

CROP RESIDUE RECYCLING FOR ECONOMIC AND ENVIRONMENTAL SUSTAINABILITY

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ABSTRACT

India is a major exporter of food grains, oilseeds, sugarcane, and other agricultural commodities. Agricultural crops produce a lot of residual residues, and as food production rises, agricultural leftovers will rise as well. These remaining residues represent not only a waste of resources, but also a lost chance for a farmer to increase his or her revenue. Researchers from all over the globe are investigating the use of agricultural residues in a variety of sectors, including textile composite non-woven manufacturing processes, power generation, biogas production, animal feed, compost and manures, and so on. The growing tendency in the installation of bio-energy cogeneration facilities, the growing need for animal fodder, and the growing trend in organic agriculture all point to crop waste as a competitive potential in agriculture. It's worth noting that the uses for this leftover residue aren't always mutually exclusive, making determining its economic worth more challenging. Straw, for example, may be used as animal bedding before being utilized as a crop fertilizer. As a result, the primary goal of this study was to determine how much agricultural residue is wasted and how well it may be used for other purposes to promote environmental stewardship and sustainability. In this regard, using data from different government sources and a SWOT analysis of potential alternative applications of residue in India, an effort has been made to estimate the total agricultural residue throughout the states and its economic worth. This article also covers successful case studies using agricultural wastes in economic activity in India and at the global level. In all, 516 Mtonnes of agricultural residue were generated in India in 2014-15, with cereals being the biggest contributor, followed by sugarcane. For 2014-15, the energy potential of paddy rice straw crop residue was projected to be 486,955 megawatt, while coarse cereals had a potential of 226,200 megawatt.

KEYWORDS: Crop Residue, Economic Value, Environmental Sustainability, Composites Making, India.

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