# Cost-benefit Analysis of Pesticide Use from Farmers' Health Perspective

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Date: 2008

**Background**

On the eve of modernization of agricultural sector to increase agricultural production in the developing world, rampant use of chemical pesticides, not only deteriorate the human and environmental health, but also a threat to soil health and productivity. Effect of irrational/over use of pesticide leads to decline in productivity in long run which may further increase the problem of food insecurity resulting in poorer health status and increased health and social costs of pesticide use. The first step towards promoting eco-friendly agricultural modernization with protection of human health and assurance of benefit to the farmers, as proposed by this study, is to conduct cost-benefit analysis of pesticide use from farmers’ health perspective.

**Methods**

This is an Analytical Study using quantitative data collected from panel survey. Shantinagar village development committee was selected as the study area. A total of 90 households were selected using quota sampling method. Microsoft Excel and Statistical Package for Social Sciences 13 were used for analyzing data. Stepwise multiple regression analysis and logistic regression analysis were used to identify factors associated with variation in the health problems, costs and benefits.

**Results**

Cost of pesticide use (cost incurred for pesticide purchase and application and health cost resulting from increased number of sufferings) was increased in increased level of pesticides use without bringing about a significant increase in production level. Such relation of costs and benefits has suggested decreasing return from increasing level of pesticide use.

**Conclusions**

Pesticide use is a detrimental to human health without compensating increase in productivity leading to reduced level of return to increased level of investment in pesticide.

**Keywords:** benefit to cost ratio; cost and benefit; farmers; pesticides; pesticide use.