



Tropentag, September 17-19, 2018, Ghent

“Global food security and food safety:
The role of universities”

Effect of Farming on Watershed Area of Inle Lake, Myanmar

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Abstract

The present research was carried to unfold the awareness of Inle Lake dwellers on the adverse effects of farming activities on the watersheds. Study areas comprised seven villages in four village tracts around the lake. A total of randomly selected 81 farmers were interviewed during March 2016. The dependent variable, farmers' awareness of certain environmental effects of farming was further split into six dimensions to get a clear picture of the awareness. Probit regression analysis was performed to determine the determinants of farmers' awareness of certain environmental effects of farming on the watersheds. Findings show that 72, 100, 23, 81, 17 and 59% of the sampled farmers are aware of sedimentation increase, water quality declining, biodiversity loss, fisheries resources decline, drought increase and air pollution increase, respectively, that are caused by farming activities in the lake areas. They have the highest awareness of water quality declining and the lowest awareness of drought as a consequence of farming activities. However, awareness on different aspects of adverse farming effects on the watersheds is influenced by different factors. In general, education, family size, farm size, frequency of manure application and frequency of pesticide application contribute to improve the farmers' awareness of adverse farming effects. On the other hand, cropping intensity (mono-cropping) and duration of HYV cultivation negatively impact on this awareness. However, age does not have any significant influence to build awareness of adverse farming effects on the watersheds. This study emphasises the increased awareness as a prerequisite to discourage farmers to practice such farm activities that could potentially harm the watersheds. In order to increase the farmers' awareness of adverse farming effects, government should invest to improve the educational qualifications of the farmers regarding adverse environmental effects of farming activities. Agricultural extension services should be focused on delivering supports to the farmers on increasing manure (organic fertilisers) application and cropping intensity (indirect way of increasing farm size in terms of total cropped area). It is necessary to assess the cost-benefits of HYV cultivation of rice and other crops taking into account the adverse environmental effects of farming activities on the watersheds.

Keywords: Farmers' awareness, farming, Myanmar, watershed of Inle