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Environmental impact analysis of production of jute towards eco-labelling

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Abstract

The emergence of environmental awareness among consumers world over has led to the growing demand for goods and services that are environment friendly and attempts are being made to find out ways to consume natural resources in a sustainable/green(er) manner. In this context of Green Consumerism, environmental labeling has assumed greater significance to develop confidence in the buyers about the goods and services used by them. Ecolabel generally represents a holistic judgement, giving an overall assessment of a product's environmental quality relative to other products in the same category. In other words it is a claim which indicates the environmental aspects of a product or service. Environmental labels operate as informative and voluntary market instruments. Eco-labelling has offered immense opportunities for promoting domestic jute products, particularly in the developed countries. Ecolabeling can be done through Life Cycle Analysis (LCA) of Jute. Life Cycle Analysis (LCA) of jute production system presents the emissions and extractions of nutrients to and from the soil and water as well as some important biogases to the air considering inputs and outputs to and from the production system boundary to the environment. Keeping in view of the above, Jute production system as a whole were assessed for the environmental consequences. Amount of N,P and K were estimated from fibre, sticks and leaves as percentage of total dry weights of products. Percentage of N varied from 0.19% in dry stick to 2.7% in dry leaves. P_2O_5 varied from 0.07% in dry sticks and K_2O varied from 0.68% in dry sticks to 2.26% in dry leaves. Input and output nutrients and their emissions to soil were estimated. It was estimated that out of 1200kg cow dung per ha 9.15kg/ha N, 8.0 kg/ha P_2O_5 and 12.75 kg /ha K_2O was emitted to soil (Table 2). About 50% of N from Urea, 25% of P_2O_5 from Triple Super Phosphate and 50% of K_2O from Muriate of Potash was emitted to soil. Among outputs highest amount of N was emitted to soil from leaves followed by sticks and fibre. P_2O_5 emission to soil from the fibre, leaves and sticks were negligible. K_2O emission was found to be highest from sticks followed by fibres and leaves.