

# Disparity in Microenvironment in Urban Areas of India

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## **Abstract:**

Urbanization is considered as one of the biggest challenges being faced by world today. It is estimated that currently more than half of the world's population is living in urban areas and this proportion is expected to rise in the near future (Friesen et al., 2018). Therefore, one of the Sustainable Development Goals (SDGs) focuses on urban development i.e. Goal 11 which aims at 'making cities and human settlements inclusive, safe, resilient and sustainable'. So, my present paper focuses on finding the disparities in the provision of microenvironment amenities among different area types and social groups in urban areas. For this an attempt has been made to formulate Modified Sopher's Disparity Index by using NSSO unit level data for the two rounds (i.e. 49th, 58th, 65th & 69th rounds). By doing so, we can analyze the changes overtime so that we can make suggestions effectively.

**Keywords:** Urbanization, Microenvironment, Basic Amenities, Disparity Index, Slums, Suggestions, Urban Areas

**Introduction:** The environment in which a household resides, is very essential because it has impact on health and hygiene of the members of the households. The degradation of environment creates problem both at micro and macro level that is why urban planners always give importance to environmental sustainability in their planning. But, the poor segment of urban population is less concerned about the macro environment because their micro level problems like access to improved sanitation and water are more urgent and highly required as they are living in deprived housing conditions. Moreover, their low affordability also creates serious threat from the deterioration of micro-environment. Along with it, their illiteracy and lack of awareness about the degradation of macro environment put pressure on achieving sustainability at the global level. But, on other hand, it cannot be denied that the poor segments of population are the main victims of environment degradation at both macro and micro level. So, firstly, planners have to give importance to micro environment in terms of the provision of basic amenities like garbage, drainage, roads etc. to every section of urban population by the government (Kundu, 1991).

## **Review of Literature:**

**Tangri (1968)** examined that rapid population growth and large scale migration from rural to urban areas are causing acute crowding, unemployment and acute shortages in the cities. Shift in supply of labour are more rapid than shift in demand for labour as expectations surpasses opportunities in urban areas. So the choice before the villagers in the city "jobs without homes" and in the village "home without job" so they choose the former but it creates exclusive monetary demand on resources which create inflationary pressures. The author further emphasises on "social housing" i.e. investment in

people, decent housing and urban environment which raises the productivity of labour but in India, millions of people do not have any shelter so the government should shift from slum clearance to slum improvement. The eradication of poverty and the speediest solution of housing shortages require that the growth rate of the economy should be maximized by the most productive use of investible resources.

**Kundu (1991)** carried out a study on environment degradation which adversely affect the urban population both at micro as well as macro level. It has been highlighted that more than 30 per cent of the India's population living below the poverty line is unable to meet its basic needs like access to drinking water, sanitation, garbage disposal arrangement etc. Thus, there is an urgent need of inclusive growth so that the basic needs of all the urban poor are met. Simultaneously, the environment degradation affects the urban poor more because of their limited access to basic amenities along with their low affordable capacity. Hence there is a need to protect both the micro as well as the macro environment of the economy. The author also made an attempt to find out the disparity in access to water supply and sanitation of people in urban areas by using NSSO data of 38<sup>th</sup> and 42<sup>nd</sup> rounds on housing conditions. It has been concluded that the provision of basic amenities like water supply, sewerage and sanitation by the government have not benefited the urban poor or economically weaker sections adequately. Hence, the provision of basic amenities to the lower segment of the urban population is the need of an hour.

**Nayyar (1997)** examined that housing, water supply, sanitation and hygiene have more significant impact on health than any other factor by using the NSSO data of 44<sup>th</sup> round. He further raised the issue by sharing the experience of many developed countries like England and America i.e. whenever growth increased and rapid strides in production lead to over-crowding and congestions in urban areas. All these have negative impact on health due to spread of disease. In India, the trend is more complex as highlighted by WHO document on 'Housing and Health'. In every Five year Plan, various programmes have been set up in relevance to housing conditions, drinking water etc. but due to technical, social and economic reasons, the programme has not made much headway. The role of state is limited to the construction of housing for government employees and social housing scheme. The National Planning committee and Bhore committee on housing show the housing- health relationship and explained that housing is an urgent necessity which should not be left to the private enterprises and various solutions have been suggested in shape of health related social programmes, cash benefits, programme for weaker sections, better housing education etc.

**Kundu et al. (1999)** made an attempt to analyze the inter-state and class wise variation in the availability of basic amenities and revealed that disparity exists in their provision because of economic and socio-cultural factors. But, in the class I cities, disparities because of the socio-cultural factor are less important as they have higher level of education, high per capita income and high level of investment in basic amenities. Further, the class I cities also have the ability to provide civic services to all sections of population. But small and medium town are unable to generate funds because of their weak economic base and more dependency on agriculture. During nineties (1992-97), due to reduction in budgetary support for infrastructural development, the projects of drinking water, sanitation, slum development etc. received a less priority. Now, most of the development projects were dependent on institutional financial agencies like HUDCO, ILFS, LIC and the sole criterion for decision making by these financial agencies is the financial viability rather than technical feasibility because of the interest of the investors. But, these institutions are insensitive in favor of backward classes and backward states.

Hence, it further accentuates the regional disparities. Hence, it has been suggested that the state government should take the overall responsibility to provide civic amenities to all the people. For this purpose, government may also involve partnership arrangements with private organizations, NGOs and CBOs to cover the resource gap in the government agencies.

**Chakrabarti (2001)** highlighted that the urban population of India is growing at a rapid rate i.e. from 3.1 per cent in 1991 to 3.6 per cent in 1999 but still India is among the least urbanized nation with merely 30 per cent of population living in urban areas as compared to other developed nations. However, it is projected that the urban population of India will reach to 800 million by 2041 and at that time it will surpass the total population of the whole Europe. The author also explained the inter-regional and size-class disparities in the pattern of urbanization. As a result, it leads to the concentration of people in few mega cities, leading to a severe stress on the infrastructure of these cities. It has resulted in depletion of the ground water levels, pollution, transportation problem, sewerage and sanitation problem. The author also highlighted the failure on the part of the government in handling this explosive situation despite the expansion of the powers of Urban Local Bodies in managing, planning and funding the infrastructural development of these cities. So, the author suggested that there is a need to provide awareness to the people about the environment degradation and also, explained certain sustainable technologies i.e. low-cost sanitation, low-cost housing and rain water harvesting that should be adopted to solve the problems of urban areas.

**Objectives:** The main objective of the study is to analyze the microenvironment surrounding in which their dwelling unit is located and to find out the disparities in the provision of basic amenities among various area type, social groups and quintile classes of MPCE etc.

### **Data and Methodology:**

This study is based on the secondary data collected from the unit level records of National Sample Survey Organization (NSSO) {49<sup>th</sup> round (January 1993- June 1993), 58<sup>th</sup> round (July 2002 - December 2002), 65<sup>th</sup> round (July 2008- June 2009) and 69<sup>th</sup> round (July 2012-December 2012)} on housing conditions and amenities in India and some characteristics of urban slums, Census of India as well as other relevant sources.

Further, an attempt has been made to find the disparity in micro-environment among social groups, area type and quintile classes and in order to find out the disparity 'Modified Sopher's Disparity Index' which was given by Kundu and Rao in 1986, has also been calculated. It is a widely acceptable measurement technique to find the disparity between two groups. This index is given below:

$$\text{Modified Sopher's Disparity Index (DI)} = \text{Log} (X_2/X_1) + \text{Log} \left[ \frac{(200-X_1)}{(200-X_2)} \right]$$

i.e.  $X_2 \gg X_1$

The index has measured disparity in terms of provision of improved basic micro-environment facilities like improved drainage i.e. it is underground, covered pucca and open pucca; garbage disposal facilities arranged by panchayats/ municipalities / corporations / by residents; motorable roads in which the

dwelling unit is located; no fear of floods i.e. neither from excessive rains nor from rivers and no animal shed located in the area where dwelling unit is located. The residents with less availability of improved amenities, are more prone to diseases and illness.

So, this disparity index is very helpful in finding the relative disparity between the two groups. In case of perfect equality in improvements, the value of DI is zero. So, greater the value of DI, the higher is level of disparity and low level of improvement, and vice versa. A negative index value between deprived and non-deprived groups represents the more desirable improvements.

**Table 1: Decadal Changes in the Level of Improvements in Microenvironment by Area type in Urban India (in per cent)**

Area type Improvement parameters	1993					2002					2012				
	Notified Slum (N)	Non notified Slum (NN)	OTH (O)	Disparity index (DI)		Notified Slum	Non notified Slum	OTH	DI		Notified Slum	Non notified Slum	OTH	DI	
				(N, O)	(N, O)				(N, O)	(N, O)					
Improved Drainage	64.91	31.53	64.02	-0.01	0.40	67.59	46.31	70.14	0.27	0.25	88.16	66.00	86.09	-0.02	0.18
Improved Garbage	77.72	52.29	69.85	-0.07	0.18	81.24	60.44	75.62	-0.05	0.14	85.47	68.92	72.21	-0.12	0.03
Motorable road	69.05	62.71	79.03	0.09	0.155	47.52	36.23	64.22	0.18	0.33	54.73	57.31	76.69	0.21	0.18
No fear of flood	77.49	65.51	91.89	0.13	0.24	89.63	82.43	94.23	0.04	0.10	90.51	90.06	94.85	0.03	0.04
No animal shed	89.23	84.35	86.99	-0.01	0.02	91.20	89.45	88.21	-0.02	-0.01	86.36	82.98	84.45	-0.01	0.01

\* **Notified Slums:** The areas which are notified by the concerned state governments, corporation, municipalities, local bodies or other development authorities as slums are called as a Notified Slums.

**Non-Notified Slums:** Any compact settlement, with at least 20 households, with a group of poorly built tenements, mostly of temporary nature, crowded together, usually with insufficient sanitation and drinking water amenities in an unhealthy environment is considered as a Non-Notified slums by the survey. Also, they are not notified by the concerned governments or any other authorities.

Source : Calculated from unit level data of 49th, 58th, 65th & 69th NSSO rounds

Table 1 represents the decadal changes in the level of improvements in microenvironment by area type in urban India. The table clearly represents that the disparity was greater between Non- Notified slums and Others against all the amenities in all survey years under study but it declined gradually over a period of time. However, the disparity index in case of Notified slums and Other represents more desirable improvements in case of drainage and garbage as they had been given more priority by the planners in urban planning since 1993. But, unfortunately, the disparity between Notified slums and Other has increased in 2002 but reduced in 2012 due to appropriate attention given by the government to the provision of basic services. But, one point need to be highlighted here is that the DI, in case of motorable road between both the groups, have higher value in all the years under study. It highlights the negative attitude of the government in building the motorable roads in every part of the urban areas.

**Table 2: Decadal Changes in the level of Improvements in Microenvironment among Social Groups in Urban India (in per cent)**

Social groups Improve ment paramete rs	1993					2002					2012				
	ST	SC	OT H	DI Value		ST	SC	OT H	DI Value		ST	SC	OT H	DI Value	
				(ST , OT H)	(SC , OT H)				(ST , OT H)	(SC , OT H)				(ST , OT H)	(SC , OT H)
Improve d Drainage	35. 10	48. 11	65. 05	0.3 5	0.1 8	51. 28	57. 61	77. 65	0.2 6	0.1 9	72.5 4	76. 94	90. 56	0.1 6	0.1 2
Improve d Garbage	62. 46	50. 22	37. 91	- 0.2 8	- 0.1 5	59. 01	67. 67	79. 01	0.1 9	0.1 0	65.7 1	65. 25	78. 61	0.1 2	0.1 2
Motorabl e road	68. 41	68. 16	78. 91	0.0 9	0.1 0	60. 0	48. 75	65. 77	0.0 6	0.1 8	67.7 7	66. 2	76. 77	0.0 8	0.1 0
No fear of flood	88. 13	80. 95	90. 21	0.0 2	0.0 8	95. 58	90. 47	93. 34	- 0.0 1	0.0 2	95.6 5	92. 89	95. 58	- 0.0 1	0.0 2
No animal shed	81. 82	85. 25	87. 37	0.0 5	0.0 2	74. 15	86. 3	92. 72	0.1 6	0.0 5	85.4 3	79. 64	89. 55	0.0 3	0.0 9

Source : Calculated from unit level data of 49th, 58th, 65th & 69th NSSO rounds

Table 2 represents the decadal changes in the level of improvements in microenvironment among social groups in urban India. It represents high disparity during 1993 between STs and Others and also for SCs and Others for all amenities except garbage disposal which had shown desirable improvements in 1993. Moreover, more disparity was seen in case of improved drainage between both the groups. But, the table also shows that the disparity has been declining since 2002. Still, it cannot be said that STs and SCs were having same level of improvement despite greater attention by the policy makers which is seen

from the DI values in 2012. So, for the inclusive development of the country, there is a need to give more priority to STs and SCs which may help in reducing these inequalities

**Table 3: Decadal Changes in the Level of Improvements in Microenvironment between Highest and Lowest Quintile Classes of MPCE in Urban India (in per cent)**

Quintile class of MPCE Improvement parameters → ↓	1993			2002			2012		
	Lowest Quintile	Highest Quintile	DI Value	Lowest Quintile	Highest Quintile	DI Value	Lowest Quintile	Highest Quintile	DI Value
Improved Drainage	40.9	82.07	0.43	51.66	87.53	0.35	73.70	93.47	0.18
Improved Garbage	55.82	78.27	0.22	66.56	82.61	0.15	62.16	80.95	0.18
Motorable road	70.55	84.90	0.13	48.06	78.16	0.31	61.61	85.95	0.23
No fear of flood	85.96	92.82	0.06	91.88	96.64	0.04	92.45	95.26	0.02
No animal shelters	82.54	92.87	0.09	86.61	92.36	0.05	74.53	92.13	0.16

Source: Calculated from unit level data of 49th, 58th, 65th & 69th NSSO rounds

Table 3 represents the decadal changes in the level of improvements between highest and the lowest quintile classes of MPCE in urban India. It represents the true picture of inequality in the level of improvements among the most deprived and the elite class of the urban areas. The table clearly analyzes the wide disparity among these classes in 1993 in all the parameters which show low level of improvements to the lowest quintile class. It is seen that the disparity is high in case of drainage system and garbage disposal arrangement which can cause a greater vulnerability to diseases. It depicts the low level of living of this lowest quintile class and their vulnerability to diseases. Although the disparity has reduced with time as represented in the table but this improvement is unequal between these two classes. It occurred mainly due to their low affordable capacity and lack of education and awareness about the adverse effects of deteriorated micro environment. The DI values have declined from 1993 to 2012 in all parameters under study except the motorable road in which disparity has increased overtime. It highlights the need of building more of motorable roads in deprived part of urban areas which further helps in reducing road accidents.

**Conclusion:**

To sum up, the disparity index indicates that disparity still exists in the level of improvements among the deprived and non-deprived classes of the urban society as slums were not having same level of improvement as compared to Other areas. Similar is the case with social groups and Quintile classes in which the inequality still exists despite the policy attention. So, there is a need of giving special focus to these deprived classes in the policy formulation and also there is a need of continuous evaluation of



these policies so that the more deprived classes get more benefited by the government. In order to achieve inclusive growth, the needs of the more deprived and vulnerable classes should be given the top priority. Along with this, awareness about the impact of unimproved living facilities and micro environment should be given so that the illiterate poor segment understands the importance of good housing conditions. Moreover, there is a need on the part of government to create employment opportunities for the unskilled and casual labourers so that they can afford the basic necessities of good housing conditions.

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