

A STUDY OF DEMOGRAPHIC, ECONOMIC & DISTRIBUTIONAL FACTORS ON STATEWISE CONSUMPTION OF ELECTRICITY

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Abstract

India currently suffers from a major shortage of electricity generation capacity, even though it is the world's fourth largest energy consumer. India's network losses exceeded 32% in 2010, compared to world average of 15%. Consumption of electricity breaks up into various factors as domestic, industrial, agricultural etc. There is huge disparity between the requirement and production of electricity in most of the states of India. With the help of the study of various factors affecting total consumption, the analysis of future requirement of electricity can be made. Also the electricity losses can be minimized. It is unforeseen that Future generation capacity should be increased to meet up the expanding energy requirements. For this study shape file of states India was spatially joined with the attribute data of Population, total consumption of electricity, Gross Domestic Product, Per Capita income, Transmission and Distribution losses. Hot Spot and cluster analysis was carried out on variable total consumption for getting most electricity consuming states. Initially population was used to do regression analysis. Later, other four factors were also included in regression with Total consumption. From the regression test with population, it was seen that there was a strong correlation between total consumption and population. Also, the correlation further increased on adding other variables i.e. GDP, per capita income, T & D losses. In spite of the high correlation, there was standard residual obtained for some states which clearly shows the scarcity of electricity in spite of the high number of explanatory variables involved.