FARMERS' PERCEPTION ON THE HARMFUL EFFECTS OF AGRO-CHEMICALS ON ENVIRONMENT

Muhammad Humayun Kabir

Extended Summary

The achievement in the food grain production during the past three decades was due to intensification of agriculture by the use of modern verities in crop production, expansion of irrigation facilities and the wider use of agro-chemicals, namely fertilizer and pesticide, but at the cost of soil degradation, genetic erosion, environmental and human health hazards. On the other hand farmers of Bangladesh use fertilizer and pesticide indiscriminately without adequate information concerning actual soil or plant requirements. Farmers are not aware of the lethal effects of the chemicals on themselves and on the living organism. Hence the present study was conducted to attain the following specific objectives:

1. To determine and describe farmers' perception on the harmful effects of using agro-chemicals during crop production practices

2. To analyze some selected characteristics which influence upon farmers' perception on the harmful effects of agro-chemicals. The selected characteristics include: age, education, farm size, annual family income, cosmopoliteness, media exposure, level of fertilizer use, level of pesticide use, knowledge on agro-chemicals and innovativeness.

3. To explore relationships between farmers' selected characteristics and their perception on the harmful effects of agro-chemicals

The study was conducted in six villages under two unions named Vakurta and Tetuljora of Savar Upazila under Dhaka District. A total number of 180 farmers were selected for interview. Data were collected by using a pre-tested interview schedule. Collected data were coded, compiled, tabulated and analyzed in accordance with the objectives of the study. Statistical measure such as percentage distribution, range, average and standard deviation were used to determine the extent of perception of the selected farmers on agro-chemicals and their selected characteristics. Coefficient of correlation was calculated to explore the relationship between the selected characteristics of the farmers and their perception on the harmful effects of agro-chemicals. Farmers' perception on the harmful effects of agro-chemicals was the main focus of the study. It was quantified by computing scores. These scores of the average of 23.37 and the standard deviation of 8.64. The highest proportions (68.8 percent) of the farmers

Principal Investigator and Assistant. Professor, Dept. of Agricultural Extension & Information System , Sher-e-Bangla Agricultural University, Dhaka-1207

under the medium perception category, while 15.6 percent had high perception and the rest 15.6 percent had low perception on the harmful effects of agro-chemicals on environment.

It was revealed that about three-fourth (73.3 percent) of the farmers were middle to old aged. Majority (65.7 percent) of the farmers had no primary education. In case of farm size and family income most of the farmers were small to medium categories respectively. The highest proportion (80 percent) of the farmers had low to medium cosmopoliteness. The highest proportion of the farmers were not using optimum dose of fertilizer and pesticide. Majority of the farmers (86.7 percent) had low to medium media exposure, low to medium knowledge on agro-chemicals (91.1 percent) and moderate to high innovativeness (86.7 percent).

To explore the relationship of the ten selected characteristics of the farmers with their perception on the harmful effects of agro-chemicals, ten null hypotheses were formulated. For test hypothesis, co-efficient of correlation (r) was computed. Five (0.05) percent level of significance was the basis for rejecting a null hypothesis. The results of hypothesis testing are presented below in brief:

Correlation analysis indicated that among the ten selected characteristics, four characteristics named age, level of education, media exposure and level of fertilizer use of the farmers were found to have insignificant relationship with their perception on the harmful effects of agro-chemicals. On the other hand farm size, annual family income, cosmopoliteness, level of pesticide use, knowledge on agro-chemicals and innovativeness of the farmers were found to have positively significant relationships with their perception on the harmful effects of agro-chemicals.

From the above findings it is noticed that the majority (84.6) of the farmers had low to medium perception on the harmful effects of agro-chemicals on environment. Only 15.6 percent farmers had high perception. So, it may be concluded that the perception level of the farmers about harmful effects of agro-chemicals in respect of crop production does not present a good picture, so there is a need for improving the perception level of the farmers regarding use of agro-chemicals. Again farm size, annual family income, cosmopoliteness, level of pesticide use, knowledge on agro-chemicals and innovativeness of the farmers were positive and significantly correlated with their perception on the harmful effects of agro-chemicals. It means that higher the farm size, annual family income, cosmopoliteness, level of pesticide use, knowledge on agro-chemicals and innovativeness, higher the perception on the harmful effects of agro-chemicals on environment.