

ABSTRACT

A rural system comprises several interacting subsystems, such as, households, agriculture, livestock, rural industries, and rural transportations, and functions as an integral whole. All subsystems comprising the rural system are inextricably linked since they not only are interconnected but also are interdependent. The present investigation attempts to take a close look at the micro level energy scene in a rural system, and undertakes an in-depth study of each of its various subsystems, and finally making use of the multiple complex linkages within the system projects the future scenarios and arrives at a set of policy directions for promoting a steady growth of the rural economy.

An extensive field survey was conducted to collect relevant data, and suitable quantitative techniques applied for quantifying the available energy resources, present and future energy consumption, and for estimating the demand and supply of energy in the closed system. A linear programming model was employed to take into account the micro level energy related interactions among the various subsystems, in order to build a composite picture for the system as a whole. The model was also used for generating alternative scenarios for investigating the impact of changes in several important parameters like intensity of energy use, the energy consumption pattern, and population growth. The study enables a close examination of the overall implication of several alternative policy options characterised by various combinations of the relevant control parameters.

Kanyakumari district, one of the industrially backward districts in India, was selected for the purpose of this investigation. The study confines attention to the micro structure of energy demand and supply and the socio-economic and agro-climatic factors that influence the evolution of the energy scenario in this district in accordance of the needs and aspirations of the population. Finally a set of policy guideline have been developed for rational use of available energy resources at the micro level commensurate with a steady economic growth of the area.