Design and Implementation of TED Model in Plastic Waste Management

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Abstract:
Plastic waste Management is one of the most important sections in every industry and individual levels. The importance of the theme provokes the researchers to focus on correlation of intelligent techniques to study the challenges involved in proper implementation of the same. In this regard the work exposes the origin and technical challenges and solutions involved in the Plastic waste management. One of the major obstacles is cost benefit analysis at individual phase. The work explains the role of intelligent technology in elaborating the inherent challenges and solutions and explains TED (Techno economical demand) Model of Plastic Waste Management. In this work, the cost benefit analysis performed by introducing novel structure of plastic waste management and applied the strategy of Big Bang big crunch & Ray optimisation algorithm method of optimisation to study the cost benefit analysis.

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Contents

Plastic material is pervasive; it became the backbone for globalisation. Elimination of the waste is quite difficult and it requires individual awareness, recycling infrastructures and policies. Plastic is considered to be a high weight molecule polymer extracted from petrochemicals. To prevent globalisation, we should focus on integrated policies in waste management and reduction of waste. Plastic have perfused every phase in human life due to its advantages like mouldable in different shapes and flexible in nature. Though there exist several policies and procedures in handling waste management. Still there exist gaps because of unpredictable by-products, revenue, competition spirit and low profit. According to the CPCB (Central pollution control board) report, plastic waste replaced by coal in industries, for generation of power, because of the high calorific value. During co-incineration of plastic in industries slag comes as final product and utilised as constructive materials. India generates almost 9.46 MT of waste and nearly 40% of waste uncollected as per ministry of environment. India generates nearly 15 million tons of plastic waste and 400 million all around the world. The most frightening aspect is the recycling rate is around 4%. To reduce the single use plastic and to reduce the financial burden of end of life management the local governing bodies has to take over the issue. Lack of motivation in public, poor implementation of the policies and financial burden are the obstacles to this area. Plastic waste management Govind pandey and group mentioned types of plastics and their applications and recycling procedures. [1] cheuk - fai-chow and group explained the significance of plastic waste management and procedures in different countries[2]. prof T.Z Quazi performed survey on sustainable plastic waste management in thane Municipal Corporation[3]. Environmental issues and challenges involved in plastic waste management in explained by several authors[4]–[6]. Folkert and Yang XS group explained the techno-economic aspects involved in plastic waste management. [7] To implement the recycling procedures for plastic material, economic parameters are becoming barriers in some countries particularly developing countries. The opportunities and challenges create researchers a new way of creating economic model of waste management.

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