

# Health and Housing for Urban Poor in India Post Covid-19

Aditi

**Abstract:** The COVID-19 pandemic has built a troublesome new standard for everybody through shelter-in-place systems and physical and social distancing guidelines. Yet for billions of urban underprivileged, certain guidelines aren't merely troublesome; they're radically impracticable. Social and physical distancing is a severely significant acknowledgement to the pandemic COVID-19 however, it additionally implies that occupants must have sufficient space, services and social security nets to sustain such an order. It is candidly not the fact over cities in Asia, Latin America and Africa. Health facilities and services are deficient in terms of the transition from state to local level causing negligence of slum areas at global to micro-level. These dwellers of slums area accustomed to unhygienic and un-sanitized environment much on a regular basis. Majority of slums are vastly located near urban centers i.e. in and around in economically less developed countries, experiencing urbanization at a greater rate compared to more developed countries. Many countries often lack the ability to provide infrastructure like roads, affordable housing, basic services like water, sanitation etc., sufficiently for in-fluxing people in the cities due to urbanization creating a big concern for the country. Health policies need to consider equity and social justice for urban poor in order to equally uplift them in the society. The paper deals with the issues faced by the urban poor in India and the programs and policies that had been issued over time during the past which could not suffice to positively impact the downfalls of these people. The paper also highlights the health conditions of these urban poor and the areas where it has been lacking behind. The pandemic has caused the nation to come to a halt but the urban poor having no such privilege to comply with the situation are forced to thrive in degrading conditions. The research paper will help figure out trigger areas for downfall of these inhabitants of the nation and formulate strategies to counteract the same in post COVID-19 situation.

**Keywords:** Health conditions, Housing, Slums, Urban and rural India urbanization, urban poor

## I. INTRODUCTION

Indian urban poverty is unprecedented, especially in the form that it supports certain models of growth. One-quarter of the globe's metropolis inhabitants reside in slums and are there to stay. In the coming 10 years, 50% of India will reside in urban areas, up from the current 28%. With the rise in urban population, slums are deemed to grow exponentially. The count has diminished to 17% by 2011 yet the overall count of households residing in slums has increased from 10.5 million in the year 2001 to 13.75 million in the year 2011. In India reportedly, Kolkata, Greater Mumbai, NCR Delhi accommodate their none less than 42% to 55% of urban population in slums. A large chunk of slum families in Odisha

are either connected to an open drain or are without a drainage connection (90.6%) and have no access to treated tap water (64.9%) as per the State of India's Environment in Figures 2019, issued by DTE. About 1.2 million slum households drink untreated tap water.

India has a slum population of 65,494,604 which is about 5.41% of the total population and about 17.4% of the total urban population as per Census 2011 and distributed across the country as shown in Fig.1. Amid the pandemic outbreak, slums in India become the most vulnerable part of the community and need help dealing with it. Slums not only lack basic civic amenities but also the poverty adds up to the pre-existing problem during the pandemics. Since slums lack space, they result in becoming cramped and stuffy and the poverty causes food procurement scarce for these people. The compact residing situations and current state of the public healthcare system makes Indian slums most susceptible to heavy life loss. It is hard for them to safeguard themselves against these infections and might see the worst outcomes amongst the whole of the society. The pandemic case of New York City, where poor neighborhoods met disproportionately higher deaths and cases, attests to this. Cities in developing countries like India are more probable to see a worse state and to avoid the exhaustive effect of pandemics, measures like lockdowns, social and physical distancing is introduced but slums are the part which lacks this privilege of ability to afford the space and work-life that can allow it. Most of the slum inhabitants live a hand to mouth life, bringing them often in close contact with people, and cannot stop working amidst pandemic outbreaks.

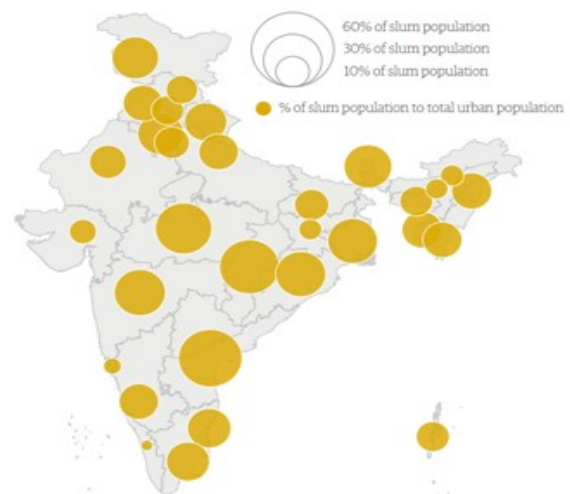


Figure 1: State-wise % of slum population to total urban population

Revised Manuscript Received on August 25, 2020.

\* Correspondence Author

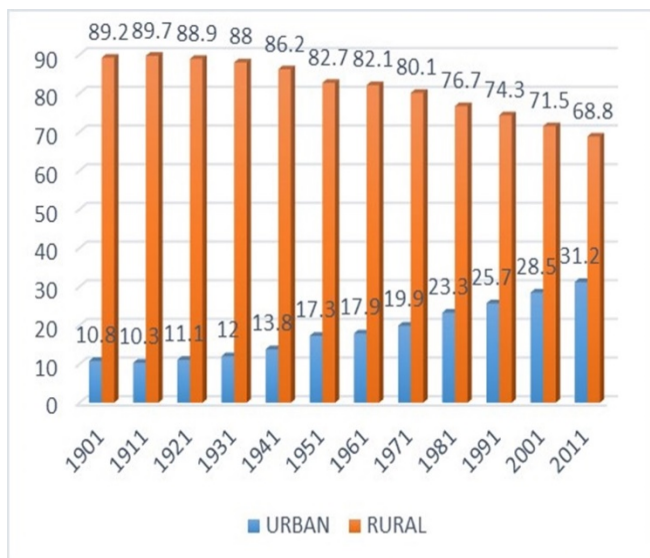
Aditi\*, Master of Urban Planning, Department of Architecture, Birla Institute of Technology, Mesra, India. E-mail: [ar.aditi204@gmail.com](mailto:ar.aditi204@gmail.com)

## Health and Housing for Urban Poor in India Post Covid-19

SOURCE: Author's compilation from census of India 2011, Registrar general of India

Globally about more than 1 billion individuals reside in slums and informal establishments. Moreover, 50-80% of employment is the informal sector in the developing cities, ranging from street vendor jobs to minibus operators to migrant workers. Many of these urban poor families are fundamentally enduring day-to-day, residing in compact neighborhoods with unstable and frequently shared access to civic services like water, electricity and sanitation. Many of these dwellers don't even have bank accounts, elementary employment agreements or insurance. Their wages and workplaces are not available on any administrative agency's radar. In brief, they lack the supplies to sustain without resisting lockdown plans.

Amongst the several dilemmas correlated with urban growth in India, an increment in the proportion of squatters and slums notably in its 'metros' and additional large cities has been conspicuous. Ordinarily, such neighborhoods are resided by the poor and their increase has often happened detached of any surge in successfulness by large-scale industrialization. Consequently, the scale of urbanization and the degree of urban expansion may not perpetually be created by the 'pull' of economic successfulness and opportunity in the centers; it is seldom caused by the push from the rural areas due to vital developments in the method of production in agriculture; in which there is a uniform increment in the dimension of the rural inhabitants who are forced to explore an existence outside agriculture as depicted in Fig.2.



S.N.	Year	No. of towns and UAs	No. of Metropolises	Urban Population(in million)	Level of Urbanisation (%)
1	1951	2843	5	62.6	17.3
2	1961	2365	7	78.9	18.0
3	1971	2590	9	108.8	19.9
4	1981	3378	12	156.2	23.3
5	1991	3768	23	217.2	25.7
6	2001	4368	35	285.3	27.8

**Figure 2: Rural-Urban growth differential of India with its urbanization rate (1901-2011) and Trend and Pattern of Indian Urbanization (1951-2001)**

SOURCE: Author's compilation from censusindia.gov.in and other sources

## II. HEALTH CARE IN URBAN INDIA

Urban India has population of about 38 crores as per census 2011. Urbanization amplified from 27.81% (2001) to 31.6% (2011) as per the census, and the ratio of rural population to the total population fell from 72.19% to 68.84% in census 2011. As per census 2011 improvement in education level in rural areas is twice than in urban areas. Nearly 33% of India's population resides in urban parts of India as per data from numerous sources. As per data from numerous sources, urban India's health condition of is better than that of rural India, but migration has led to rapid progression in urban population and slums; the slum inhabitants face countless health hazards due to over-crowding, environmental pollution as shown in Table 1. The prevalent health infrastructure in urban areas is insufficient to meet the elementary requirements of rising urban population. The central and state government, and the municipalities have attempted to build up urban healthcare infrastructure. Urban areas have majority of hospitals, para-professionals and doctors but not like the rural healthcare services there has been no effort to supply the health care facilities to the precincts that are geographically delineated. So, in many urban areas the prime health care facilities are not present; few of them are underused while there is congestion in secondary and tertiary healthcare facilities. Without any referral and screening scheme, majority of the equipment and machinery in secondary and tertiary care centers are not utilized to the fullest. The municipalities have to provide both preventive and curative facilities to the urban inhabitants, nonetheless the prevailing infrastructure with municipalities are not adequate to serve to the rising load of urban inhabitants.

**Table 1: Health situations of urban and rural India, 2005-06**

	BP%	IMR	U5MR
URBAN	20.9	31	41
RURAL	33.8	51	71
TOTAL	29.8	47	64

IMR – Infant mortality rate

U5MR – Under five mortality rate

Comprehensive slum facts from India –

- 27 out of 100 Indian smart cities have 41 slum redevelopment proposed projects of budget nearly Rs.3797 crore.
- 39% Indian slum households are in 3 southern states dependent on untreated water sources for drinking facilities, mostly in Tamil Nadu.
- No proper drainage in every 6 slum households out of 10. Out of Indian slum households, 63% are without proper drainage facility, amongst these 44% are with open drains and about 19% have no drainage connections.
- States like Maharashtra and 4 others have about 61% slum households without drainage system. Maharashtra houses India's biggest slum Dharavi with slum population of about 1 million residing in an area of mere 2 sq.km.



### III. SLUM HOUSING

Slums are seen as problem zones at all periods anywhere. They are consequence of two forces functioning in unison:

1. Massive migration to urban places from rural ones
2. Gross insufficiency of housing in the former.

Slum dwellers have low income level thus unable to pay rent simultaneously contributing to this problem. An unevenness amongst the predominant land prices and financial capacity of folks make a dwelling much beyond the grasp of an urban poor. The problem has become much more obdurate over a while due to various supplementary factors listed as follows (Spodek, 1983):

1. Gross insufficiency of funds with the municipalities and governments, exclusively in the developing countries, to affluence the situation
2. Rising fear on the part of administration that any assistance other sort may invite waves of new migrants
3. Employment instead of housing as the foremost priority of the slum dwellers
4. Emergence of slum areas as vote banks of influential politicians.

Moreover, with alterations in their approach and stress emerging from the context and cities analyzed, most studies identify the role of migration of the rural poor sectors in hunt of work and they are constantly seeking the lower circuits of the employment market and consequently residing in overcrowded and disgraced locations within cities. Set within this setting, the present paper is directed at describing a comprehensive economic profile of slum dwellers as well as the degree of availability of some fundamental services within such localities and their condition due to the pandemic COVID-19. Based on the theory that an economic characterization (by which it is intended to illustrate the nature and structure of the workforce; examples of job that such residents remain occupied in; how the entire workforce as a mass and diverse 'migrant' societies within it commonly respond to the employment market and differentials in their earnings as well as ownership of household items), would not just give a picture of their element resource center, but additionally, aid in sieving away important features and problems associated to the poor and poverty in urban India. The paper focuses on slum conditions in India and their well-being related to mortality rate and nutrition levels for children and how they are to cope with the pandemic in the current scenario. The paper reviews different data available on various sources and makes required linkages to compare the same to provide results for the aimed objective of the paper in the conclusion section.

### IV. LIVING CONDITIONS IN INDIAN URBAN SLUMS

There is cause and effect relationship among environment and health. Unhygienic slum atmospheres make slum inhabitants more vulnerable to certain sorts of diseases such as respiratory ailments, gastro-intestinal illnesses, skin infections, malarial fever, tuberculosis, etc. Unluckily, the economic statuses of the slum inhabitants are like they do not permit them to develop their residing situations. A large fraction of them work on a daily wage criteria and, thus, have

little or no job safety. A noteworthy fraction is engaged in construction work. Owing to low income, their status of living is low and they are left with little spare income for housing after meeting their family's elementary requirements of food and clothing.

A survey on particulars of slums nationwide was led by the NSSO in its 49th round enquiry (Jan.-June 1993) which was trailed by another round 58th round of survey nearly after 10 years in July-Dec 2002. This incorporated numerous features of socioeconomic set-up and collected info on ownership, area type, structure, living amenities like drinking water, latrine, sewerage, electricity, drainage, garbage disposal, road condition and health and education as shown in Table 2 as well. Data relates to the two groups of slums i.e. non-notified (if nonetheless 20 households reside in that locale) and notified (notified as slum by the appropriate municipalities, corporations, local bodies or development authorities). Numerous methods are presented over the years to raise awareness between the planners and administrators all over the world that we can't have the desired type of cities until the slum problem is resolved. In the preliminary stage, governments and society saw slums in negative way. The natural response was in support of slum clearance. Each clearance was, nevertheless, trailed by re-rise of the slum, frequently on the same spot. Slums are now adopted as an inescapable part of the modern urbanization procedure. The paramount thing that could be done is to develop rather than eradicate these. A sympathetic approach towards slums and slum inhabitants is also taking form (Patrick, 1985). The involvement of the poor to urban economy and low price services they render to urban people at large is cherished. The poor's view of the slum vicinities 'as a resolution to their lodging problem rather being a problem to be solved' is well assumed. This has fetched a welcome rational change in the approach of planners and administrators to slums.

**Table II: Indicators and threshold for defining slums**

Characteristic	Indicator	Definition
Access to Water	Inadequate drinking water supply	A settlement has inadequate drinking water supply if less than 50% of HHs have improved water supply <ul style="list-style-type: none"> <li>• HH connection</li> <li>• Access to public stand pipe</li> <li>• Rainwater collection</li> </ul> with atleast 20 lpcd within an acceptable collection distance
Access to sanitation	Inadequate sanitation	A settlement has inadequate sanitation if less than 50% HHs have improved sanitation: <ul style="list-style-type: none"> <li>• Public sewer</li> <li>• Septic tank</li> <li>• Pour flush latrine</li> <li>• Ventilated improved pit latrine</li> </ul> The excreta disposal system is considered adequate if it is private or shared by a maximum of two HHs
Structural quality of housing	Location	Proportion of HH residing on or near hazardous site. The following locations should be considered: <ul style="list-style-type: none"> <li>• Housing in geologically hazardous zones (landslides/earthquakes and flood areas)</li> <li>• Houses on or under garbage mountains</li> <li>• Housing around high industrial pollution areas</li> <li>• Housing around other unprotected high risk zones (railroads, airports, energy transmission lines).</li> </ul>
	Permanency of structures	Proportion of HHs living in temporary and/or dilapidated structures. Following factors could be considered when placing a housing unit in these conditions: <ul style="list-style-type: none"> <li>• Quality of construction (eg material used for wall, floor and roof)</li> <li>• Compliance with local building codes, standards and byelaws</li> </ul>
Overcrowding	Overcrowding	Proportion of HH with more than two persons per room. The alternative is to set a minimum standard for floor area per person (5sq. metres)
Security of tenure	Security of tenure	<ul style="list-style-type: none"> <li>• Proportion of HHs with formal title deeds to both land and residence</li> <li>• Proportion of HHs with formal title deeds to either one of land and residence</li> <li>• Proportion of HHs with enforceable agreements or any document as a proof of a tenure arrangement.</li> </ul>



## Health and Housing for Urban Poor in India Post Covid-19

SOURCE: Global Report on Human Settlements 2003 [2]

### V. HOUSING AND ROADS IN THE SLUM

Swelling inhabitants, fragile and uncertain incomes and a legal and regulatory regime that is tremendously hostile to urban poor, chain up to eliminate poor folks from safer, higher priced locations in the cities. Crowded in precarious whereabouts which are supposed to be illegal such as low lying areas, the banks of effluent tanks, open drains and the vicinity of garbage dumps, open pavements and streets. Various organizations have considered housing situations as a significant parameter for recognizing slums. Slums have kutcha mud houses and small shacks made of wood and bamboo and plastic sheets. Such households are temporary in nature and congested together with unhygienic settings, insufficient sanitary and drinking water services. With regards to compactness, the notified slums are denser (205 per slum) in contrast to non-notified slums (112 per slum). About one third of the houses are kutcha or semi pucca and the problem is more severe in case of non-notified slums where the number for kutcha and semi pucca houses are 70% (NSSO-2002).

### VI. WATER SUPPLY, SANITATION AND DRAINAGE

Poor sanitary conditions and poor water quality cause sickness, water borne diseases and affect the mortality pattern and life expectancy. As stated by a case study, water and sanitation diseases are accountable for 60% of the environmental health burden and over 11% of total burden of diseases in Andhra Pradesh. "Water borne diseases are caused by adulteration of water with viruses, bacteria, parasites or chemicals. India still loses amongst 4-5 lakh children under the age of five every year owing to diarrhea. Community studies from 2 urban communities have discovered that the occurrence of viral hepatitis may be about 100 per 100,000 population" (PlanningCommission-2002, pp45- 46).

Many of the houses in slum areas do not have any separate water supply system and they have to rely upon the civic stand post. If the local water supply is scarce then the women and children will have to cover lengthier distance and expend more time for fetching water. This affects the judgement of children going to the school and also decreases the probability of women contributing in other gainful economic happenings. In both the classes of slums tap water is the primary source of drinking water accounting for 84% in case of notified slums and 71 % in case of non-notified slums shown in Fig.3.

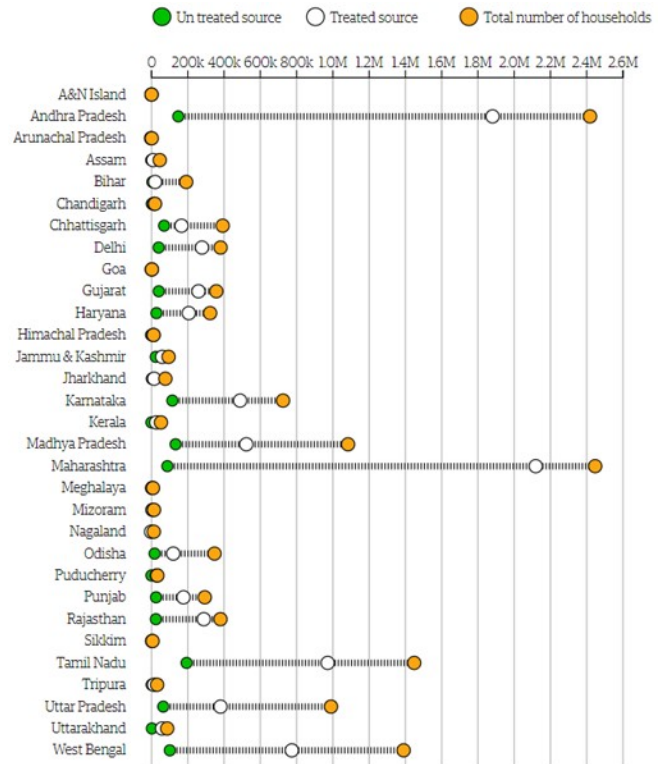


Figure 3: Sanitation treatment of slum households in India

SOURCE: Registrar general and census of India 2011 [5]

### VII. HEALTH CONDITION AND AVAILABLE SERVICES

Civic health problems in India are increasingly assuming an urban dimension, with increasing urbanization, as in most of the developing countries. Understanding civic health necessity in urban areas needs a diverse conceptual structure. Usually it is anticipated that alleviation of poverty is the forerunner of improving common health condition. However in urban areas, marginal rise in income of the poor doesn't ensure improved living condition due to wide disparities, which create decent housing and unpolluted water and air too expensive. Additionally certain requirements which existed as free merchandises in rural sites are priced supplies in urban regions such as cooking fuel, accommodation space, drinking water, etc. (Mandar-2004). Slums present the worst system of health situations. Less than 50% of slums had a government hospital within 1km. Very high infant and maternal mortality rates due to hepatitis, encephalitis, typhoid, rabies being common causes of death. Incidence of respiratory ailments like asthma, tuberculosis, skin ailments and renal and urinal ailments are too common. In Kolkata's slums, the incidence of tuberculosis and heart and circulatory system was 10 times higher in comparison to the city as a whole, viral infection was 2.5 times higher in comparison to the city as a whole, skin ailments 2 times higher, allergic illnesses 1.9 times and respiratory ailments 1.4 times higher. As the slums had no playgrounds and open spaces, children there developed psychological complexes and physical imbalances (Kundu-2003).



Urbanization has not been a new process during the years; it started with the industrial revolution in Western Europe, when inhabitants started migrating from rural to urban areas in search for employment, and suitable life style. Generally slums lack basic requirements and services like, safe drinking water, healthcare services, sanitation, accommodation problems, education etc. The absence of these basic services has direct as well as indirect effect on the health of the urban slum inhabitants. Ever since independence, urban health is not at the center of the civic health consultants because India was viewed as to be a rural based social order and majority of the inhabitants belong and live in rural India and, therefore, the government conception of civic healthcare is nearly rural oriented. Fig.4, displays the share of states' slum population to India's overall population. As per census 2011, the states with highest contribution to the slum population are Andhra Pradesh (15.6%), Maharashtra (18%), Uttar Pradesh (9.5%), West- Bengal (9.8%), and Tamil Nadu (8.9%). Comprehending civic well-being requirements in urban slums call for a diverse framework. Usually, the government thought that the alleviation of poverty is the utmost important weapon of refining general health. However in urban slums areas, the income for the poor grow marginally, which doesn't promise a better health situation because of the un-affordability of safe drinking water and air.

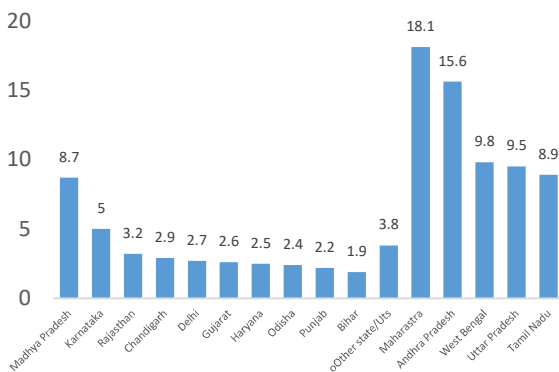


Figure 4: States share of slum population (%)

SOURCE: Primary census data for slum, 2011 from office of the Registrar general and census commissioner of India. [5]

The urban area poor are driven to the exterior space of city, where living conditions are utmost degraded and have a minute economic value. The relative variance in urban area income and capital is much more than rural area. The urban non-poor has a greater purchasing power which drives up the need for food and healthcare facilities, making them too expensive for weaker section or urban poor. Urban policy creators look upon poor as the cause of all problems. They enforce penalties and pass laws on urban poor, for example deny them the right to accommodation, denying them a ration card. Consequently, the slums become more vulnerable and face numerous socioeconomic evils in urban areas.

### VIII. CHILDREN'S HEALTH IN URBAN INDIA

The expanding number of urban inhabitants and migrants in the urban sectors generate environmental challenges that undeviatingly influence their well-being. The child residing in a household greater than 5 folks per sleeping room is 1.4 times

higher than the household with less than 4 folks per sleeping room. Poor environmental situation, sanitation, and insufficient diet, result in high malnutrition in urban parts especially in slums. Kids are the utmost vulnerable share of urban population, particularly urban poor kids residing in urban slums. Out of a billion of child population residing in urban India, roughly 300 million face barring from vital health facilities and other amenities like safe drinking water, sanitation, education etc., their presence is not acknowledged, neither their births nor their deaths are recorded. Kids are the victim of several diseases and disasters. Childhood to them is only a make-believe or nightmare. Fig.5 displays children under nutrition below 3 years of age in urban India, 1992-2000.

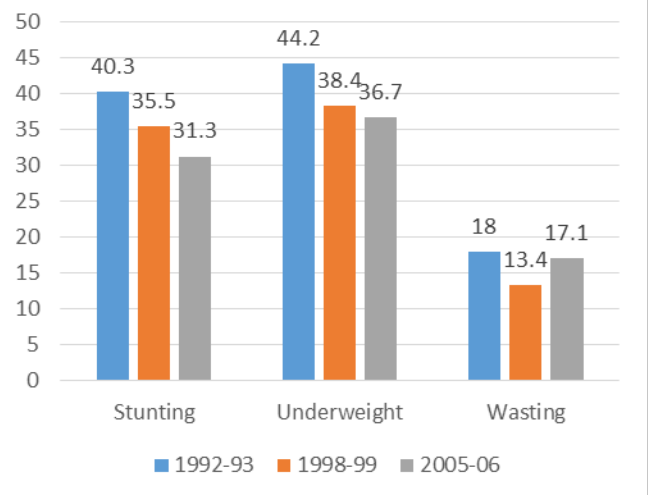


Figure 5: Child under nutrition below 3 years of age in urban India, 1992-2000

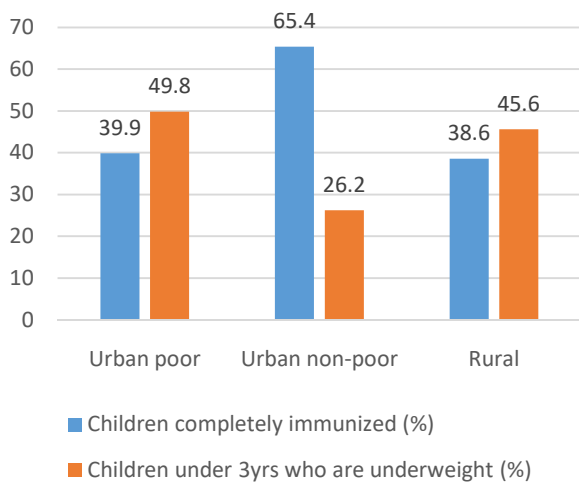
SOURCE: Authors' compilation from NFHS Survey Reports, Govt. of India. [8]

The urban-rural health inequality has long been studied, but the inequality that exists amid the urban children has been ignored. Over 60% urban poor kids don't receive thorough immunization as compared to 58% rural kids; 47.1% urban poor kids under 3 years of age are scrawny as compared to 45% rural kids. More than half of the India's urban poor kids are half-starved or stunted.

In most parts of the nation, undernutrition amongst the urban poor kids is more than the rural kids. As per NFHS-3, only 39.9% of urban poor kids get full immunization against the 65.4% of urban non-poor kids. 49.8% of urban poor children below the age of 3 years were undersized as opposed to 26.2% of urban non-poor children. Fig.6 shows that the urban poor population is on a par with that of the rural population.

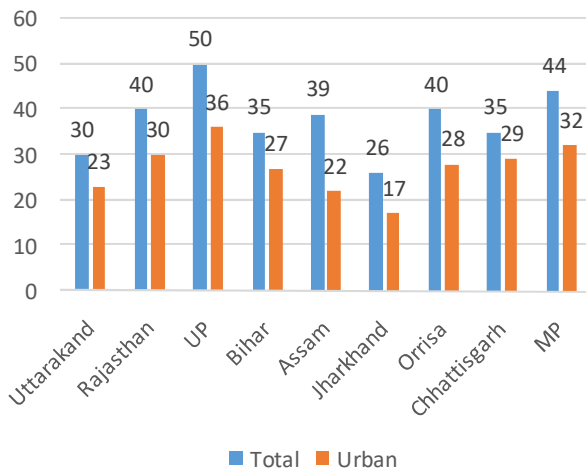


## Health and Housing for Urban Poor in India Post Covid-19



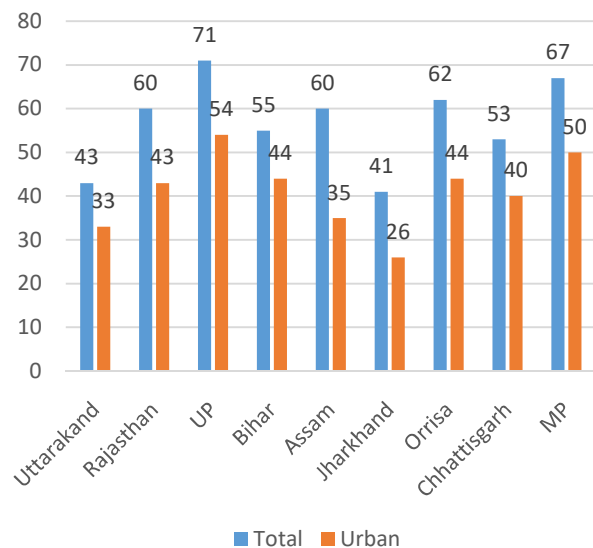
**Figure 6: Health indicators of urban children and overall rural population in India (2005-06)**

SOURCE: Authors' compilation from UHD 2005-06 based on NFHS- 2005-06. [8] Fig.6, during the period of 2009-10, shows most of the states showed a sharp decline in IMR but still there is a long way to go. According to the Annual Health Survey as shown in Fig.8, likewise Uttarakhand, the urban areas of other states also shows a high number of infant mortality, as in Rajasthan it is 43/1000 live births. As per data in charts, the IMR for urban poor for the states of Chhattisgarh, Bihar, Rajasthan, Uttar Pradesh, and Madhya Pradesh is comparatively very high or even above the national average of IMR (47).



**Figure 7: Neo-natal mortality rate, India**

SOURCE: Annual Health Survey conducted for 2009-10, data from Office of Registrar General of India. [8]



**Figure 8: Estimated Infant Mortality Rate, India**

SOURCE: Annual Health Survey conducted for 2009-10, data from Office of Registrar General of India. [8]

### IX. SLUM UPGRADATION AND RESETTLEMENT PROGRAMME

This curriculum was adopted by M.C.F. in 1986. A population of about 73,000 slum dwellers were sheltered under the upgradation scheme. Nearly 8455 families residing in very-very deteriorated or environmentally perilous conditions were relocated in the 3 zones by evolving 35 sq. yards plots. It covered 5165 households, in N.I.T. zone; 2560 households in Ballabgarh zone and 726 households in old Faridabad zone. 11 clusters were regularized by the government after availing them elementary services catered under this scheme: 6 were regularized by 1985-86 and the rest 5 later. 8 of these clusters were in N.I.T. and 4 in old Faridabad. [11]

### X. URBAN BASIC SERVICES PROGRAMME

Urban Basic Services Programme started in 1986 and was accomplished by 1991-92. Its objective was to improve the socio-economic health and educational level of children and females of slum clusters in Faridabad. It was based on the base-line survey done by UNICEF in 1984. UNICEF chose only big/large slums, the ones with 'resident community volunteers'. A similar standard was adopted by Faridabad for its UBSP and was implemented in phases as described in Table 3.

**Table III: Faridabad City- Details of Urban Basic Services Programme, (1986-91)**

	Name of Cluster	Total No. of Houses covered	Population Covered
Ist Phase	Neelam Bata	2076	10829
	Nehru Colony	1010	3073
	Indira Nagar	1847	8405
	Subhash Nagar	664	1982
	Harijan Basti	410	1805
	Bhagat Singh Colony	305	1268
2nd Phase	Good year Basti	256	853
	Patel Nagar	1419	5589
	Gandhi Colony	1100	4411
	Azad Nagar	1005	4000
	Adarsh Nagar	1084	4793
3rd Phase	Gayakward Nagar	339	1152
	Sant Nagar	827	5192
	Dayal Bagh Jh.	1270	4233
	Rajiv Nagar	419	1323
4th Phase	Auto Pin Basti (Jhuggies)	801	2824
	Millhard Colony	800	4000
	Bapu Nagar	200	1000
	Kalyani Puri	439	1308
	Gurukul Basti	100	150
5th Phase	Adivasi Basti	100	150
	Kissan Mazdoor Colony	1421	7200
	Swatantra Ekta Nagar	510	2621
	Rajeev Nagar	470	2350
	Ekta Nagar	2140	10516
	Shiv Sharda Colony	1601	8121
	Ram Nagar	1192	6025
	Krishna Nagar	937	5161
Total = 28 Clusters		25807	115520

SOURCE: Municipal Records of Faridabad and UBSP published booklet (M.C.F.) [11]

The emphasis of the programme was on:-

1. Health care education was given to women so as to teach family planning, reduce mortality and to control population.
2. Play schools and anganwaris for children.
3. Adult education schools for females
4. Vocational centers imparting skill as: stitching, television repair, computers, knitting etc.
5. Hand pumps for clean drinking water.
6. Community toilets and loans for making personal toilets etc.

It is obvious that numerous efforts at relocation, upgradation of prevailing slums and their environmental enhancement were made time to time. However all these efforts met with only a fractional success.

### XI. HEALTH CHALLENGES IN URBAN SLUMS

1. Access to healthcare is poor, even though slums reside in close proximity to many healthcare centers, however they usually have little access to high quality healthcare.
2. Large share of urban poor are not notified with a large quantity of migration into urban areas in search of work. As they arrive, majority of them find only 1 affordable housing choice: illegal settlements, made of plastic sheets, discarded scrap metal, and mud. Urban Indian slums are making cities more impenetrable and crowded, lacking not barely fundamental civil or social facilities of administration but additionally political identification. As per NSSO (2002) about 49.4% of slums are

non-notified in India, and because of the delays in updating official slums data many slums continue to be unlisted for years and deprived of governmental amenities.

3. Environmental condition including access to safe and clean drinking water is the basic human right and shapes an important component of primary health care. It causes more sickness and mortality as well as low productivity, lower school enrolment etc. Provision of safe drinking water shows an effective health intervention which has shown to reduce the mortality caused by food poisoning and its access among urban slums is very poor as compared to the urban average, about 50% of the urban slums don't get safe drinking or piped water.
4. Under-used civic health infrastructure for instance single primary healthcare center in an urban area attends a greater fraction of population compared to the norm of 1 center for each 50,000 inhabitants. From the provider's side it is a huge challenge to supply healthcare to such a large population covered by a sole health worker. Furthermore, there is an uneven focus on curative care, and a negligence of preventive and primitive care. There is an over-stress in urban zones on the super-specialty centers in private sector which are entirely out of reach of urban poor. A great number of positions of health workers or officers are unfilled at the primary health centers, which are invented to serve the slum population.

Tables 4 describe the above discussed challenges of urban poor as compared to the urban non-poor and the total urban population as well as of the whole country.

**Table IV: Health indicators for urban slum and non-slum population, 2005-06 [8]**

	Urban poor	Urban non-poor	Overall urban	All India
Higher order births (%)	28.6	11.4	16.3	25.1
Births assisted by a doctor (%)	50.7	84.2	73.4	46.6
Children completely immunized (%)	39.9	65.4	57.6	43.5
Children age 0-5 months Exclusively breastfed (%)	44.7	38.6	40.7	46.4
Household access to piped water Supply (%)	18.5	62.2	50.7	11.8

### XII. MUMBAI SLUMS

A study showed that high levels of malnutrition between kids below 5 years of age in Mumbai, and the levels of stunting (an indicator of long term chronic malnutrition) were nearly analogous in the sample of the urban poor kids as in a sample of tribal kids taken from the poverty-afflicted Jawhar



Taluka in adjoining Thane district. The study obtained that despite the fact 17.6% of boys were stunted in urban slums, the amount was 17.8% for the sample of tribal boys in the alike age group concluding that the high levels of stunting in urban areas are not connected to food scarcity, whereas to environmental and social factors like access to healthcare, clean drinking water, repeated childhood contagions, mother's nutrition and her ability to breastfeed and was linked to the undefined accessibility of casual wage employment, particularly for women. An analysis of studies on the situation of reproductive and child health in urban areas reported that there were constant differences in antenatal care (ANC) coverage among slum and non-slum areas. Whence 74% of females in non-slum areas got 3 or more ANC check-ups, merely 55% of females in slums did. It also found that 27% of new-born in slums had low birth weight in comparison with 18% of those born in non-slum areas. Moreover, there were substantial differences in health access between those residing in 'recognized' and 'unrecognized' slums. Whence 78% of females residing in the former had institutional delivery, the number was only 65% for the second. Although 81% of children in recognized slums got 3 shots of DPT, only 67% of those in unrecognized slums were immunized against DPT.

### XIII. CONCLUSIONS

The paper shows the inequalities in urban health and housing amongst urban non-poor and poor due to deficiency of elementary services and proper housing. The paper highlights the inequalities in certain states of India amongst urban poor and non-poor population as well.

The most vulnerable section of the urban population in urban India are the slums concerning the health indicators showed in the paper, and for several indicators the differentials are very high. Nearly all of the urban poor population has low access to healthcare services as immunization, antenatal care, delivery by healthcare professionals etc. Infant and child under-nutrition is as well very high amongst the urban poor population i.e. more than the rural population. The statistics offered in the paper evidently direct towards the urban slum habitation for a better totaling, and for more intensive steps to assist the large proportion of the urban poor who face disparities in health status, accessibility to healthcare services, even if they are residing in the urban areas that are converting to economic power in the country. Therefore, there is an immediate need to focus on the urban health, with the provided pace of urbanization, the rising figure of urban slums with little reach to healthcare services to satisfy the indispensable living requirements of urban population. Countries like India with weaker health systems need investments in the primary health care sector to strengthen the immunization systems as they are the first line of defense. Routine immunization and monitoring of individuals can ensure protection against further outbreaks and deal with the crisis of health systems. Urban informal settlements like slums need to be ensured health during these critical times to brace their fragile health system during an epidemic. Increased production and distribution of protective gears and taking steps to uplift testing capacity at the community level is an initial step in

dealing with the pandemic as slums cannot afford treatment at this level. Critical gaps in areas of hygiene and infection control training of health workers, surveillance, laboratory testing and infection control supplies with proper funding can be obliterated for the slum population. Slums in India have multiple factors working against the health and other social services. Mapping and coordinating mitigation measures with government, public-private, for-profit and non-profit health, water and sanitation providers can maximize access to health services for the slum dwellers as they have several disadvantages built into their fabric making them more susceptible than other urban clusters. As per a survey conducted across 110 slum settlements in north Indian cities of Bhopal and Jaipur of residents 2,199 in summer of 2015, about 47% have communal sources of water and have to leave home to get their daily water making them endangered to contracting diseases. Indian slums can deal with pandemic pre-crisis time through providing proper basic civic amenities and ensuring no overcrowding happens in vulnerable areas by providing the minimum required space for a dweller. Pre-crisis health infrastructure strengthening and monitoring can help eradicate the likelihood of disease and infection communication amid slum inhabitants. These urban infrastructures can help change situations during pandemic like obliterating hygiene problems and providing healthcare to avoid infections. Apart from this, the availability of basic civic services can improve the situation post and mid-crisis or pandemic as they will ensure proper healthcare for the underprivileged and reduce scarcity of resources at the same time. Proper funding in these areas is required as insufficient funds hinder the distribution of these facilities and upon scarce distribution cause suffering of individuals, slums being the most affected of these. Small measures can be taken to deal with the pandemic in Indian slums involving their proper immunization, education, training with regards to deal with pandemic situations, water and sanitation availability, proper housing availability with enough space to spare during social distancing, and not practicing last-minute relief approach. A valid and thoroughly thought through containment plan for outbreak should be prepared at the country level as well as zonal level with each one having a separate mapping and planning for slums inhabitants with slum areas as a focal point to avoid outbreaks or minimize impacts in slums. Smart policies to implement alternative and innovative measures to prevent future outbreaks in these areas which is home to millions of vulnerable and poor households.

**Conflict of Interest:** The author declares no such conflict of interest.

### ACKNOWLEDGMENT

I appreciate the encouragement of my family members and colleagues in helping me overcome hurdles and without their constant support and encouragement, this research would not be possible. I would also like to thank Prof. Dr. D.J. Biswas and Prof. Shama Parween for encouraging me towards pursuing this topic.



## REFERENCES

1. Agarwal S, Sangar K. Need for dedicated focus on urban health within national rural health mission. Indian J Public Health. 2005;49(3):141-51.
2. Challenges of Slums-Global Report on Human Settlements 2003 available on [www.unchc.org](http://www.unchc.org)
3. Govt. of India, Ministry of Housing and Urban Poverty Alleviation.2001.Draft National Slum Policy:2001. Nirman Bhawan, New Delhi
4. Ramachandran R. Urbanization and urban system in India. New Delhi: Oxford University Press. 2001.
5. Report of the committee on slum statistics/census, Government of India, 2001, pp. 6-7.
6. Report of the 11th Five Year Plan(2007-2012).Working Group on Urban Housing with Focus on Urban Slums. Ministry of Housing and Urban Poverty Alleviation, Govt. of India
7. Women's medical service. Summary of the findings of investigations into the causes of maternal mortality in India. New Delhi, 1947.
8. Urban Health Resource Centre, "Health of the urban poor in India; key results from the NFHS, 2005–2006". 2007.
9. [http://pdf.usaid.gov/pdf\\_docs/Pnadc385.pdf](http://pdf.usaid.gov/pdf_docs/Pnadc385.pdf)
10. [http://nbo.nic.in/images/pdf/report\\_of\\_slum\\_committee.pdf](http://nbo.nic.in/images/pdf/report_of_slum_committee.pdf)
11. [https://shodhganga.inflibnet.ac.in/bitstream/10603/115771/15/15\\_chapter%208.pdf](https://shodhganga.inflibnet.ac.in/bitstream/10603/115771/15/15_chapter%208.pdf)

## AUTHORS PROFILE



**Aditi** Graduated from BIT Mesra with B.Arch and pursuing post-graduation in Urban Planning. I have published a paper with the Int. Journal of Indian Psychology titled "Role of lighting in built forms with reference to meditation resort" and another paper with Gedrag & Organisatie titled "Study of Effects of Lighting on Meditation Performance". I have received a commendation award from ETHOS NASA Scholarship during by B.Arch. My bachelor's thesis was on "Sustainable designing of built forms for meditation resorts" and am currently working on my post-graduate thesis on "Heritage conservation for tourist sites for economic development in towns of West Bengal".