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Economic analysis of environmental benefits of integrated pest management: a Philippine case study

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Abstract

Health and environmental concerns associated with pesticide use have motivated the development of integrated pest management (IPM) programs around the world. Little empirical work has been completed to estimate the value of the environmental benefits of IPM. This paper provides an approach to evaluate a broad set of such benefits for a vegetable program in the Philippines. Assessments were made of (1) IPM-induced reduction in environmental risks posed by pesticides in onion production in the Central Luzon and (2) willingness to pay to reduce those risks. The latter was based on a contingent valuation (CV) interview survey of 176 farmers. Risks to humans, birds, aquatic species, beneficial insects, and other animals were considered. IPM practices on onions reduced the use of specific pesticides from 25 to 65%, depending on the practice, and the projected adoption of IPM practices varied from 36 to 94%. Estimated

economic benefits varied from 231 to 305 pesos per person per cropping season (40 pesos=1 US\$). The aggregate value of environmental benefits for the five villages where the IPM research program was centred was estimated at 150,000 US\$ for the 4600 local residents. Assessment of environmental benefits can help in designing public policies and regulations, and in justifying support for publicly funded IPM programs.



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Keywords

Integrated pest management; Philippines; Value of environmental benefits

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