

## **Interim Technical Report**

**Project Title: From Field to Fork: Nutrition and Food Security in Uplands of Vietnam and Thailand**

**IDRC Project: 107324**

**Research Organizations involved in the study:**

- **Center for Agricultural research and Ecological studies , Hanoi University of Agriculture (CARES-HUA)**
- **Center for Agriculture Forestry Research and Development (CARD) – Hue University of Agriculture and Forestry**
- **Knowledge Support Center-Greater Mekong Sub-region (KSC-GMS), Faculty of Social Sciences, Chiang Mai University**
- **HealthBridge Foundation of Canada**

**Location of Study:**

- **Son La province, Vietnam**
- **Hue, Vietnam**
- **Chiang Mai, Thailand**

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## Abbreviations

AFS	Agriculture and Food Security
CARD	Center for Agriculture Forestry Research and Development
CARES	Center for Agricultural Research and Ecological Studies
CMU	Chiang Mai University
HUA	Hanoi University of Agriculture
HUAF	Hue University of Agriculture and Forestry
HB	HealthBridge
KSC-GMS	Knowledge Support Center-Greater Mekong Sub-region
MPH	Master of Public Health
NGOs	Non-Government Organization
RC	Research Coordinator
RO	Research Officer
IDRC	International Development Research Centre
IRB	Institutional Ethical Review Board

## 1. Executive Summary

The research project entitled “Nutrition and Food Security in Uplands of Vietnam and Thailand” is funded by IDRC and coordinated by HealthBridge Foundation of Canada (HB). It is being implemented in Thua Thien Hue and Son La of Vietnam and Chiang Mai of Thailand from March 2013 to February 2016. The main goal of this research project is to study and identify the best strategies to sustainably improve the quantity and quality of local food production and consumption amongst smallholders in rural upland communities in Southeast Asia and, ultimately, improve food security and nutrition status of these populations. The project’s overall objective is to identify local and practical solutions to improve nutrition and food security amongst smallholder farmers in rural upland communities in Vietnam and Thailand through nutrition-sensitive agriculture solutions. For the first 6 months, the project has progressed well as planned for March to August 2013 and has achieved the following:

- **Effective team work established; collaborative agreements and sub-contracts formalized with third party organizations; and recruitment of key personnel completed.** HB signed contracts with its three research partners: the Center for Agricultural research and Ecological studies, Hanoi University of Agriculture (CARES-HUA); Center for Agriculture Forestry Research and Development (CARD) – Hue University of Agriculture and Forestry; and Knowledge Support Center-Greater Mekong Sub-region (KSC-GMS), Chiang Mai University in March 2013. These three research institutions established research teams lead by the Co-Principle Investigators for the period from March 2013 till February 2016. HB Vietnam recruited a Research Coordinator (RC) and a Research Officer to coordinate the 3 research teams and monitor the research progress.
- **Project inception workshop held and report finalized.** Project inception workshop was held from April 29-May 3, 2013 in Chiang Mai, Thailand. The inception workshop report covers common team vision, coordination and communication mechanisms, and implementation plan.
- **Study design, methods, sampling strategy, data collection tools and gender strategy finalized.** Research protocol has been developed and discussed amongst the teams. Research methods including design, samplings, tools for data collection, database and guidelines for data entry and analysis have been finalized. Tools for data collection were tested and finalized. Lists of target villages with ethnic groups have been created for sampling. The protocol has been reviewed and approved by the Institutional Ethical Review Board (IRB) of Hanoi School of Public Health for Vietnam sites, and provisionally approved by the Human Experimental Committee of Chiang Mai University for the Thailand site. Preparation for field study including training for field researchers and data collectors and logistics arrangement will be done in September. Field work in the two sites in Vietnam will be started in September and in Thailand in October.

- **Relevant stakeholders identified and stakeholder engagement strategy developed for each site.** List of stake holders was submitted to RC for compiling and coordination. Stake holder engagement strategies have been developed by each research team and submitted to the RC.
- **Commencement workshop conducted in Thailand site in August, and to be conducted in Vietnam sites in September.** At each research site, each team consulted with the local community representatives and relevant officials for the site selection and project implementation plan.

## **2. The research problem**

Malnutrition and food security remain serious problems in both Vietnam and Thailand, particularly amongst ethnic minorities living in remote, upland areas. The prevalence of underweight is 20% in Vietnam and 17% in Thailand, with rates in both countries being higher in the poverty-stricken highland-minority communities. Low productivity and lack of food diversity both contribute to food insecurity in these regions. Food insecurity in all study sites is further threatened by the transition from traditional shifting cultivation systems (also known as Swidden or slash-and-burn) to stationary agriculture. However, sedentary farming has additional consequences. The agricultural productivity yield is decreasing because of soil erosion and soil fertility degradation. Furthermore, farmers in upland areas lack sufficient fertile land for agricultural cultivation. This forces farmers to further exploit land resources via increasing chemical inputs, which impacts human health, and increasing cropping indices without adequate solutions for soil protection. This also causes soil degradation and, thus, threatens food security and nutrition. In Vietnam, the exhaustion of various local resources, especially fertile land available for agriculture, has increased food shortage tensions in many parts of the northern uplands. In addition to being less sustainable, market-oriented farming may lead to food insecurity as some parts of the diet are purchased from markets, to which upland households do not always have access given constraints in their cash availability as well as the difficult terrain for travelling in the uplands.

Thus, there is a need to identify long-term, sustainable solutions to increase local food availability in these vulnerable upland areas of Vietnam and Thailand. It is also becoming increasingly accepted that, in order to positively impact nutrition, agriculture interventions must be integrated with nutrition from the very beginning; that is, they must be *nutrition-sensitive*. However, there is very little evidence on effective nutrition-sensitive agriculture solutions in the uplands of Vietnam and Thailand. The overall objective of this research project is to identify local and practical solutions to improve nutrition and food security amongst smallholder farmers in rural upland communities in Vietnam and Thailand, through nutrition-sensitive agriculture solutions. The research will be conducted in three sites: Mae Chaem district of Chiang Mai province in northern Thailand, A Luoi district of Hue province in central Vietnam, and Yen Chau district of Son La province in north Vietnam (see map, below).

The research results will have important local policy implications to ensure that smallholders

have an enabling environment for implementing nutrition-sensitive agriculture solutions to sustainably improve their food supply and health. The results will also contribute to the global knowledge base of the importance of effective strategies for integrating agriculture and nutrition to ensure a positive impact on nutrition. Strengthening this knowledge base is essential for providing practical guidance to donors, NGOs, policy makers and rural farmers themselves to develop and implement solutions that sustainably reduce malnutrition.



### 3. Progress towards milestones

- **Effective team work established; collaborative agreements and sub-contracts formalized with third party organizations; and recruitment of key personnel completed.**
  - The HB signed contracts with its three research partners: the Center for Agricultural research and Ecological studies, Hanoi University of Agriculture (CARES-HUA); Center for Agriculture Forestry Research and Development (CARD) – Hue University of Agriculture and Forestry; and Knowledge Support Center-Greater Mekong Sub-region (KSC-GMS), Chiang Mai University in March 2013. These three research institutions established research teams leading by Co-Principle Investigators for the period from March 2013 till February 2016. The HB in Vietnam recruited a Research Coordinator (RC) and a Research Officer to coordinate the 3 research teams and monitor the research progress.
  - CARES center formed a research team of 5 staff and signed contracts with the two field coordinators from health and agriculture bureaus of Yen Chau district. The team led by Dr. Pham Van Hoi, Co-Principle Investigator.
  - CARD center formed a research team of 6 staff led by Dr. Le Van An who is Co-Principle Investigator.

- KSC-GMS center formed a research team of 6 staff led by Dr. Prasit Wangpakapattanawong who is Co-Principle Investigator.
- The HB recruited Ms. Le Thi Nga to play the role of Research Coordinator (RC) who has responsibility for coordination and management of the project, being the lead coordinator of the three partners, ensuring that the project is implemented in a timely and effective manner, and will assist with management and administrative components in collaboration with the Project Manager in HealthBridge Ottawa. A Research Officer (RO) has been recruited (Mr. Hoang The Ky, MPH) for assisting the RC with implementation of the project, coordinate project trainings and workshops, and follow up the progress of project implementation.
- **Project inception workshop held and report finalized.**
  - Project inception workshop was held from April 29-May 3, 2013 in Chiang Mai, Thailand. The inception workshop report (Annex 3) covers common team vision, coordination and communication mechanisms, and the implementation plan.
  - After the workshop, the research teams made key decisions about the research protocol, dissemination and team communication strategies. The teams conducted monthly skype meetings at 8 pm Vietnam/Thai time and 9 am Ottawa time, starting from June to update project progress, discuss important issues and ensure research consistency between the sites. The meeting minutes were taken and shared with teams to follow-up.
- **Study design, methods, sampling strategy, data collection tools and gender strategy finalized.**
  - Research protocol has been developed, discussed and agreed amongst the teams; all three sites will use one protocol (Annex 4). This is interventional research based on evidence gained from assessment of nutrition and agriculture practices to be conducted in two stages. Stage 1 will assess nutrition and agriculture practices and will be conducted from July 2013 to end of March 2014. Results from this stage will be used to develop nutrition-sensitive agriculture solutions, which also include nutrition education strategies, for Stage 2. Stage 2 is to develop and test nutrition-sensitive agriculture solutions from April 2014 – to end of March 2016. Candidate solutions will be developed and thoroughly discussed for each site based on recommendations from stage 1 to ensure that the solutions selected are economically and practically viable for the local context. Training and workshops will be conducted to enhance capacity in participating communities to ensure sustainability in the future.
  - Research methods including design, samplings, tools for data collection, database and guidelines for data entry and analysis have been finalized. Tools for data collection were tested in the field and finalized. Lists of target villages with ethnic groups have been created for sampling Please see Annex 5 for the data collection tools and guidelines. Instructions for data entry are in Annex 6.
  - Preparation for field study including training for field researchers and data collectors, and logistics arrangements will be done in September. Field work in the two sites in Vietnam will be started in September and in Thailand in October.

- To understand affordability of selected interventions, the teams have discussed a possible tool set to keep track of all costs for interventions and for current agriculture practices, as well as to estimate benefits of interventions. The suggested strategies are to describe and analyze as detailed as possible all costs and benefits for each intervention in comparison to current practices. Costs to be analyzed at household level (end-users), and commune, district and provincial levels (technical assistance and program operation) will include start-up and labor costs with all financial and incremental costs in consideration of opportunistic payment. Benefits will be estimated by calculating financial value for household consumption as well as market value for products. Methods and techniques for assessing affordability and sustainability will be discussed more in-depth after completion of the baseline survey and in consultation with economic experts (in health and agriculture areas).

- **Relevant stakeholders identified and stakeholder engagement strategy developed for each site.**

Stakeholder engagement strategy has been discussed and agreed for each site (Annex 7 a, b,c). The teams targeted key personnel from agricultural and health (nutrition) sectors as well as government leaders from commune to national level.

- Local government authorities of People's Committees, Agriculture and Rural Development, Education, and Health sectors from provincial to commune levels were approached several times to request for their support, orient and discuss about their role in the research as research participants and in mobilizing their communities. They will attend commencement workshop at the beginning of stage 1.
- At the national level, stakeholders and experts from relevant government ministries (e.g. National Institute of Nutrition, Ministry of Health, Ministry of Agriculture, Committee on Ethnic Minority Affairs, Women's Union, etc.) will be invited to the meeting to provide input into the design of nutrition-sensitive agriculture solutions after completion of the Stage 1 assessment.

- **Project commencement workshop conducted in Thailand site in August, and to be conducted in Vietnam sites in September 2013.**

- At each research site, the research teams consulted with the local community representatives and relevant officials on site selection and the project implementation plan. Field coordinators and supporters have been identified and invited to implement field activities.
- CMU conducted commencement workshop on August 14<sup>th</sup> 2013 to inform all stakeholders about the project. The two Vietnam teams will conduct their commencement workshops in September.
- Participants for the household (HH) survey, focus group discussions (FGDs) and key informant interviews in stage 1 have been selected as per the research protocol. Participants for in-depth interviews will be identified and recruited after the household survey.

In addition to the above 6 month milestones, we have also completed one of the 12 month milestones:

- **Completed institutional ethical procedures and a copy of the ethics approval communicated to the Centre:** Final research protocol and tools have been reviewed and approved by the Institutional Ethical Review Board (IRB) of Hanoi School of Public Health for Vietnam sites, and provisionally approved by the Human Experimental Committee of Chiang Mai University for Thailand site (Annex 8a and 8b).

*For next period, key milestones are:*

- Research team trained on gender, nutrition intervention design, advocacy and policy formulation;
- Field staff at each study site trained on data collection tools and protocols;
- Report on farm productivity and conditioning factors completed in each of the three sites;
- Report on documenting the local nutrition status in each of the three sites
- Tools for tracking affordability of interventions

#### **4. Synthesis of research activities and results**

The main research activities and results during the reporting period pertain to objectives 1 and 2, as below:

##### **Objective 1: To characterize the nutrition practices and knowledge, and food consumption patterns in participating communities**

**Activity 1.1:** *Research teams meet to discuss and refine overall research design, sampling strategy, methods and tools.* This has been done several times including at the inception workshop with representatives from all teams, followed by monthly skype meetings from June. In addition, several ad-hoc discussions between the RC and research teams to clarify their ideas for the design have been conducted, resulting in the final research protocol.

**Activity 1.2:** *Conduct training of research teams and field assistants on study design, data collection methods and tools.* Rather than formal training, the teams held meetings to discuss protocol and data collection tools. Several meetings to discuss coordination and research conduction plan with field assistants have also been conducted by each of the research teams during the design and field work preparation.

**Activities 1.3 and 1.4** *For each study site conduct data collection, data entry and analyses and comparative analysis across the three sites; and Write research report characterizing the local nutrition situation in each site and synthesizing the information across the three sites to identify commonalities and differences.* These activities are planned for September 2013 to end of March 2014.

**Objective 2: To characterize the local farming practices, including documenting the heterogeneity of agro-ecological practices to identify potential practices that could be tested as nutrition-sensitive agricultural solutions.**

**Activity 2.1:** *Research teams meet to discuss and refine overall research design, sampling strategy, methods and tools.* At the meetings described above in Activity 1.1, the teams also discussed the research protocol relevant to agro-ecological practices.

**Activity 2.2:** *Conduct training of research teams and field assistants on study design, data collection methods and tools.* Same as above in Activity 1.2

**Activity 2.3 and 2.4:** *For each study site conduct data collection, data entry and analyses and comparative analyses across the three sites. Write research report characterizing the local agriculture situation in each site and also synthesizing the information across the three sites to identify commonalities and differences.* As above, these two activities are planned for September 2013 to end of March 2014. All the four activities combined with activities for objective 1.

The main result of these activities is the finalized research protocol (Annex 4). The study sample was also selected as per the research protocol, specifically: two research communes in each site were selected with their general information described; villages for intervention and control were randomized; households with children under 5 years old were listed and from these lists samples for household survey were randomly selected; groups of males and females for focus group discussions and key informants were identified.

## **5. Project implementation and management**

A financial report is not required with this report, and will be submitted in the next reporting period.

*ii) How are the identified risks in the proposal being managed?*

This study carries with it low risks to participants. There may be groups of minority population who are not fluent in Vietnamese. The proposed agricultural solutions are not fail-proof (as for any agricultural intervention), which could jeopardize food availability for household consumption or income generation. However, the research study being carried out in the first stage of the project will provide the researchers with an in-depth understanding of the nutrition and agricultural characteristics of the study sites, and will identify agricultural solutions that are the most feasible, from nutrition, economic and sustainability perspectives.

The researchers often need to travel to mountainous areas that are very hard to reach. To minimize possibilities of travel risks, the project will allow renting vehicles for groups with three or more persons, or pay for public transport from highly reputable transport companies, and buy travel insurance for researchers.

*iii) Workplan for the next reporting period including milestones that have not been achieved and strategies to deliver such milestones, and budget summary (details should be provided in the financial report).* An implementation plan for the next reporting period, and the life of the project, is provided in Annex 11. A project Monitoring and Evaluation framework, shown expected results, indicators and data collection methods, can be found in Annex 12. As above, a financial report will be submitted in the next reporting period.

## **6. Problems and Challenges**

The research teams from CARES, CMU and CARD experienced some difficulty with the first quarter financial report (submitted to HealthBridge only), due to lack of familiarity with the reporting system. The Research Officer provided support through email exchange, and was able to resolve these issues.

## **7. Recommendations**

## **8. Annexes:**

Annex 1: Monitoring AFS Expected Outcomes

Annex 2: Template for AFS Research Output Title and Abstract Page (*not completed in this reporting period*)

Annex 3. Inception workshop

- a. Inception Workshop Report
- b. Inception Workshop Agenda
- c. Inception Workshop Presentations

Annex 4. Research protocol

Annex 5 Baseline Assessment Tools:

- a. Household Questionnaire
- b. Qualitative Data Collection Plan
- c. Agriculture In-depth Interview Questions
- d. Research Information Sheet
- e. Consent Form

Annex 6 Instructions for Entering Data

Annex 7 Stakeholder Engagement Strategies

- a. KSC\_GMS team (CMU)
- b. CARD (HUAF)
- c. CARES

Annexes 8a & 8b. IRB ethics approval letters

Annex 9. Project Implementation Plan

Annex 10 Travel Costs Requested

Annex 11: Monitoring and Evaluation Framework

Annex 12. First interim report – CARES

Annex 13. First interim report – CARDS

Annex 14. First interim report – CMU