

**IMPACT OF PESTICIDE USE PRACTICES ON  
FARMERS' HEALTH: A CASE STUDY IN  
WIJAYAGAMA AND EHERANDA IN MATALE  
DISTRICT**

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## ABSTRACT

The consequences of indiscriminate use of pesticides on farmers' health were surveyed in Wijayagama and Eheranda-two agricultural villages located in Naminigama Grama Niladhari division in Wilgamuwa Divisional Secretariat division of Matale district in Sri Lanka. A self-developed questionnaire was used to collect data from 110 farmers. It consisted of basic demographic information and the information regarding the usage of pesticides. Direct interviews were conducted at residences and work places of farmers in order to collect primary data. Based on a econometric model,  $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \dots + \beta_{11}X_{11} + \epsilon$ , severity levels of impact on farmers' health due to pesticide use practices was selected as the response variable and it was measured at five scale categorical variables, and 11 independent variables were select to analyze the response. The Ordered Logistic Regression was used to regression analysis and the model was statistically significant at 1% level with 0.36 pseudo  $R^2$  value and - 88.72 of log likelihood. According to the regression analysis, Dummy 2 (MCPA 600 g/l SL), Dummy 4 (Propanil 360 g/l EC), Pesticide type, Dose of pesticide, Hours of exposure, Number of bad practices and Awareness on re-entry period were the significant factors affecting on response variable. A majority of farmers (55%) were used pesticides above the recommended doses. It was only 11% of farmers qualified under "good" category in the use of personnel protective equipments. Almost 75% of the farmers were used to throw away empty pesticide containers as their preferable disposal option. Only 24% of farmers had a slight awareness on re-entry period and the rest of 76% was not aware about it. Only 16% of the total sample was not affected with discernible acute effects while 84% of the sample was reported to having one or more considered acute pesticide poisoning symptoms, after routine application of pesticides. Most significant pesticides which cause the highest impact on farmers' health in these two villages were MCPA 600 g/l SL and Propanil 360 g/l EC. This study gave indications that a majority of farm households do not take cognizance of the long term and short term health hazards of pesticides in pesticide use practices and acute pesticide poisoning symptoms are under-reported. The results highlight the necessity of policymakers to design effective and targeted outreach programs which deal specifically with pesticide risk, safe handling and averting behaviour.

**Key words:** Pesticide use practices, Acute effects, Ordered logistic regression, Farmers' health