Effect of Farming on Watershed Area of Inle Lake In Myanmar

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Introduction

- Inle Lake is one of the famous sightseeing place in Myanmar.
- The lake provides local people various options for livelihoods in term of floating gardens, fisheries, gold and silver smithies, cotton weaving, black smithy, trade and transportation and source of electricity.
- The key point of facts and perceptions are to study the local people awareness of environment, to know the changes of environment especially on water and to enhance public awareness on environmental education.

Materials and Methods

- Data collection was based on a field survey and secondary data.
- The household level survey was carried out in seven villages, which were randomly selected from total villages of four village tracts (Nga Phae Chaung, Tha Lae Oo, Tha Pyay Pin and Kay Lar) in Inle Lake
- Descriptive statistics were used for analysis of socio-economic characteristics of the sampled households. Probit regression analysis was used for measuring the effect on the outcome variables.

Explanatory variable	Sedimentation increase	Biodiversity loss	Fish resources decline	Drought	Air pollution
(Intercept)	-7.351*	-4.161	-2.051	-3.040	-5.471*
Age	-0.013	0.026	0.040	0.041	0.035
Education	0.247	-0.335	0.461	0.109	0.838*
Family size	0.926***	0.216	0.554**	0.461*	0.800***
Farm size	0.145	1.100*	0.401^{+}	-0.321	0.225
Cropping in tensity	-2.147***	-0.935*	-0.891***	-0.134	-0.715**
HYV cultivation duration	1.286	-1.718*	-0.731*	-0.304	-0.151
Manure application frequency	-0.446	1.522**	0.163	-0.231	0.160
Pesticide application frequency	0.011	0.236	0.252	0.662**	-0.213

Table 1: Probability of access to perceived adverse farming effects: Probit regression results

Results

- Majority (72%) are aware that farming activities is one of the causes of sedimentation in the watersheds (Fig 1).
- Cent percent of respondents were aware of adverse effect of farming on the water quality (Fig 1).
- Aware of biodiversity loss is due to farming activities (Fig 1).
- Due to the introduction of insecticides five years ago, fish resources have been declining, and air pollution has been recognized (Fig 1).

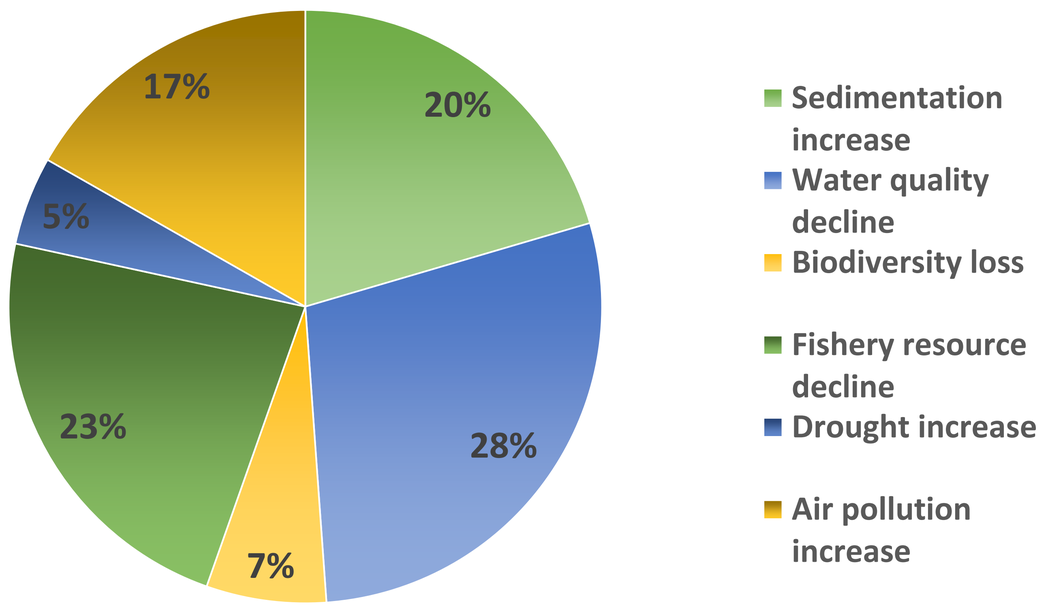

Fig 1: Awareness of environmental effects of farming on the watersheds

- Variables that increase the probability of perceiving adverse farming effect include the education level of household head, family size, pesticide application frequency and manure applied frequency.
- Cropping intensity, duration of high yield variety cultivation and farm size variables decrease the probability of perceiving adverse farming effects.

Conclusion

- ✓ Farmers with higher cropping intensity i.e. double cropping and long term users of HYVs should be made aware of adverse effects of farming on the watersheds.
- ✓ Demonstration plots should be one of the major tools that enhance farmers' level of knowledge soil and water conservation.

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