

Multi-Criteria Goal Programming Model for Sustainable Development of India

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Abstract : Every country needs a sustainable development (SD) for its economic growth by forming suitable policies and initiative programs for the development of different sectors of the country. This paper is comprised of modeling and optimization of different sectors of India that form a multi-criterion model. In this paper, we developed a fractional goal programming (FGP) model that helps in providing the efficient allocation of resources simultaneously by achieving the sustainable goals in gross domestic product (GDP), electricity consumption (EC) and greenhouse gasses (GHG) emission by the year 2030. Also, a weighted model of FGP is presented to obtain varying solution according to the priorities set by the policy maker for achieving future goals of GDP growth, EC, and GHG emission. The presented models provide a useful insight to the decision makers for implementing strategies in a different sector.

Keywords : sustainable and economic development, multi-objective fractional programming, fuzzy goal programming, weighted fuzzy goal programming

Conference Title : ICEORS 2018 : International Conference on Econometrics, Operations Research and Statistics

Conference Location : London, United Kingdom

Conference Dates : March 15-16, 2018