

# Measurement of Urbanization in India: An Empirical Study Through Degree and Rate of Urbanization

Ram Krishna Mandal<sup>1\*</sup> Dr. Debkumar Mukhopadhyay<sup>2</sup>

## Abstract

*Urbanization is a progressive concentration of people in urban areas. Quantifying urbanisation is a very challenging task. There are numerous demographic dimensions that can be used to quantify the urbanisation process, among which the degree of Urbanization and Rate of Urbanization are applied. Goal: Using Indian Census data from 1901 to 2011, this paper attempts to quantify the extent and pace of urbanisation in India. Methods: The study is descriptive in nature and is based on secondary sources, including books, articles, websites, online journals, and a variety of census reports. Data taken from various census reports are arranged in such a way so that the necessary tools like the formulae of degree of urbanization and rate of urbanisation can be applied. Results and Discussions: India's urbanization has been rapidly increasing over the past 20 years. It is clear that India is not one of the world's most urbanised nations. About 20 years ago, the actual process of urbanization began in India, and since then, it has gained enough momentum to absorb a sizable portion of the rural population. Rate of urbanization and degree of urbanization in India are measured on the basis of data of urban population from 1901 CE to 2011 CE. Findings: The Degree of Urbanization and Rate of Urbanization, both indicate a moderate rate of urbanization. In conclusion, stabilising the population is essential to promoting sustainable development. The pressure on urbanisation is growing as the global population grows in a geometric manner. Conclusion: Encouraging sustainable development necessitates population stabilization. As the India's population rises geometrically, there is increasing strain on urbanization, arable land, water, energy, and biological resources to produce adequate food while maintaining the integrity of our ecosystem. India's population policy must be founded on practical steps that not only address our population issue but also enable the impoverished to make real and significant life improvements.*

**Keywords:** Progressive Concentration, Demographic Dimensions, Population, Sustainable Development, Population, Sustainable Development.

### \*Author for Correspondence

Ram Krishna Mandal

E-mail: [rkm\\_1966@yahoo.co.in](mailto:rkm_1966@yahoo.co.in)

Former Vice Chancellor, Cooch Behar Panchanan Barma University, Cooch Behar, West Bengal, India  
Professor, Department of Economics, Cooch Behar Panchanan Barma University, Cooch Behar, West Bengal, India

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## INTRODUCTION

An indicator of the shift from traditional rural economies to contemporary economies is urbanization. It takes a while to complete. It is the progressive concentration of people in urban areas [3]. Urbanization is extremely hard to quantify. It takes a while to complete. According to Kingsley Davis, urbanization is the process of moving from a dispersed pattern of human settlements to one that concentrates in urban centres [2]. A country transitions from an agrarian to an industrial society through a limited process known as a cycle [4]. He has discussed the urbanization process in three stages. The first stage is defined by a traditional rural society that is based mostly on agriculture

and has a dispersed settlement pattern. Stage two is the acceleration stage, during which the economy undergoes fundamental restructuring and investments are made in social overhead capitals like communication and transportation. Population share of urban areas steadily rises [10]. Reliance on the primary sector steadily decreases. Terminal stage refers to the third stage, where at least 70% of the population lives in urban areas. The degree of urbanization is essentially unchanged at this point. India's urbanization pattern is defined by a persistent concentration of people and activities in big cities [6]. Once more, the population density in medium- and small-sized towns varied or decreased [7]. India's urbanization trend is defined by a persistent concentration of people and activities in big cities. "Where in urban misery and rural poverty exists side by side with the result that city can hardly be called dynamic" is what Kingsley Davis [4] called "over-urbanization," which is characterized by an increasing amount of the ineffective, unproductive informal 13 sector [8]. According to another academic [1], urbanization in India is more accurately described as pseudo urbanization, in which people go to cities as a result of rural push rather than urban pull. According to Reza and Kundu [11], dysfunctional urbanization and urban accretion lead to a concentration of people in a small number of major cities without a commensurate growth in their economic foundation.

*Measuring Urbanisation:* There are numerous demographic dimensions that can be used to quantify the urbanisation process, including: (i) The degree of Urbanization, (ii) Rate of Urbanization, (iii) The tempo of Urbanization, (iv) The Gini-concentration and dispersion of population and (vii) The components of urban growth, etc. Here, we measure the urbanization through rate of urbanization and degree of urbanization in India.

## OBJECTIVE

This paper endeavours to measure the urbanization in India with emphasis on degree and rate of urbanization using Indian Census data during 1901-2011.

## METHODS

This study is descriptive in nature and is grounded in secondary sources.

*Data Sources:* The information was gathered from a variety of census reports, books, articles, websites, and online journals that were published at various points in time.

*Analysis:* To support the required presentation and conclusion, a comprehensive review, validation, and methodical arrangement of the numerous resources obtained from diverse sources have been conducted. Data taken from various census reports are arranged in such a way so that the necessary tools can be applied.

*Tools Used:* The formulae of degree of urbanization and rate of urbanisation are applied.

## RESULTS AND DISCUSSIONS

### Degree of Urbanization

Even though it started out slowly, India's urbanization has been rapidly increasing over the past 20 years. It is clear that India is not one of the world's most urbanised nations. About 20 years ago, the actual process of urbanization began in India, and since then, it has gained enough momentum to absorb a sizable portion of the rural population. For instance, the United Nations World Population Chart from 1990 shows that between 66% and 85% of people live in cities in the world's more developed nations. In less developed Asian and African nations, at least 34% of people live in cities. Hunamappa has correctly noted that "one finds wide inter-state differences in urbanization, despite deliberate attempts on the part of the national as well as State Governments to encourage in a controlled manner the growth of urban areas" [5]. There is significant variation in the level of urbanization even within the region [9]. The tools available for quantifying urbanization are numerous. Two more instruments for measuring urbanization among them are the degree and rate of

urbanization. Each of these is covered individually.

The percentage of urban population is called Degree of Urbanization. One way to measure urbanisation is to look at the Degree of Urbanisation. It is calculated here for 110 years with effect from 1901 to 2011 censuses. The formula of Degree of Urbanization is given below.

$$\text{Degree of Urbanization} = \frac{\text{Urban Population}}{\text{Total Population}} \times 100$$

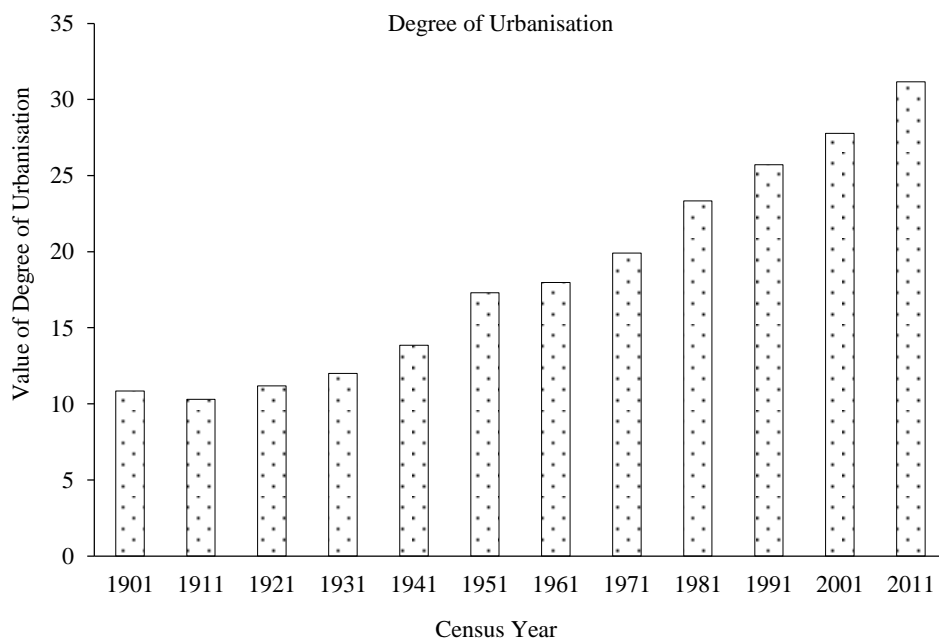
Degree of urbanization is calculated and shown in the following Table 1, Figure 1 and Figure 2.

Explanation of Table 1, Figure 1 and Figure 2: On the basis of the above Table 1, Figure 1 and Figure 2 are drawn. Figure 1 represents bar diagram, where each bar shows the degree of urbanization corresponding to each census year. The value of degree of urbanization of 1911 is slightly lesser than those of 1901 and 1921 on account of which the bar is smaller than those of 1901 and 1921 censuses. After that, the length of the bars is gradually increasing showing that the value of degree of urbanization is increasing till up to 2011.

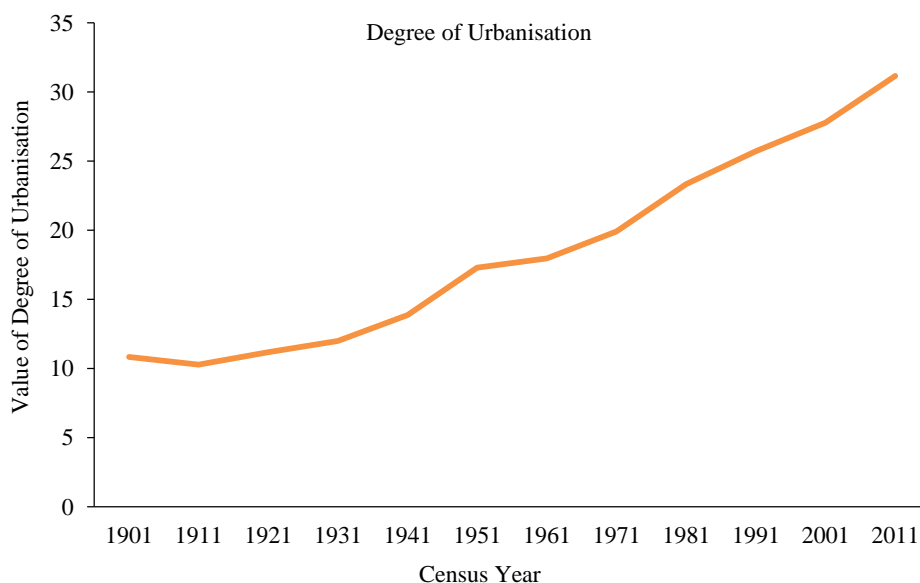
**Table 1.** Census wise degree of urbanisation and rate of urbanization from 1901-2011.

Census year	Population	Urban Population	Degree of Urbanisation*
1901	238396327	25851873	10.84407353
1911	252093390	25941633	10.2904852
1921	251321213	28086167	11.17540643
1931	278977238	33455989	11.9923723
1941	318660580	44153297	13.85590179
1951	361088090	62443709	17.29320649
1961	439234771	78936603	17.97139211
1971	548159652	109113977	19.90551048
1981	683329097	159462547	23.33612716
1991	844324222	217177625	25.72206498
2001	1027015247	285354954	27.78488
2011	1210193422	377105760	31.16078415

Source: Census of India for different years. N.B.: \* = self calculated.



**Figure 1.** Bar graph for Degree of Urbanisation from 1901 to 2011



**Figure 2.** Line graph for Degree of Urbanisation from 1901 to 2011

**Table 2.** Census wise rate of urbanization from 1901-2011.

Census year	Population	Urban Population	Rate of Urbanisation*
1901-1911	252093390	25941633	-5.37961347
1911-1921	251321213	28086167	7.918470185
1921-1931	278977238	33455989	6.812379104
1931-1941	318660580	44153297	13.44935552
1941-1951	361088090	62443709	19.87661861
1951-1961	439234771	78936603	3.773695573
1961-1971	548159652	109113977	9.716497205
1971-1981	683329097	159462547	14.70088268
1981-1991	844324222	217177625	9.275840874
1991-2001	1027015247	285354954	7.424235867
2001-2011	1210193422	377105760	10.83382282

Source: Census of India for different years. N.B.: \* = self calculated.

Figure 2 represents the line diagram. The line after 1901 is gradually upward rising showing that the value of degree of urbanization is increasing till up to 2011 census. The line shrinks at 1911 census indicating that the value of degree of urbanization is lesser than those of 1901 and 1921 censuses. Roughly one-third of India's population resided in cities in 2011. The percentage of persons residing in urban areas is 31.16 percent. Between 2001 and 2011, there was an almost 4.5% rise in the urban population, according to the trend. It indicates that individuals have relocated from rural to urban areas in search of employment and a means of subsistence.

**RATE OF URBANIZATION**

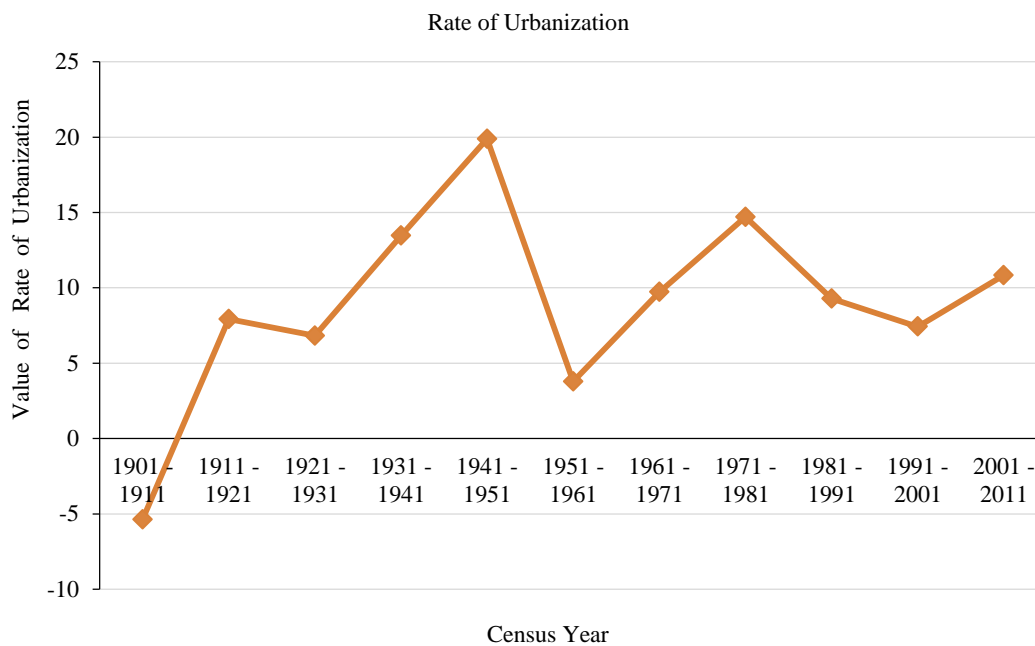
One way to quantify urbanization is through the Rate of Urbanization. It is calculated here for 110 years with effect from 1901 to 2011 censuses. The formula of Rate of Urbanization is given below.

$$\text{Rate of Urbanization} = \frac{\text{Degree of urbanization in concerned census year} - \text{Degree of urbanization in previous census year}}{\text{Degree of urbanization in previous census year}} \times 100$$

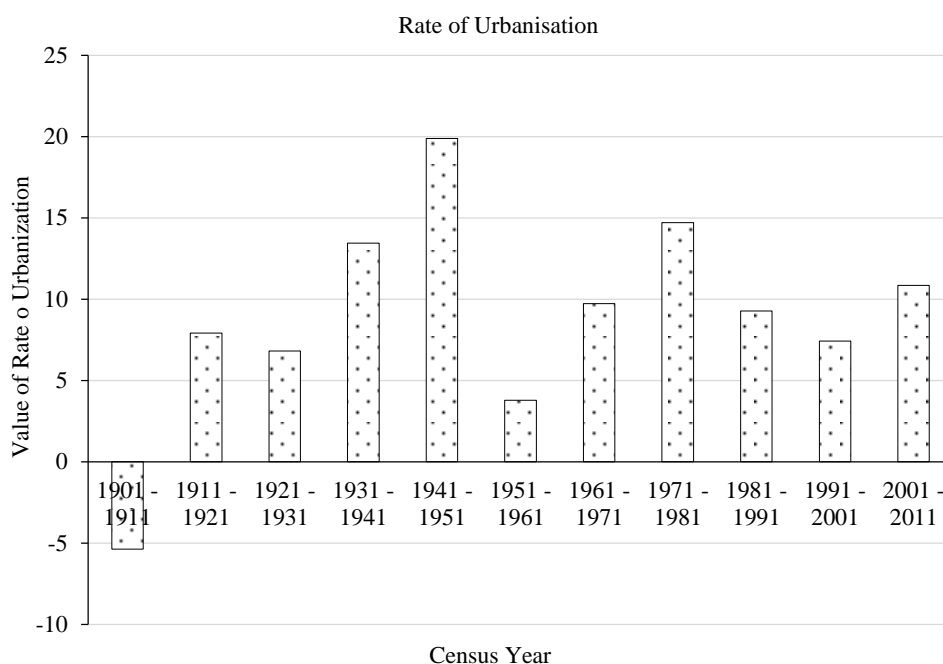
Explanation of Table 2, Figure 3 and Figure 4: The Rate of Urbanization for 1901-1911 is negative. As a result, the curve of Rate of Urbanization starts from below the origin and remain positive throughout till 2011. It is upward rising with up and down and but at 1951-1961 it moves more downward because of having lowest value (3.77) of rate of urbanization. Again, if bar diagram is drawn, the length of each bar will be sometime shorter and sometime longer. It is seen in Figure 4. The first bar is below the origin because of its negative value at 1901-1911 (-5.37). The bar for 1951-1961 is smallest because of having smallest value of rate of urbanization, shown also in Figure 3.

### Findings

The Degree of Urbanization and Rate of Urbanization, both indicate that urbanization is going on at moderate rate.



**Figure 3.** Line graph showing degree of urbanization from 1901 to 2011



**Figure 4.** Bar graph showing degree of urbanization from 1901 to 2011

## CONCLUSION

Only the urban population has been used to calculate the Degree and Rate of Urbanisation. Encouraging sustainable development necessitates population stabilization. As the India's population rises geometrically, there is increasing strain on urbanization, arable land, water, energy, and biological resources to produce adequate food while maintaining the integrity of our ecosystem. Population Matters aims to strike the ideal balance by providing the highest standard of living rather than the most material belongings. This suggests modest but generally comfortable living standards that are free from hunger and poverty, allowing fulfillment without leading to an increase in physical consumption. India's population policy must be founded on practical steps that not only address our population issue but also enable the impoverished to make real and significant life improvements.

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