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Determinants of Pesticide Handling Practices in Vegetable Production in Kenya

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Abstract

Pesticide handling practices have a strong bearing on the exposure of pesticide toxic effects to target and non target organism. A clear understanding of factor associated with farmers pesticide handling practices was thus deemed necessary in the design and implementation of policy intervention. To accomplish this, a survey of 425 respondents was conducted in 2008 with questions on the pesticide use, handling practices, risk perceptions, experiences of pesticide negative impacts (health effects and intoxication of livestock) and main sources of pesticide use information.

A two-equation bivariate-probit model was initially developed with risk perceptions as endogenous variable. Results showed that risks perception was significantly influenced by experiences of pesticide negative impacts, number of years in agricultural production (experience), Global GAP certification, advice on pesticide use from pesticide dealers, target markets and geographical location. A second model to explain pesticide handling practices indicated that variation in Global GAP certification, record keeping, vegetable plot sizes and geographical location are the main determinants.

These results highlight the necessity for training of farmers on pesticide risks, safe handling, averting behaviours and Integrated Pest Management. The information content of training should be more specific and more practical for pesticide storage, disposal of empty pesticide bottles and rinsate and human protection during pesticide handling. The results also point to specific locations with higher unsafe practices in the handling of pesticide. Focusing efforts on these geographical areas may have the most measurable effects on pesticide safe handling. It would be an added advantage to include farmers, in the design of the programme to better understand and reflect their needs in pests control.

Keywords: Integrated pest management, pesticides handling practices, policy intervention, risk perception