

Upland households'
decision making in
climate change
adaptation to enhance
food security in Laos,
Cambodia, and Vietnam

CRRP2020-10Y-Ha

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1. Summary

The overall objective of the project is to investigate households' decision making in climate change adaptation to enhance food security in mountainous areas of Laos, Cambodia, and Vietnam. Three specific objectives are proposed. First, the project analyses factors influencing households' adoption of climate change adaptation strategies. Second, it examines the influence of their adaptation choices and other factors on households' food security. Lastly, policy implications will draw to enhance households' adaptive capacity and food security.

The project has achieved its goals and objectives. Data were collected by our own survey of 1017 household representatives and 12 focus group discussions in Laos, Cambodia and Vietnam. We found that households' adoption of adaptation practices was influenced by social support, knowledge of climate change adaptation, perceived usefulness and perceived ease of the adoption. Perception of climate change did not influence climate change adaptation. Households in Vietnam were more likely to adopt adaptation practices such as intercropping or growing tolerant climate crops. Regarding households' food security, using Food Insecurity Experience Scale (FAO, 2019), we found that majority of surveyed farmers in Vietnam were in food insecure, but at different levels including mild, moderate, and severe. This might be attributable to the impact of the pandemic in Vietnam that has not been captured by this study. We found that farmers' age, education, household size, livelihood diversification had a positive effect on food security while crop diversification was negatively associated with food security. This interesting result suggests that due to limited resources, poor households who are at food shortage might have to grow different crops at the same time for family consumption to secure their food supply. Another possible explanation is that poor households are unable to follow mono-intensive farming, which requires a high level of investment and therefore have to maintain crop diversification. However, the second objective was partly achieved only. Due to the time constraints, we have not looked into the relationship between food security and climate change adaptation. Based on the findings above, we suggest that enhancing knowledge of climate change adaptation practices is a key to increase the adoption rate of these practices. We recommend that public investment in education and rural development policies that aim at creating more off-farm jobs in mountainous areas will be important solutions to enhance food security in these marginal areas.

2. Objectives

The overall objective of the project is to investigate households' decision making in climate change adaptation to enhance food security in mountainous areas of Laos, Cambodia, and Vietnam.

In pursuit of the overall objective, three following objectives were proposed:

- To analyse factors influencing households' adoption of climate change adaptation strategies;
- To examine the influence of their adaptation choices and other factors on households' food security;
- To draw policy implications to enhance households' adaptive capacity and food security.

3. Outputs, Outcomes and Impacts

Outputs	Outcomes	Impacts
Academic collaboration - a multidisciplinary research team from Lao, Cambodia, and Vietnam has been established and developed	Research skills of the team members have improved via the exchange of knowledge during the project cycle and training activities that we organized ourselves (e.g., KoBo toolbox and data management trainings).	Many team members now can conduct larger projects independently. As educators, the team members will play an active role in transferring their research skills to their students.
Rich dataset collected from 1017 households across Vietnam, Laos, and Cambodia. - sample size is much larger than our planned sample (750)	Can have at least 2 papers published in peer reviewed journals.	This is the first cross-country study on climate change adaptation at household level from Vietnam, Laos, and Cambodia. The two manuscripts can enhance our understanding on climate change adaptation at household level in Southeast Asia. Policy implications from the project will assist the development of adaptation policies in Southeast Asia.
Capacitating undergraduates' students on data collection work	Improvement of research skills of undergraduate students who are involved in data collection.	Some of them have used our survey data for their bachelor thesis and successfully defended their thesis.

4. Key facts/figures

- A survey of 1017 household heads from Laos, Cambodia and Vietnam.
- 12 focus group discussions with the participant of 90 farmers
- Data entry and data analysis of the household survey and focus group discussions
- A preliminary analysis of surveyed data

5. Publications

- The first manuscript is in drafting stage for British Food Journal.
- APN Science Bulletin has completed.

Ha, T.M., Boulom, S., Yang, F., Voe, P., Dao, C.D., Dang, X.P., ... Ha, D.A. (2023). Factors influencing farmers' climate change adaptation in Southeast Asia: A comparative study

from Vietnam, Laos, and Cambodia. APN Science Bulletin, 13(1).
doi:[10.30852/sb.2023.2101/](https://doi.org/10.30852/sb.2023.2101/)

6. Media reports, videos and other digital content

Not available

7. Pull quotes

“Working in a multidisciplinary team, we have learnt from each other and the collaboration between us (project team) has grown over time. It is fantastic”. Thanh Mai Ha, project leader

“I am pleased to say that my research skills and knowledge of climate change adaptation have enhanced thanks to the project”. Fu Yang, project team member.

“I am proud of what we have achieved. We have successfully conducted a large farmer survey in three countries that are rich in information and of a high quality. We would make this dataset assessable by worldwide researchers”. Pisidh Voe, project team member.

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- Provincial Department of Agriculture Forestries and Fisheries Siem Reap, Cambodia
- Mean Chey National University, Cambodia

9. Appendices