

Strengthening climate resilience in coffee production in Chieng Chung commune, Mai Son district, Son La province

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Introduction:

- Intercropping coffee with other crops or forest trees has been proven to enhance and stabilize the agroecosystem and reduce the adverse effects of climate change.
- Lack of studies on the drawbacks and resilience level of intercropping and research on the socio-economic aspects of this method.

Materials/Methods:

- Location: Chieng Chung commune, Mai Son district, Son La province
- Methods: Indicator-based assessment, divided into five main dimensions, including social, economic, financial, environmental, and institutional
- 03 models were assessed, namely, monocropping, intercropping with fruit trees, and intercropping with both fruit and forest trees

Conclusion/Perspectives:

Understanding the limitations of intercropping coffee farming can help identify solutions to tackle social, economic, and environmental challenges, enabling farmers to build more resilient systems, and take advantage of the benefits of intercropping practices to promote sustainable livelihoods over the long term.

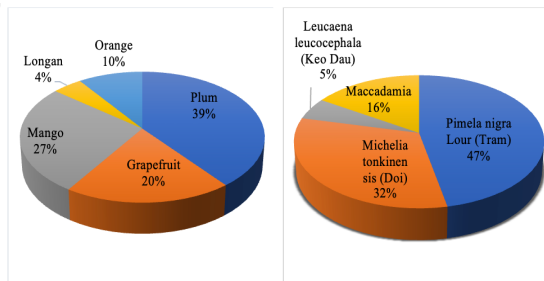


Figure 1: Type of intercropped fruit and forest tree in the intercropping with both fruit and forest trees model

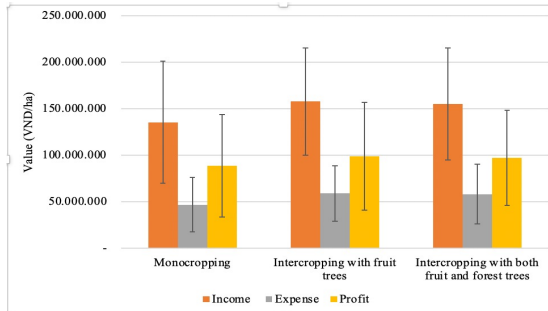


Figure 2: Economic benefit comparison between farming methods (VND/ha)

Results/Discussion

- Monocropping farms have low climate resilience, while two intercropping methods show medium resilience.
- The productivity generated from growing coffee in intercropping with fruit and forest trees is 5% more than growing with fruit trees and almost 20% more than monocropping.
- No income was generated from forest trees yet, and fruit trees usually have low yields and low selling values.
- Coffee monocropping and intercropping with fruit trees face moderate to severe challenges due to dry and acidic soil, pests, and diseases.
- In contrast, intercropped coffee trees with both fruit and forest trees face less difficulty.
- All coffee farmers are affected by frost
- Drought is a considerable threat to 94% of monocropping coffee farmers, intercropping methods are less susceptible, only 45% of farmers intercrop with fruit and forest trees and 58% of farmers intercropping with fruit trees are affected.