

**Determination of Pesticide Usage and Its Environmental Impact
Quotient in Vegetable Cultivation in Kalpitiya Divisional Secretariat
Division of Puttalam District of Sri Lanka**

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Application of synthetic pesticides has been the main method of controlling pests and diseases in crop cultivation. In this context, the objectives of the study were to assess the pesticide usage pattern and determine the environmental impact quotient of pesticide use in vegetable cultivation in Kalpitiya, Sri Lanka. Stratified random sampling method was used to select 100 farmers from Kalpitiya Divisional Secretariat division of Puttalam, which is a predominantly vegetable cultivating area. Pre-tested structured questionnaires were used to collect data during 2016/2017 *Maha* cropping season. Descriptive statistics and probit model were used to analyze the data. Field Use Environmental Impact Quotient (FEIQ) of pesticides used by the farmers was also determined. The results of the study indicated that the foremost problem in the vegetable cultivation was insect damage (92%) followed by diseases (84%) while weed problem was insignificant. The average extent of cultivation was 2.18 acres where only 14% of respondents' cultivated land size was greater than 4 acres. Percentage of farmers having more than 5 years of experience in cultivation was 74%. Only 36% of farmers received extension service. Pesticides were applied on vegetable crops by 94% of the farmers. On an average, pesticide application frequency was 4.4, whereas pesticide use (active ingredient) by weight on the vegetable crops was 0.58 kg hi'. The average FEIQ of pesticide use in the study area was 75.28 ha⁻¹. Probit analysis revealed that educational level, farming experience and access to extension service had a positive and significant ($p < 0.05$) relationship on farmers awareness of risks from pesticide use. Vegetable farmers of this area use extensive amount of pesticides which cause more damage to the environment. Therefore, it is recommended to provide information to the farmers about the judicious use of less toxic pesticides.

Keywords: Environmental impact quotient, Pesticide use, Vegetable cultivation