

Status of Basic Amenities across Major States of Urban India

Samir K Mahajan

Abstract

Basic amenities cover those provisions and facilities which are indispensable to human life in modern times. Ability to reside in a stable house, access to safe drinking water, access to toilet facilities and having access to energy in the form of electricity etc. are certain fundamental determinants of quality of living. This present study endeavors to assess access to basic amenities by the urban population of Major Indian. A composite index called Basic Amenities Index has been constructed by incorporating the most critical indicators of use basic amenities. The UNDP methodology has been used in the construction of the composite index. These variables are identified as decent shelter, improved sanitation and toilet facilities, improved drainage, safe drinking water, electricity etc. The basic amenities index ascertains level of achievement of major states of urban -India. The study is based on secondary data sourced from Census of India 2011. Gujarat has come out to be the best states in terms of accessibility of basic amenities by its urban people. Odisha, Bihar remain at the bottom in the list of the states.

Keywords: Basic Amenities Index, Electricity, Drainage, Sanitation, Drinking Water

I. INTRODUCTION

Basic amenities are fundamental determinants of quality of living in societies, regions and nations [2]. Access to basic amenities is fundamental concerns for less developed societies, particularly for populations that are economically and socially underprivileged and thus draw considerable attentions from the policy makers, planners and development thinkers.

Basic amenities are particularly more important with growing size of urban population, employment seekers. Cities do compete in attracting skilled and manpower, new settlers in regards to accessibility to these basic facilities of life, and those regions are expected to move ahead which can provide improved and affordable amenities to its citizens.

The paper endeavors to examine the performance of major states of urban Indian with respect basic amenities. The selected Indian states are categorized as major states by considering the size of geographical area as well as size of their population.

Samir K Mahajan, Assistant Professor (Economics), Department of Mathematics and Humanities, Institute of Technology, Nirma University, Ahmedabad, Gujarat -382481, Email: samirkmahajan@hotmail.com
Contact No. +918469921362

These states are bigger both in terms of geographical area and size of population. The specific objectives of the study are:

- i. to construct a Basic Amenity Index
- ii. to look into the status basic amenities across major states of urban India.

The study is based on secondary data and empirical analysis is done for the year 2011 by taking the relevant data from Census of India, 2011

II. SELECTION OF INDICATORS

Four rudiments such as shelter, sanitation and hygiene, electricity and safe drinking water have always drawn the greatest attention of policy makers, urban planners, and development economists. Sanitation and hygiene can be further split into latrine, bathroom and drainage facility. Altogether six dimension of basic amenities has been considered. These are access to decent shelter [measured by proportion of household residing in good¹ house [3], [6], [7]; access to improved toilet [measured by proportion of households having access to flush/pour flush latrine or pit latrines or other form of improved latrine in their dwellings²[4], [6][12]; access to improved bathroom [measured by proportion of households having access to bathroom with roof within the premise, access to improved drainage [measured by proportion of households being connected to closed drainage[11]; access to safe drinking water [measured by proportion of households having access to safe³ drinking water[6],[12]; *access to electricity [measured by proportion of households having access to electric facilities⁴[6], [10].*

III. CONSTRUCTION OF BASIC AMENITY INDEX

Based on the selected dimensions and their indicators, Basic Amenity Index (BAI) is constructed by using Dimension Index technique of UNDP. UNDP uses this technique in the construction of its HDI [1], [8]. The dimension index (attainment perspective) of each variable/indicator can be written as:

$$DI_{ij} = \frac{X_{ij} - \min(X_{ij})}{\max(X_{ij}) - \min(X_{ij})}$$

¹As per definition of Census of India 2011

²As per definition of Census of India 2011

³As per definition of Census of India 2011

⁴As per definition of Census of India 2011

where, X_{ij} is the actual value of the i^{th} indicator X_i for the state j . $max(X_{ig})$ and $min(X_{ig})$, respectively, are highest and lowest goalpost values that i^{th} indicator can be allotted. D_{ij} is the attainment index of the i^{th} indicator ($\forall i = 1, 2, 3, \dots, n$) that lies between 0 and 1 for state j .

The maximum and minimum values for each selected variable/indicator are the goalpost values. The threshold maximum for each basic amenity indicator is fixed at 100 percent which is the target value for highest level of achievements. The minimum threshold value for each indicator is set at subsistence value (i.e. 'natural zeros') to measure progress against minimum level needed by a society to survive over time [9]. All the dimensions are allotted equal weight not because of simplicity but because that they are equally important for righteous human life. Finally, the Basic Amenity Index is constructed by taking a geometric mean of the indices of the respective indicators.

Thus, Basic Amenity Index (B_j) for the state j is obtained by taking simple geometric mean of the n -dimension indices as shown below.

$$B_j = \left(\prod_i^n D_{ij} \right)^{1/n}$$

Like the dimensional indices, the BAI (B_j) is also a unit free value which ranges between 0 and 1, and provides a normalized measure of achievement. Higher BAI values indicate higher level of achievement with respect to basic amenities. Level of achievement of the states with respect to different indices has been classified into four categories such as: low level of achievement (score less than 0.5), medium level of achievement (0.500–0.799 score), high

level of achievement (0.800–0.899 score), very high level of achievement (score of .90 or above).

IV. RESULT

Basic Amenity Index (BAI) is obtained by incorporating the six indicators of basic amenities i.e. decent shelter, improved latrine, improved bathroom, improved drainage, electricity, safe drinking water indices. Here, in this study, index score of each indicator of each state is calculated by dimension index methodology of UNDP. Finally, the composite score of BAI of each state is calculated by taking the geometric mean of index score. The study is confined to major states of urban-India.

Access to Decent Shelter

Urban sector of all select states portrays medium level of achievement with respect to access to decent shelter. Andhra Pradesh (0.773) tops the list followed by Gujarat (0.754), Tamil Nadu. Bihar (0.505) and Odisha (0.505) jointly are at the bottom of the list preceded by Uttar Pradesh (0.536), West Bengal (0.561), Punjab (0.553), and Jharkhand (0.581). Six states achieved more than urban - India (0.684) score. [Table I].

Improved Latrine

Kerala (0.967), Punjab (0.915) have attained very high level score with respect to accessibility of improved latrine in the urban areas. Haryana (0.873), Gujarat (0.872), Andhra Pradesh (0.834), Karnataka (0.832), West Bengal (0.83), Assam (0.828), are high level achiever. Rest of the states baring Chhattisgarh (0.596) witnessed medium

TABLE I
SCORES OF SELECT STATES: ACCESS TO BASIC AMENITIES (URBAN) 2011

Urban	Decent House	Improved Latrine	Improved Bathroom	Improved Drainage	Safe Drinking Water	Electricity	Basic Amenities Index [♦]
Urban-India	0.684	0.790	0.775	0.445	0.914	0.927	0.735
Andhra Pradesh	0.773	0.834	0.856	0.496	0.945	0.973	0.795(3)
Assam	0.579	0.828	0.717	0.154	0.782	0.841	0.571(14)
Bihar	0.505	0.668	0.457	0.3	0.947	0.667	0.555(16)
Chhattisgarh	0.613	0.596	0.544	0.175	0.939	0.937	0.559(15)
Gujarat	0.754	0.872	0.85	0.694	0.97	0.972	0.846(1)
Haryana	0.604	0.873	0.861	0.494	0.967	0.962	0.770(6)
Jharkhand	0.581	0.661	0.553	0.249	0.784	0.88	0.576(13)
Karnataka	0.714	0.832	0.917	0.565	0.923	0.964	0.806(2)
Kerala	0.721	0.967	0.888	0.335	0.394	0.97	0.655(10)
Madhya Pradesh	0.641	0.728	0.699	0.319	0.921	0.927	0.668(9)
Maharashtra	0.718	0.695	0.86	0.627	0.957	0.962	0.792(4)
Odisha	0.505	0.619	0.545	0.199	0.798	0.831	0.531(17)
Punjab	0.553	0.915	0.873	0.576	0.989	0.983	0.792(4)
Rajasthan	0.689	0.779	0.793	0.344	0.943	0.939	0.711(8)
Tamil Nadu	0.751	0.73	0.755	0.448	0.929	0.961	0.741(9)
Uttar Pradesh	0.536	0.796	0.697	0.322	0.979	0.814	0.651(11)
West Bengal	0.561	0.830	0.6	0.244	0.939	0.851	0.616(12)

Data Source: Compiled from Census of India 2011

Note: [♦] Figure in bracket indicates rank of the states

level of achievement. However, Uttar Pradesh (0.796) is close to medium level of achievement. Improved latrine scores eight states (urban) surpassed the Urban-India score (0.79) [Table I].

Improved Bathroom

As far as accessibility to improved bathroom is concerned, Karnataka has achieved very high-level score. Kerala (0.888), Punjab (0.873), Haryana (0.861), Maharashtra (0.86), Andhra Pradesh (0.856), Gujarat (0.85) scored high level of achievement. Remaining states except Bihar (0.457) are medium level achiever among which Jharkhand (0.553), Odisha (0.545), Chhattisgarh (0.554), are bottom states. Urban-India (0.775) is ahead of nine states in improved bathroom [Table I].

Improved Drainage

Household having connectivity to closed-drainage facilities shows a dismal picture for the states (urban). Four states such as Gujarat (0.694), Maharashtra (0.672) Punjab (0.576) and Karnataka (0.565) has attained medium level score with respect to improved drainage. Rest of the states are grappled with low level score having Assam (0.154), Chhattisgarh (0.175), and Odisha (0.199) at the bottom. Urban-India score with respect to improved drainage is 0.445 [Table I].

Safe Drinking Water

With regard to access to safe-drinking-water in urban areas, the state of Kerala (0.394) is coped with low level attainment. Assam (0.782), Jharkhand (0.784) and Odisha (0.798) are medium level achievers. Remaining all the states have accomplished very high level of achievement in their urban areas. Urban-India (0.914) displays a very high level score in *safe drinking water* [Table I].

Electricity

As regard access to electricity in urban areas, Bihar (0.667) is at the bottom with medium level of achievement. Five states (urban) achieved high level score. All the remaining states accomplished very-high level achievement. Punjab (0.983) is the best followed by Andhra Pradesh (0.973), Gujarat (0.972), Kerala (0.97) etc. Urban-India (0.927) too portrays very high level of attainment in electricity index [Table I].

Basic Amenity Index

Basic Amenity Index, in this study, yields the composite score for depicting how far the select states has performed as regards to basic amenity facilities accessed by it urban population. Gujarat (0.845) has come out to be the best states as far as access to basic amenities by it urban people are concerned with a high level score. Gujarat is followed by Karnataka (0.806) with high level of achievement. Other promising states are Andhra Pradesh (0.795) Punjab (0.792) and Maharashtra (0.792). The state of Kerala has scored 0.655. For a long time, Kerala has been the subject of

discussion and debate among the development philosophers and policy makers. However, here in this studies, as regards access to basic amenities, urban-Kerala is ranked tenth among seventeen bigger states in India. Madhya Pradesh (0.668) popularly dubbed as part of 'BIMARU' states until recently precedes Kerala in this study. West Bengal remaining under communist regime for three and half decades has score of 0.616 in terms of BAI. Odisha (0.531), Bihar (0.555), Assam (0.571), Jharkhand (0.576), Chhattisgarh (0.599), are bottom states. Urban-India (0.735) has better score than eleven states (urban) in terms of basic amenity index constructed in this study.

In nutshell, the achievements of the states in urban basic amenity facilities for its citizen goes as follows:

Gujarat (0.846) >Karnataka (0.806) >Andhra Pradesh (0.795) >Punjab (0.792) ≈ Maharashtra (0.792) > Haryana (0.77) > Rajasthan (0.711) > Tamil Nadu (0.741) > Madhya Pradesh (0.668) > Kerala (0.655) > Uttar Pradesh (0.651) > West Bengal (0.616) > Jharkhand (0.576) > Assam (0.571) > Chhattisgarh (0.559) > Bihar (0.555) > Odisha (0.531) [Table I].

V. CONCLUSION

Access to basic amenities is fundamental concerns for less developed societies, particularly for populations that are economically and socially underprivileged and thus draw considerable attentions from the policy makers, planners and development thinkers. The amenities like electricity, clean water, hygiene and sanitation etc are critical determinants of quality of living of the urban population. The initiatives like smart cities, clean movement in contemporary urban-India may go in vein in the absence of these basic amenities of life. The study finds that the states have to go a long way with respect to decent shelter, improved sanitation such as latrines and bathroom for their respective urban population. Connecting households to improved drainage vis-à-vis closed-drainage facilities is biggest task ahead for the states. Access to safe drinking water and electricity shows some promising results.

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About the Author



Born in Amingaon (Guwahati), Samir K Mahajan completed his M.Sc in Economics from Gauhati University, Guwahati. He did his Ph.D in Human Development at Assam University, Silchar. His research interest lies in the field of Development Economics.