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A Study of Population Growth Models and Future Population of India

Authors : Sheena K. J., Jyoti Badge, Sayed Mohammed Zeeshan

Abstract : A Comparative Study of Exponential and Logistic Population Growth Models in India India is the second most populous city in the world, just behind China, and is going to be in the first place by next year. The Indian population has remarkably at higher rate than the other countries from the past 20 years. There were many scientists and demographers who has formulated various models of population growth in order to study and predict the future population. Some of the models are Fibonacci population growth model, Exponential growth model, Logistic growth model, Lotka-Volterra model, etc. These models have been effective in the past to an extent in predicting the population. However, it is essential to have a detailed comparative study between the population models to come out with a more accurate one. Having said that, this research study helps to analyze and compare the two population models under consideration - exponential and logistic growth models, thereby identifying the most effective one. Using the census data of 2011, the approximate population for 2016 to 2031 are calculated for 20 Indian states using both the models, compared and recorded the data with the actual population. On comparing the results of both models, it is found that logistic population model is more accurate than the exponential model, and using this model, we can predict the future population in a more effective way. This will give an insight to the researchers about the effective models of population and how effective these population models are in predicting the future population.

Keywords : population growth, population models, exponential model, logistic model, fibonacci model, lotka-volterra model, future population prediction, demographers
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