

**Sustainable agriculture and environmental protection:  
A study on vegetable cultivation  
on slope lands of Walimada Area.**

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The issue of farming on slope lands in sustainable ways has taken the center today, for a balance is sought between economic development and environmental protection in the upcountry of Sri Lanka. Sustainable agriculture must be taken into account the long-term impact of agricultural production on environment. Intensive vegetable cultivation without adequate conservation measures cause regional environmental problems though it has made a major economic contribution to the upcountry rural sector. Driven by growing food demand for vegetable to feed increasing populations there is a tendency to use more productive, intensive farming methods on the same piece of land in place of traditional farming characterized by low input and low crop yield and productivity. As a result resource depletion and degradation, soil erosion, salinization, water quality depletion in long-run undermine the sustainability of agriculture.

This study explores the environmental sustainability of the vegetable cultivation practices among farmers in Walimanda area. Himbilyagalla and Karagasthanna GS divisions where vegetables are grown intensively were selected for this study. Direct field observations were carried out and the Leopord Matrix was used to identify possible environmental impacts due to vegetable cultivation. The severities of impacts were assessed using indicators for land, air and water resource depletion and degradation. Impacts were ranked according to the severity. A questionnaire based farmer survey was also carried out to identify possible agronomic practices adopted by farmers which are directly linked to the environmental degradation.

The results showed that the main negative environmental impact is the land degradation. Other impacts according to the order of ranking are water pollution, damage to flora and fauna, human health and air pollution. Possible agronomic practices adopted by farmers to aggravate this impacts also revealed by this study.

An integrated policy approach and strategies are recommended to minimize the negative impacts in order to maintain the environmental sustainability of vegetable cultivation in slope lands in the upcountry. Market based policy instruments can not be implemented for the poor rural community. Therefore this study proposes a mechanism to promote sustainable agricultural practice through technical and financial assistance to farmers of environmentally sensitive areas. Integrated Pest Management, permanent erosion control structures, efficient irrigation methods are identified as suitable agricultural practices to be promoted.