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System of rice (root) intensification for food and ecological security

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This paper explores System of Rice Intensification or System of Root Intensification (SRI) method of cultivation for its resource use efficiency and potential for increased productivity. It analyzes the contribution of SRI in maintaining biodiversity and ecological security by ensuring decentralized agricultural communities' control over land, water, livelihood, food and natural resources. The paper delineates policy interventions for scaling up agricultural production and types of desired institutional structures to be put in place for facilitating the method. The present technology of cultivation leaves behind ecological foot prints caused by overuse of fossil fuels and synthetic fertilizers that pollute most of world's annual fresh water supply. Overuse of water contributes to emission of greenhouse gases causing more global warming. Such highly intensive agriculture dependent on fossil fuels, damaging to soil, fresh water, and crop diversity is becoming questionable today. The real challenge therefore is to develop/adopt strategies based on sound ecological principles and integrate traditional organic farming practices and biodiversity. SRI method is a promising resource conserving method initially perfected for rice cultivation and now its core practices are also being applied to sugarcane, wheat, ragi, mustard and vegetable production both under irrigated and rain fed conditions. The method is based on application of controlled irrigation which reverses climate change in comparison with flooding irrigation management of rice production. Around 40 countries of the world today are reaping the benefits of SRI. In India, the method is gradually spreading, improving productivity/profits, reducing water inputs and challenging high input driven post Green Revolution agricultural practices. About one million farmers are reported to have tested SRI in more than 350 rice growing districts in the country. In brief, Indian agriculture is witnessing a fine blending of scientific and indigenous knowledge systems in agro ecological crop management. These farm based approaches clearly offer a ray of hope for small, marginal, resource poor farmers and food security of the nation.

Biography

K N Bhatt is a professional Researcher in Social Science with specialization in Agriculture, Environmental Economics and Social Development. He has directed and authored/co-authored 25 research projects sponsored and funded by international and national organizations in inter-disciplinary Social Science issues. He has published 7 books (plus one book is in press) and three dozen research papers. He presented research papers, delivered invited lectures, chaired session's extensively in India and widely travelled for his academic activities in prominent universities and institutions around the world. He is reviewer for three refereed international journals. He is associate member of two reputed Canadian Institutions. He works as Professor of Economics in G B Pant Social Science Institute, Allahabad Central University, India.

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