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Extension Messages on Pesticide Use: A Precondition for Safe Vegetable Production in Jharkhand, India

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Abstract

In many developing countries, pesticides are overused and applied without appropriate precautions. Pesticide residues contaminate food, animal feed, water, and soil, placing the health of farmers, their families, consumers, and the environment at risk. A Sir Ratan Tata Trust-funded project implemented by AVRDC - The World Vegetable Center, Regional Center for South Asia promotes the production of safe vegetables through integrated pest management. A study by Bond et al. (forthcoming) in selected villages of two districts in Jharkhand, India, revealed that farmers' attitudes toward pesticides account for most of the three determinants (attitudes, subjective norms, and perceived behavioural control) of farmers' intention to apply pesticides to vegetables. In Jharkhand, farmers receive advice on pesticide use from pesticide dealers and extension agents working for nongovernmental organisations, the government's agricultural extension service, and the local agricultural university. It is assumed that farmers' positive attitudes towards pesticides are influenced largely by extension messages that encourage the use of pesticides but do not explain the side effects on human health, nontarget organisms, and the environment. The objective of this study was to examine the extension practices of persons involved in advising farmers on the use of pesticides. Their perceptions on pesticide toxicity and related health risks were elicited and evaluated in relation to farmers' practices. Farmers, pesticide dealers, and extension agents from NGOs and the governmental agricultural extension service in selected districts of Jharkhand were interviewed using semi-structured and structured methods to collect qualitative and quantitative data. Where possible, level of knowledge tests were conducted with extension agents and farmers and direct observation was used for triangulation. The information gathered was used to describe farmers' pesticide use patterns and extension agents' common pesticide extension practices. The level of knowledge results and perceptions on pesticide-related risks were used to formulate recommendations for future strategies to promote integrated pest management among extension agents and farmers.

Keywords: Extension, India, perception, pesticide use, safe vegetable production