PESTICIDES USE AND ITS IMPACT ON MV RICE PRODUCTIVITY AND FARMERS HEALTH

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Abstract

The study was conducted to estimate the relationship between pesticide use and productivity in modem varieties of rice and to evaluate the effects of pesticides on rice of 125 rice farmers health. A sample of 125 rice farmers of Gazipur Sadar Thana have been interviewed in this purpose. In analyzing the data descriptive, economic, and statistical technique were used. In order to examine the effect of pesticides on productivity, yield distribution, net profit expected utility and farmers health cost function were estimated. To determine the farmers willingness to use the masks, Logit and Probit models were used. Result showed that pesticide use is a common phenomenon of rice farming even if most rice farmers do not fully understand the how and why of such use. Farmers generally lack knowledge about proper pesticide management including safe pesticide handling and storage. Age, education and farm size have significant effect on farmers willingness to use the masks in protecting themselvs from pesticide and its adverse effects. In all respect, specially on the basis of gross return (Tk. 36001), gross margin (Tk. 14364) and net return (Tk. 9472), Boro rice is the best followed by Aman rice. Yield distribution function analysis showed that frequency of insecticide application and season dummy have significant positive contribution on rice yield.Pest related yield loss assessment showed that among two methods of protection curative measure is economically viable for all three seasons while, preventive measures is not economically viable for any seasons. Highest yield loss was occurred for Aus season (13.4%) followed by Aman (9.83%).Estimation of pesticide effects on farmers' health showed that frequency of applying pesticides have significant effect on health costs. On an average, highest health costs was observed for Aus season (Tt335.3) followed by Aman season (Tk.331.87). Average net benefit of pesticide of rice, without incor-porating health costs, was higher than net benefit incorporating health costs and the highest benefit was observed for Boro season. Average expected utility excluding health costs was higher than expected utility including health costs for all three seasons rice production. Lack of technical know-how; higher price of fertilizer and pesticide; lack of credit facilities; low price of paddy during harvesting period; artificial crisis of fertilizer; and lack of mechanical equipment are the major constraints faced by the farmers in the study area.