to identify how Standard of Living in urban slums varies across Indian states.

Vulnerability and Resilience

Vulnerability is an obvious outcome of deprivation; it exposes an individual or a population sub-group risks associated with unforeseen catastrophes. The word vulnerability is opposite to resilience and a part of the multiple dimensions of poverty or deprivation (Adger 1998; Prowse, 2003). The study of resilience as a tool to combat vulnerability has gained popularity in the western world in the recent decades and urban resilience has become integral part of the urban planning in Canada, UK and Australia. This newly developed concept can address socioeconomic as well as environmental vulnerability from a holistic point of view (TERI, 2014).

Urban Vulnerability in India

Rapid urbanisation in India has not only increased the numbers of urban settlements from 5161 in 2001 to 7935 in 2011, but also created a huge pressure on urban amenities and infrastructure. Access to formal housing is one of the most pressing problems since the independence. Due to scarcity of formal housing, a large number of urban poor is compelled to live in informal housing or slums. Therefore, a large section of the city dwellers, which comprises the poorest of the poor segment in the society, remains without basic amenities and infrastructure like potable water and sanitation (Nangia & Gupta, 1993; Retnaraj, 2001).

However, the condition is not the same across all states, not even across the slums within a single city. Registered slums, older slums and slums located in the core city are not only better served by the amenities like water, sanitation and sewerage but also provide tenure security to its residents. On the other hand, new slums and peripheral slums record worst condition in terms of access to the civic amenities (Banerjee & Roy, 1990; UN-Habitat 2003; Agarwal & Taneja, 2005).

A study conducted by DFID (Department for International Development) has identified various types of vulnerabilities experienced by the slum dwellers in India. The first one was physical vulnerability, which can be measured through the exposure of being attacked or getting killed; the second one is health vulnerability, which arises through living without basic amenities like sanitation, potable water and so on. The third one was social vulnerability, which not only incorporates slum dwellers' social identity, but also incorporates inadequate access to education and skill, which transmits vulnerability from the older generation to the newer ones. However, they did not talk about economic vulnerability, because, economic vulnerability is very much embedded within social vulnerability (Loughhead, Mittal & Geof Wood, 2001).

Addressing Urban Resilience through Urban Planning in India

Although the history of urban planning and slum development is not new to India, but addressing urban resilience through planning is still in rudimentary stage. However, in the west (Canada, UK and Australia) achieving urban resilience through planning is already a well-researched topic (L.Chelleri & M. Olazabal, 2012). Spatial variation in coverage of basic services and amenities is one of the important steps to assess vulnerability and it helps in the resilience study (TERI, 2014).

Gaps in Literature

Findings from the literature review highlights the following concepts and reveal certain research gaps, in which the present study finds its context:

1. The City as a space as well as a system generates certain goods and services for the mass or collective consumption.
2. Coverage and access to urban services and amenities depend on planning and management of urban resources.
3. Empirical literature uses data sets to measure coverage and access to urban amenities city-wise. They conclude that lack of access to basic services and amenities lead to Deprivation.
4. Urban Deprivation not only incorporates income poverty, but also other socioeconomic factors. Moreover, it generates the Culture of Poverty', which keep one region or group deprived generation after generation.
5. Vulnerability is one of the outcomes of deprivation, which reduces an individual or a group's ability to recover from sudden shock or catastrophes. Environmental literature deals with vulnerability, which assesses not only economic indicators, but also assess other social and demographic indicators. Resilience is seen as a tool to reduce vulnerability.
6. Urban planners and policy makers of the west incorporates resilience within planning strategy and they consider coverage and access to urban basic amenities as an indicator to assess resilience.
7. However, Indian literature on urban planning deals with the coverage and access to urban amenities only as one of the components of urban planning. They seldom interlink it with Urban Resilience.
8. Gradually, the concept of urban resilience is incorporating access and coverage of urban amenities; and this paper also measures urban deprivation in terms of access to basic amenities and infrastructure; and finally interlinks it with Urban Resilience.
9. Though access to basic amenities and infrastructure is seen as one of the components to measure urban deprivation; but very few studies differentiate between 'complete access' and 'partial access'. Secondary sources of literature mainly provide data on 'access and coverage' of services; but hardly looked into the nature of service delivery. Therefore, in this study, 'partial access' to urban amenities and services' got a place in the Urban Deprivation Index. Though data on 'partial access' is limited in the Indian Census; yet it is considered.

Objectives

- To develop a critical linkage between urbanisation, access and coverage of basic services and amenities.

- To map regional disparity in urbanisation and standard of living.
- To evaluate contemporary urban policies in the context of urban deprivation and resilience.
- To suggest policy recommendations for future urban development.

Research Methodology

Type of the Study

To get an overall snapshot of the existing spatial variation in coverage and access to basic urban amenities and infrastructure, this study conducts a spatial study on India's slums. Mapping methodology is adopted to show amenity-wise coverage and access across the states and then the overall Deprivation Index is computed to show the overall urban deprivation. Two types of deprivation are addressed here, complete deprivation or not having access to certain amenities and services; and partial deprivation or not having access to the safe or cleanest modes of service. As, for example, a household may have access to drainage, but to open drainage, not to the closed one. The last section of the paper includes a policy evaluation section, which critically interlinks urban deprivation with urban resilience.

Data Source

This paper is based on secondary data collected from the Census of India (Office of the Register General and Census Commissioner), 2011. In this paper, the Household Amenities Table (2011 (Tables HH-1, HH-2, HH-3, HH-6, HH-7, HH8, HH-9 & HH-10) of the slum households for the year of 2011 is analysed. These amenity tables provide information regarding, the type and condition of households, availability and accessibility on electricity, drainage, bathroom, latrine and safe cooking fuel.

Variables

For measuring the standard of living, two types of variables are chosen; they are showing a) housing condition and b) access to basic amenities and infrastructure, which include access to potable drinking water and its source, sanitation, drainage, electricity and safe cooking fuel.

Variables Chosen	Definition & Importance in this study
Slum Types & Definition	Slums are of three types: Notified, Recognized and Identified. Notified Slums are the Slums notified as 'Slum' by state/ local government or UT Administration under any Act including a 'Slum Act'. Recognised Slums are not notified as slum by any Slum Act; but is recognised as a slum by the State or local bodies. Both Notified and Recognised Slums have legal recognition. The identified Slum definition is actually provided by the Census of India. "A compact area of at least 300 population or about 60-70 households of poorly built congested tenements, in unhygienic environment usually with inadequate infrastructure and lacking in proper sanitary and drinking water facilities is considered as slums in the Census of India. They do not have legal status." (GOI, 2011; pp 6)
Type of Houses	The census provides data on three types of houses, depending on their usage. The first one is residential, second one is institutional and the third one is residential cum other uses (mixed use). In this paper, Institutional Households are excluded.
Households	Households are the group of people living in a same building or in the part of a building, sharing meal from a common kitchen. They may be related or may not be related by blood or relation.

Condition of the Houses	The Census classifies houses into three groups, depending on their physical condition; Good, Liveable and Dilapidated. It also provides data on roof, wall and floor materials. For measuring Deprivation, Kuccha houses (having roof, wall and floor in non-permanent/ other than concrete materials) and dilapidated houses are taken into consideration.
Drinking Water	The Census provides data on the sources of drinking water and its location. Households not having treated tap water within their premises are considered as deprived of drinking water facility.
Latrine & Bathroom	Inadequate access to latrines and the bathroom is another indicator of deprivation. The Census provides data on various types of latrine facilities, as well as alternative usage (open air defecation and public toilets). Similarly, not having bathroom within the housing premises is another indicator of deprivation. There are two types of bathrooms; the first one has an enclosure and the second one does not have an enclosure.
Cooking Fuel & Electricity	These two variables help in measuring Energy Deprivation. The Census provides data on the access to the electricity and different types of cooking fuels. Households not having access to electricity and LPG (as the most popular type of safe cooking fuel in India) are treated here as deprived households.

Hypothesis

- Both the geographical area and the number of sampling units (slum households) are large in number. Indian states do not have the same socioeconomic condition and the rate of urbanisation as well as slum population varies widely. Therefore, it is expected to have state-wise variation. Slums located in the urbanised states having a higher GDP will have better access to basic amenities and infrastructure.
- There is a regional variation in the full and partial access to urban amenities and infrastructure.

Research Models and Statistical Tools

Two types of methods have been applied for measuring deprivation in the access and coverage of basic urban amenities and infrastructure;

Variable mapping: First of all, for measuring various domains and extent of deprivation, percentage distribution of slum households living without basic amenities are mapped. It provides regional disparity in terms of the access to basic amenities and infrastructure.

Deprivation Mapping: Deprivation scores have been computed by combining all the variables into a single and a standardised set from the summary of the statistics (Mean and Standard Deviation).

Analysis and Discussion

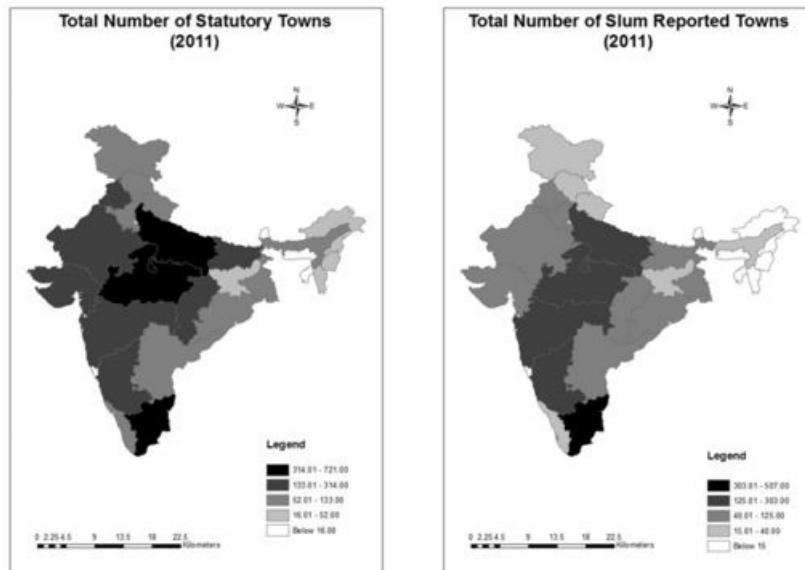
Data Coverage: Census 2001 recorded that Himachal Pradesh, Sikkim, Arunachal Pradesh, Nagaland, Mizoram, Manipur, Lakshadweep, Dadra & Nagar Haveli and Daman & Diu had no slums; but in the 2011 Census only Manipur, Lakshadweep, Dadra & Nagar Haveli and Daman & Diu are slum free states/UTs. Therefore, these three UTs and Manipur are not included in the analysis.

Distribution of Slum Population

The last census reveals that India has 4041 Statutory Towns; among them 2613 towns (64.6%) reported to have slums. Tamilnadu is the highest slum reported states, where out of the 721 Statutory Towns, 507 towns have slums. Madhya Pradesh, Uttar Pradesh and Karnataka have reported to have more than 200 towns with slums. Andhra Pradesh has 125 Statutory Towns and all of them have reported to have slums.

Least urbanised states like Himachal Pradesh, Bihar, Sikkim, and northeastern states like Nagaland and Tripura also have reported to have a large number of towns with slums. Sikkim has eight Statutory Towns and seven of them have slums.

Map 1: Total Number of Statutory Towns and Slum Reported Towns in India, 2011



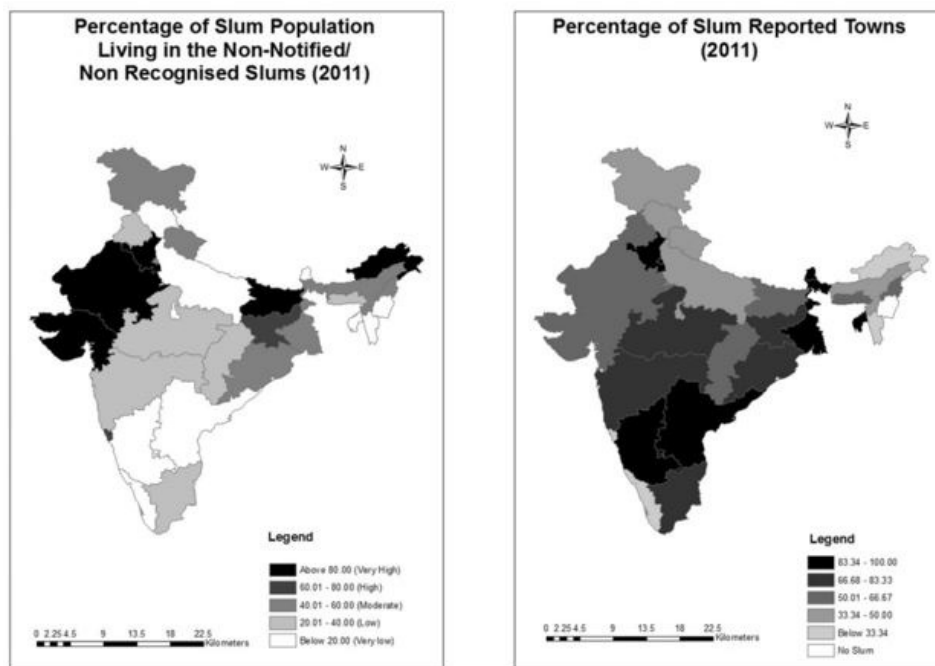
Source: Generated by the author

Map 1, shows that the total number of Statutory Towns is highest in Tamil Nadu, followed by Uttar Pradesh and Madhya Pradesh; at the same time, Tamil Nadu records highest number of towns reported to have slums; followed by Karnataka, Maharashtra, Madhya Pradesh and Uttar Pradesh.

As it was earlier stated that slums are not uniform across India and there are three types of slums, so, it is necessary to see the distribution of population across slum types. Though Notified and Recognised Slums enjoy some kind of legitimacy or legal recognition provided by the Central or State Governments or Local Bodies; but Identified Slums lacks legitimacy. Identified Slums are identified by the Census Of India during houselisting and enumeration.

Census 2011 reveals that states reported to have a high percentage of Slum Reported Towns; not necessarily to have Notified Slums. Though Southern States have a number of Slum Reported Towns; but most of their slum population live in either Notified or Recognised Slums; whereas in Rajasthan, Gujarat and Arunachal Pradesh hundred per cent of the slum dwellers live in the Identified Slums, which have no legal recognition. Rajasthan and Gujarat (20 and 16 Lakh respectively) have a huge number of slum population living in Identified Slums. (Map 2).

Map 2: Percentage of Slum Population Living in Non-Recognised/ Non-Notified Slums & Percentage of the Slum Reported Towns to Total Urban Settlements



Source: Generated by the author

Regional Disparity in access to Basic Amenities and Standard of Living in Slums

Regional disparity in the access to basic amenities is measured through the following variables of housing amenities (Map 3).

Housing Condition: Slums are generally made up of small huts built up by temporary or semi-permanent materials like tin, asbestos, tiles, plastic, canes and other easily available raw materials. Therefore, most of the slum huts have kuccha roof and wall; but housing condition is an important indicator of the standard of living. The percentage of dilapidated slum households are highest in Chandigarh (21%); followed by Assam, Delhi, Bihar and Punjab (above 10%).

Sanitation: Sanitation condition of a slum household is analysed through its access to latrines and the types of latrine. It has been found that more than 40 per cent slum households in Bihar, Odisha, Jharkhand and Chhattisgarh practise open air defecation; but urbanised states like Maharashtra and Andhra Pradesh record better access to latrine facility. Among the southern states, only Tamil Nadu and Karnataka record more than 20 per cent slum households practising open air defecation. However, Maharashtra shows an interesting picture. Though this state records better access to latrine for the slum households; yet 49 per cent of the slum households use public latrine instead of private ones. More than 96 per cent of the slum households in Chandigarh do not have access to own latrines; 76 per cent use public latrines and rest practises open air defecation. Urbanised states like Gujarat, Tamil Nadu and Karnataka also record more than 20

per cent slum households depending on open air defecation. Even in Delhi NCT, a considerable number of slum households (12%) go for open defecation.

Access to the bathroom is another important variable, which determine one's standard of living. In India, slum households hardly have access to bathroom. The Census provides data on two types of bathrooms; i.e. bathroom with enclosure and bathroom without enclosure. Chandigarh records 73 per cent slum households without a bathroom; Bihar, Jharkhand, Odisha, Delhi and Chhattisgarh record more than 40 per cent slum households without proper bathing facility.

Drainage: Eastern and northeastern states are recording more than 40 per cent slum households do not have access to drainage. The problem is acute in Arunachal Pradesh (62%), Odisha, Assam and Tripura where more than 50 per cent slum households are not connected with drainage.

Partial access to drainage or households living near open drainage is another important standard of living indicator. Uttar Pradesh, Madhya Pradesh, Rajasthan, Karnataka and Haryana record more than 45 per cent slum households live near open drainage.

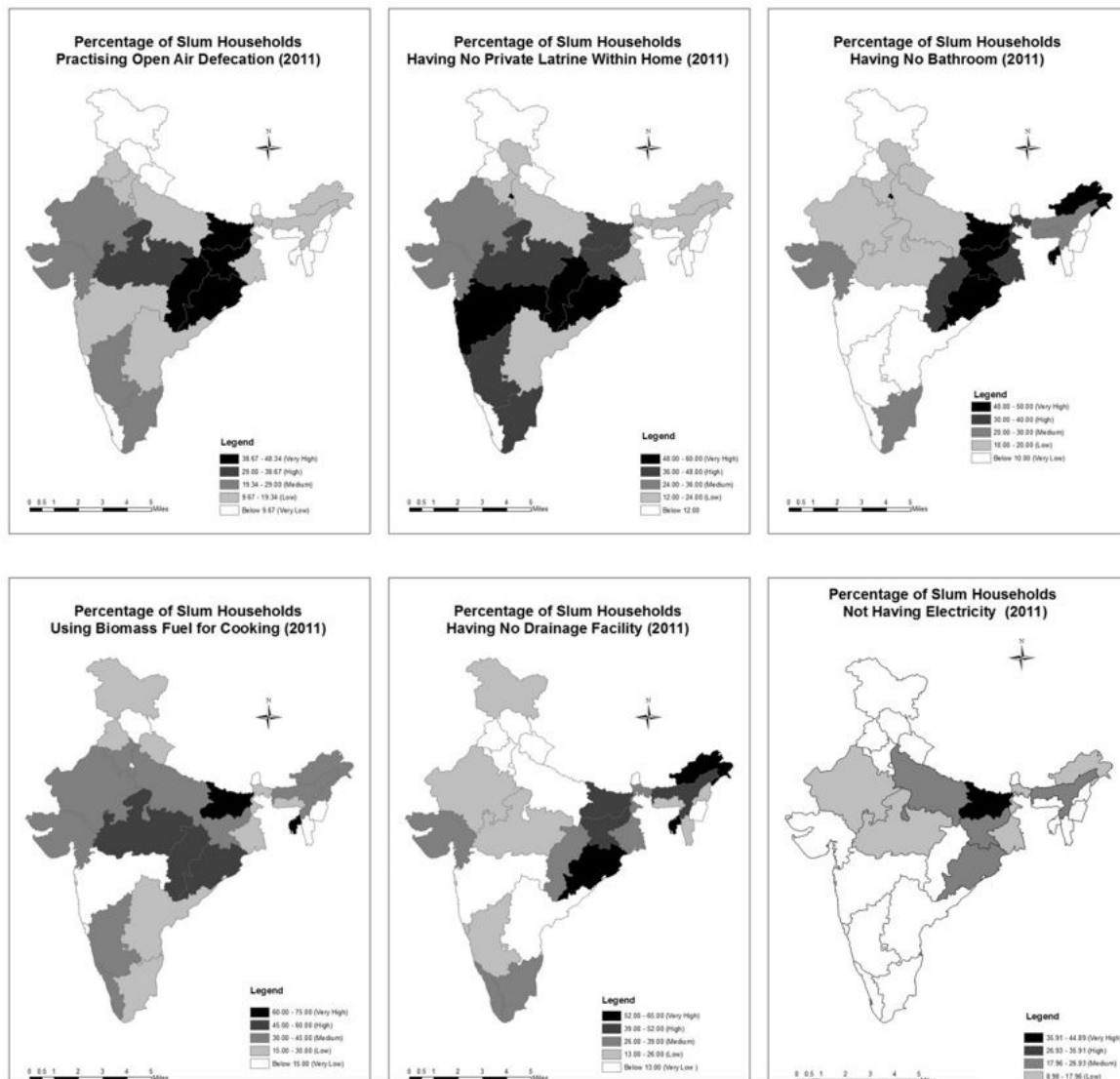
Cooking Fuel: Bihar records more than 60 per cent slum households, depending on biomass fuel (firewood, crop residue and cow dung); more than 50 per cent slum households in Odisha and Chhattisgarh rely on biomass fuel. Northeastern states (Assam, Nagaland etc.) also record heavy reliance on biomass fuel in the urban slums. However, Delhi and southern states record less reliance on biomass fuel and better access to the clean fuel; but a large number of slum households in Delhi and southern states (Karnataka, Tamil Nadu) do not have access to LPG; but use kerosene.

Electricity: Though electricity has better coverage in the slum households compared to the other basic amenities and infrastructure; but Bihar is the only state where 44 per cent slum households do not have electricity. Uttar Pradesh, Jharkhand, Assam and Odisha show more than 20 per cent slum households without electricity.

Drinking Water: More than 30 percent of the slum households in Odisha have drinking water sources away from their housing premises. Jharkhand, Madhya Pradesh (more than 20%), West Bengal, Gujarat, Chattishgarh, Andhra Pradesh and Karnataka (more than 10%) record a significant number of slum households living away from the source of drinking water.

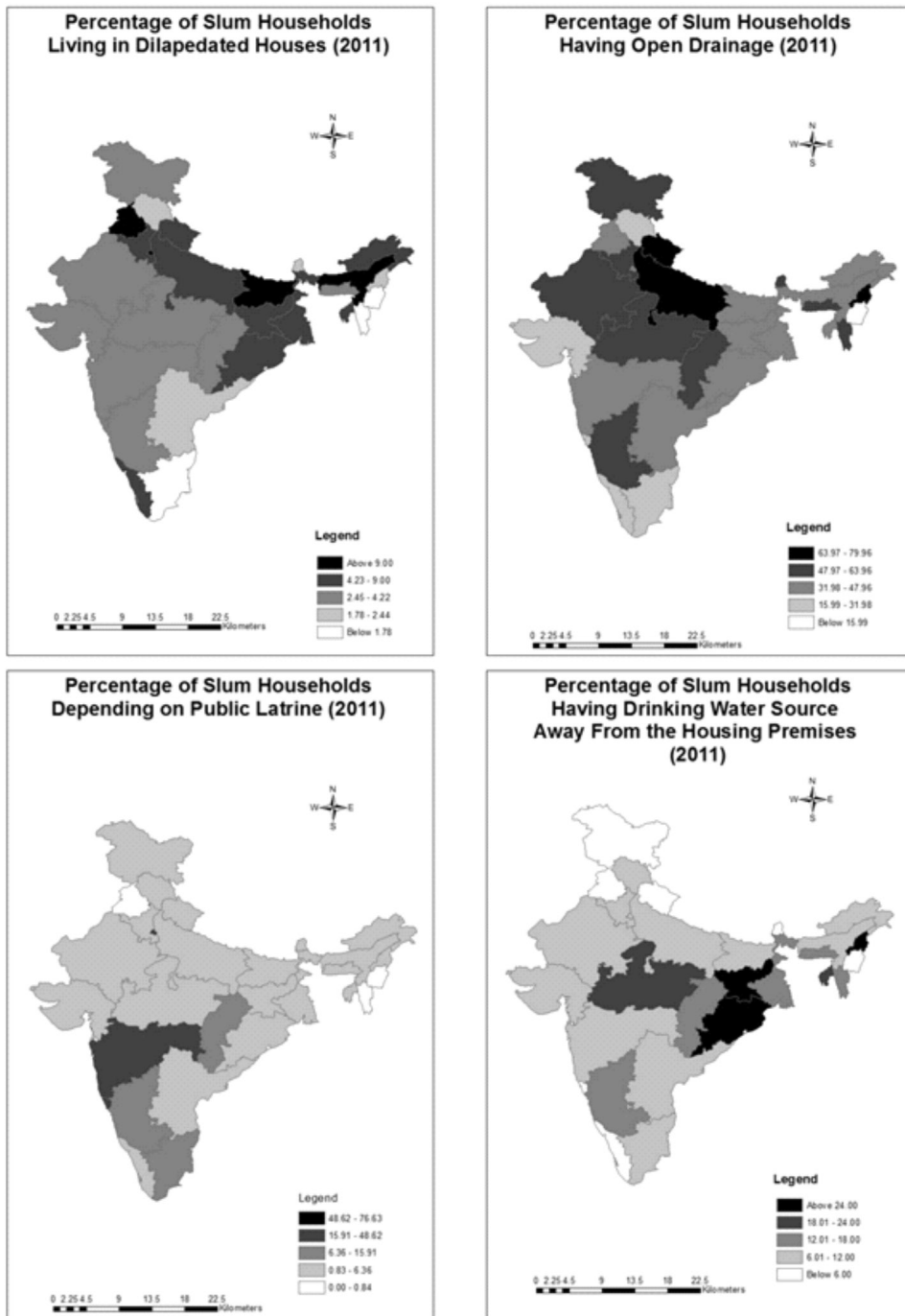
Partial Access to Housing Amenities: Therefore, slum households are facing two types of deprivation; the first one is non-availability of services and the second one is partial access to the services. The slums of the eastern states (Bihar, Jharkhand, Chattishgarh, Odisha and so on) record poor coverage of the basic housing amenities; while slum households in the other parts of India, have access to these services; but partially. As for instance, in case of sanitation; though Maharashtra records low cases of open defecation; but at the same time, nearly 50 percent of the total slum households do not have own latrine; but use the public ones; and in the census there are no data on the condition of those public latrines. Similarly, though the slum households in the north have better access to drainage, compare to their eastern counterparts; yet most of them live near open drainage; which itself creates health problems. Cooking fuel is another critical indicator of housing amenities; still today a large number of slum households use kerosene instead of LPG. Thus, partial access to services is another aspect of deprivation, which is often overlooked by the policy makers (Map 4).

Map 3. Regional Disparity in the Coverage and Access to Basic Urban Amenities and Infrastructure (2011)



Data source: Computed from the Census 2011 data
 Map Source: Generated by the author

Map 4. Partial Coverage and Access to Basic Housing Amenities and Infrastructure (2011)



Data source: Computed from the Census 2011 data
 Map Source: Generated by the author

Measuring Deprivation

Housing condition, sanitation, bathroom facility, drainage and access to safe cooking fuel, drinking water and electricity are the variables selected for measuring urban deprivation. Summarising all these variables into a single standardised scale by calculating their Means and Standard Deviation; and finally combining them into a single measurable Index; Deprivation scores are calculated for each state.

The Urban Deprivation Index' has been constructed with the following variables:

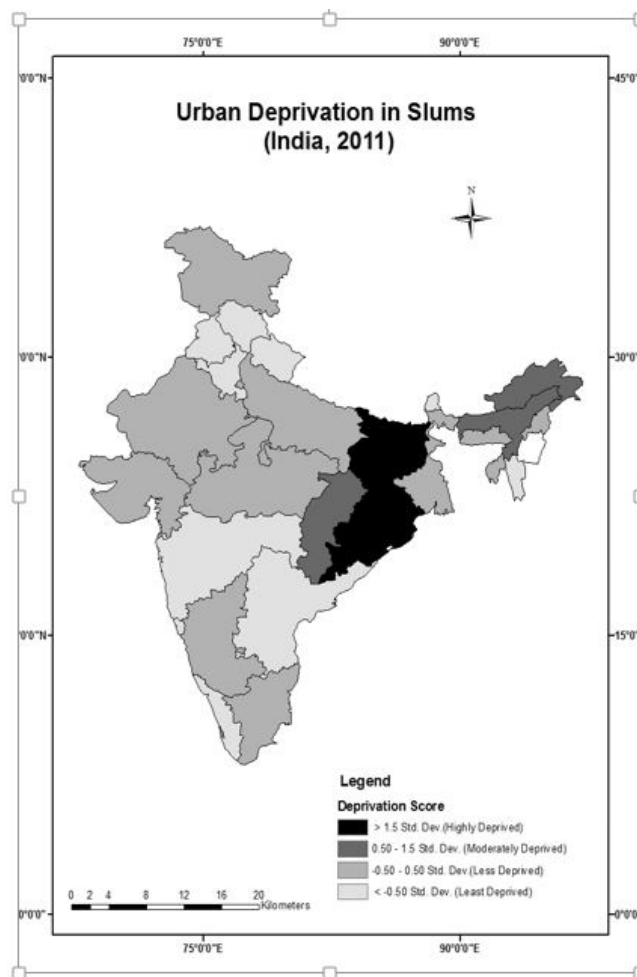
- i. Percentage of Slum Households living in dilapidated buildings with kuccha roof, floor and wall materials.
- ii. Percentage of Slum households living without electricity
- iii. Percentage of Slum Households not having access to own latrines
- iv. Percentage of Slum households not having access to close drainage
- v. Percentage of Slum households living without access to LPG (safe cooking fuel)
- vi. Percentage of Slum households having water sources away from the place of residence
- vii. Percentage of Slum Households not having access to bathroom

All Mean and Standard Deviation of all these variables are calculated and by using the Z-Score formula:

$$z = \frac{x - \mu}{\sigma} \text{ where: } \mu \text{ is the Mean of the variable; } \sigma \text{ is the Standard Deviation of the variable.}$$

Z-score values of the each variable for the each state are calculated. Average z-score value of all the above mentioned variables are calculated for each state and categorised into four groups. The Average Z-score value more than 1.5 is highly Deprived; less than 1.5 is moderately Deprived. States having z-score value in minus are less and least deprived ones in terms of the access to the basic household amenities in the slums.

States are having different Z-score values because of regional variation in the coverage of basic amenities. Though eastern states (Bihar, Jharkhand and Odisha) are having highest Deprivation Score; but some high income and highly urbanised states like Chandigarh, Gujarat, Karnataka and Tamil Nadu are also recording moderate urban deprivation, because a large number of slum dwellers in these states have partial access to basic amenities. Chandigarh records low percentage of slum population; but at the same time records very high Deprivation Score, due to lack of access to basic amenities in the slums.



Source: Deprivation scores calculated from Census 2011 data on access to basic amenities and services in slum households

Findings from the Analysis

1. Sanitation, bathroom and safe cooking fuel are the three main basic amenities which require special attention. Eastern and northeastern states are revealing acute shortage of these three amenities in the slums and at the same time, slum households in the south and the west are showing partial access to sanitation and safe fuel. Slum households across India, do not have proper access to hygienic sanitation; somewhere people are going for open defecation and somewhere they are compelled to use public latrines irrespective of their condition and maintenance.
2. Similarly, biomass fuel is widely used in the eastern and northeastern India; but those who are living in the southern and western cities have better access to the safe cooking fuel. Again, the data break up shows that most of the slum dwellers across India, still largely depend on kerosene instead of LPG.

3. Drainage is another critical indicator. Though the slum households in the eastern states have lesser access to drainage compare to the southern and western states; yet the segregation of data reveals that very few slum households have closed drainage facility.
4. Electricity is the only basic amenity, which has universal coverage across all Indian states (except Bihar).
5. Therefore, though Deprivation Score is very high in the eastern states, but western and southern states (Gujarat, Karnataka and Tamil Nadu) are also showing Urban Deprivation, due to partial coverage of certain basic amenities.

Evaluation of Urban Policy in the Context of Urban Deprivation and Resilience

1. Present day, Indian urban policy is revolving round Smart City Project, which has a sincere aim of expansion of e-governance, basic amenities-infrastructure and growth of small and medium size urban centres. Earlier Jawaharlal Nehru Urban Renewal Mission aimed to enhance the standard of living in Indian cities and put special focus on slums. Rajiv Awas Yojana was another national level housing plan for the urban poor. However, none of these projects aim to address urban anomaly or regional disparity in urbanisation and access to basic services and infrastructure.
2. Big cities are often condemned with the low quality living, especially in slums; but in India, lowly urbanised states where the slum population is also lesser than the urbanised regions record worst access to basic services and amenities. Open air defecation, consumption of biomass fuel and lack of access to drainage facilities are the main urban issues.
3. Southern and western states are economically advanced and highly urbanised with high percentage of slum population; but the slums are better served than slums in the eastern parts of the country. However, the issue of partial access to basic amenities is largely overlooked.

Limitation of the Study

This paper is based on the secondary data provided by the Census of India 2011. Though spatial distribution and coverage of urban amenities and infrastructure is addressed through this paper, yet regional issues cannot be addressed unless and until one can conduct a field work in the deprived areas. Regional variation is identified and the causes of regional variation are tried to be answered through the review of state level policies; but local policies are overlooked. Therefore, it is an exploratory type of study, which may lead future research towards regional variation in the potentiality of Indian cities for achieving the urban resilience.

Scope of the Study

This paper is one of the few studies in the urban literature, which tries to set up a critical inter-linkage between the coverage of urban amenities and urban resilience through deprivation point of view and at the same time, it also captures state-wise and regionwise coverage and access details of basic urban services and amenities through spatial maps.

Recently launched 'Smart City' project is a bold and ambitious initiative, which focuses on the reduction of the cost of collective consumption of basic services and amenities ensuring 'Right to the City' for all. However, its goals cannot be achieved without looking into the regional disparity in the access to urban services and infrastructure, especially at the slum level.

Conclusion

Mapping of amenities and services across all Indian states reveals regional disparity. Slums of urbanised and economically advanced states seem to have better access to water, sanitation and drainage unless and until one looks at the issue of 'partial access. On the other hand, Eastern states record lower access to sanitation, drainage and safe cooking fuel than their southern and western counterparts. Therefore, before formulating one single policy for urban development, regional anomalies in the access to basic services and the issue of 'partial access' should be taken into consideration.

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