

## **Hue University of Agriculture & Forestry Community-Based Upland Natural Resource Management Project: Team Self-Evaluation 20-27 June 2001**

The upland project team of the Hue University of Agriculture and Forestry assessed the extent to which they had met project objectives and ways to better fulfill goals in the future. Project accomplishments were presented and discussed for two days; two days were allocated to field visits and to individual and group interviews at the Hong Ha field site; and three days were used to discuss insights from the field visits, lessons learned and desirable modifications to the project and to write-up evaluation results.

The general objective of the project was “to develop sustainable and equitable resource use and management options in fragile upland areas in central Vietnam and to build capacity in research and development based on participatory approaches”. The team made substantial progress towards achieving the objective, as is discussed in terms of accomplishments relative to the project’s six specific objectives.

- **Objective 1. To characterize the site in terms of water, soil, agriculture, forestry, livestock, and human resources; in terms of formal and informal community structures governing use of natural resources; and in terms of the key processes and direction of changes.**

The research team produced a general resources and land use map based on district data; a map of areas targeted by different projects and agencies (stakeholders) working in the area; a farmers’ map of land and resources use; and a farmers’ map of grazing resources. The group previously agreed that they needed mapping and analysis based on remote sensing and GIS. High costs have prohibited such inputs.

Villagers’ access to land and forest resources was analyzed (Bao 2000). In general, government re-forestation projects and associated policies have barred villagers from land which they otherwise would have used for shifting cultivation. Higher population pressure on land, policy restrictions on access to land, and resulting decrease in fallow periods have led to degraded land and soil conditions and to a decrease in the villagers’ ability to meet their food security needs.

Farmers’ indigenous knowledge related to slash-and-burn agriculture was described in the latest annual report (Xuan Hong 2000). Conclusions included that farmers use and apply considerable appropriate traditional technical knowledge to their farming; but that shifting cultivation is not suited to the current economic and policy environments. Other contributions to the annual report revealed additional useful sets of farmer knowledge (e.g., farmer’s livestock-care practices) which could be incorporated into a useful further analysis of the subject.

An analysis of gender roles in Hong Ha showed that women compared to men contributed substantially more labor to household and productive activities, but had less decision-making power (Thi Sen 2000). The extraction of non-timber forest

products such as rattan by males appears to be motivated by a desire for cash for “drinking and *karaoke* singing”.

The Hue team met with institutional stakeholders in the year 2000. The issue of coordinating differing institutional goals will require continued attention. The Bo River Watershed Management Board, the A Luoi Forest Protection Department, and the Department of Forestry Development have objectives related to meeting re-forestation targets defined in terms of area covered. On the other hand, the people of Hong Ha, the project, and the Department of Settlement and Sedentary Agriculture are trying to develop strategies that improve local welfare while maintaining the resource base. The group agreed that regular and continued communication among these stakeholders is necessary and could be coordinated by the project.

Information characterizing the resource use systems of Hong Ha has been collected over the course of the project, but was not synthesized since an initial report (in the 1999 annual report). Different group members will provide short sections for an updated summary of the characterization work (by 25 June). Dr Minh Hieu will edit the contributions and provide an introduction and conclusions (by 28 June). Sections to be included are: resource maps; livestock; aquaculture; forestry; policies, economics, and markets; gender; local social organization; institutional or stakeholder analysis; and problems and constraints.

- **Objective 2. To study central government policies and local regulations, how these are implemented at the local level, and their effects on the livelihoods of villagers and natural resources.**

Government policies and projects supporting re-forestation restrict villagers’ access to lands which villagers would otherwise use for agriculture. Related policies restrict access to forested and sloping lands. Villagers thought that agricultural land would not be a constraint if re-forestation project lands were available to them. The project team will facilitate continued communication among stakeholders in order to develop ways to eventually modify restrictive policies to better meet the needs of local people.

Some Hong Ha villagers proposed that the 150 ha of gently sloping reforested lands (out of a total of 500 ha of reforestation lands) close to the village could be harvested and then re-allocated to the villagers. The team agreed to support the proposal by:

- a) facilitating dialogue between the villagers and government,
- b) facilitating farmers’ development of a land use plan,
- c) conducting research to characterize the land in terms of, for example, soils and erosion potential, and
- d) work with farmers to optimize land use in terms of technical, social, and economic (equity) issues.

Policies supporting infrastructure development have recently led to road and communications improvements. Impacts of such development can and should be measured in the next project phase. Villagers noted that communications with the outside have improved; inputs are more available; government services are better; settlement has increasingly concentrated along the road; and land use intensification has increased. On the other hand, road improvement has brought more middlemen and sedimentation of streams from the actual construction.

According to farmers, the water delivery system in A Rom has delivered less water this year. Some farmers suggested that clearing for re-forestation (a policy related practice) may have reduced available water. In support of the idea, others noted that stream flow was negatively affected in the past by fires and by diversion upstream for paddy irrigation. Farmers also thought that maintenance might be needed, including a system to monitor the delivery infrastructure (hose and pipe) and work to increase the capacity of the intake structure.

- **Objective 3. To evaluate through farmer participatory methodology crop, livestock, home garden and other options to enhance food and income security.**

The project made substantial progress in facilitating farmer testing and adoption of innovations including pig multiplication and fattening, potable water infrastructure, fish production, and rice, vegetable, and cassava improvement and management.

Project responsiveness to farmers' expressed desires and to lessons learned with farmers led the team to increase attention paid to food security issues, change to largely women's participation in the pig project, to eventually agree with farmers as to the feasibility and desirability of fish production, and to further recognize dangers related to the introduction of exotics (i.e., non-local ducklings).

Project studies presented in the annual report (2000) analyzed pond construction, fish production, and related farmer problem-solving (Phi Nam); pig productivity (Toan et al); productivity of introduced crops and varieties (Cach and Minh Hieu); and of the (non-project) Program 327 reforestation effort (Huu Hoa and Tan Quan).

As will be discussed in greater detail below, farmers thought that the project was the most successful in its work with paddy rice, fish production, and pigs. Farmers also appreciated project contributions in terms of technical knowledge and training, "technologies", new crops and varieties, and cassava production.

- **Objective 4. To study and test options to bring *Imperata* grassland back to more productive and sustainable uses.**

Farmers were resigned to cultivating Imperata grasslands in place of forest plots. As such, they viewed the grasslands as a heterogeneous resource in terms of quality rather than as a “problem” (although they likewise were clear that their forest plots used in the past were far more productive). Grasslands far from the village were seen as a source of grazing and roofing thatch.

The major problem associated with cultivation of those grasslands suitable for agriculture (relatively fertile and close to home) was the high amount of labor required for removal, drying, and burning of Imperata plants and—especially—roots.

The project has worked with farmers on cover crops, hedgerows for soil conservation, pineapple, cassava, and perennial crops. Although farmers have shown some interest in *Stylosanthes*, *Panicum maximum*, and King grass, farmers and researchers have so far found little to improve Imperata land productivity.

- **Objective 5. To strengthen participatory approaches within institutions, to provide technical training to village and district staff, and to communicate and disseminate results.**

The project has successfully employed a range of participatory methods and tools, including participatory appraisals, farmer field testing of innovations, evaluations, farmer-to-farmer training, and group evaluations.

The team asked itself whether participants were widely and equitably selected. To help answer the query, male participants, female participants, male non-participants, and female non-participants separately provided their respective perceptions regarding what they felt were major problems, what they thought were positive or “successful” project innovations; and what they wanted from the project in the future.

Table 1. Problems named by participation & gender

	MP	FP	MNP	FNP
Lack of knowledge	10	11	18	12
Lack of paddy area	9	0	13	15
Lack of agricultural land	8	0	0	2
Lack capital for fish production	8	0	0	0
Market problems	8	0	11	0
Health (human)	0	22	9	5
Lack education/facilities	6	22	7	11
Lack of capital for production	0	20	18	13
Lack irrigation for paddy, ponds	7	7	12	14
Cumulative percent	56	82	88	72
Number problems named	16	8	9	12

The groups identified from 8 (by female participants) to 16 (male participants) problem areas. Nine problem areas accounted for the highest problem priorities across groups and for from 56 to 88 percent of each group's respective cumulative weighting (each group assigned 100 "points" across all problems identified by that group).

All groups, but especially male participants and non-participants, identified "lack of knowledge" as a problem (Table 1). Male participants also saw lack of paddy area as a main problem. Female participants focused on health, education, and capital as problems. Male non-participants lacked capital for production; and female non-participants named lack of paddy area and lack of irrigation for paddy and fish ponds as major problems. Male participants were relatively diffuse while female participants and male non-participants were focused in their selection of "problems". It appeared that all groups except participating males saw "lack of capital" as a major problem.

Table 2. Project successes named by participation & gender

	MP	FP	MNP	FNP
Technical knowledge	19	0	13	5
Wet rice	14	16	17	0
Fish	14	11	15	9
Pigs	12	12	12	11
Cassava	5	12	0	3
Sows/piglets	0	11	0	0
Technologies	0	0	15	0
New Varieties	0	0	0	12
Capital	0	0	0	10
Revolving fund	0	11	0	0
Cumulative percent	62	73	72	50
Number named	10	11	8	16

Villagers were most favorably impressed by project work with rice, fish, and pigs, followed by training or technical knowledge, technologies, new crops and varieties, and cassava (Table 2).

Male participants thought that the project was the most successful in providing technical knowledge, followed by contributions to wet rice and fish production. Female participants and male non-participants were most impressed with innovations in wet rice production. The latter group also observed major project accomplishments in fish production and "technologies". Female non-participants were most impressed by the new crop cultivars and varieties and by work on pig production.

In terms of future project activities, inputs, and innovations, all but the male non-participants first wanted access to credit or capital (Table 3). The latter group sought help for the poor, training, and new crop cultivars and varieties. Female participants also saw health care and adult education as high future project priorities.

Table 3. Preferences for future project inputs by participation and gender

	MP	FP	MNP	FNP
Training	10	11	13	8
Credit/capital	10	15	7	9
Continue project	9	0	0	0
Tools/equipment	8	0	8	0
Domestic water	8	0	0	8
Health care	0	14	0	0
Adult education	0	13	0	0
Fish diseases	0	10	0	0
New crops, varieties	0	0	12	0
Rice varieties	0	0	11	0
Increase paddy area	0	0	9	0
Help poor	0	0	15	5
Education	0	0	0	8
Fertilizer	4	0	0	8
Pigs	0	8	0	8
Cumulative percent	49	71	75	54
Number preferences	16	10	10	17

It appears that women have been left out of training activities. Considering the three sets of information, women saw lack of technical knowledge (which is provided by training) as a problem, wanted training from the project in the future, but—unlike the male villagers—largely did not see that the project had so far accomplished much in terms of providing them with needed training.

Overall, if the project is to respond to farmers' perceptions of needs, future objectives and activities related to education and training, health care, and capital and credit need to be developed and implemented.

The team also asked itself if project participants represented the range of different local economic levels. Although initial selection of better-off farmers by commune leaders may have had the potential of earlier initial adoption followed later by adoption by poorer farmers, the group decided that it would be desirable for the project to work with and to address the needs of the poorer farmers.

Farmers identified and defined local economic strata, estimated the proportion of villagers belonging to each, and shared their perceptions as to the strata occupied by the approximately 50 families participating in the project:

- a) Better-off households have sufficient food, including protein, and sources of cash; represent 16% of local families; and were represented by 19% of the participants.
- b) Middle level households have enough food and labour, know how to save money, but lack material goods; represent 26% of local families; and were represented by 36% of the project participants.
- c) Poor families lack food and capital, but have sufficient labour; represent 37% of local families; and were represented by 40% of the participants.
- d) Very poor families lack food, capital, and labour; represent 22% of local families; but were represented by only 5% of the project participants.

Overall, the project participants slightly over-represented the three higher strata at the expense of the very poor (who appeared significantly under-represented). Awareness of the suggested skewed distribution was recognized as a first step to making a project correction.

- **Objective 6. To monitor and evaluate changes in socio-economic conditions and in the natural resources environment as affected by changing practices and conditions.**

The project has continuously conducted or facilitated farmer evaluations, field days, workshops, and internal team reviews and evaluations (annually and others such as this one). Farmers have evaluated particular innovations (eg, pigs, rice, fish, cassava, home gardens, and forages). As mentioned, such a “learning approach” has resulted in project modifications in objectives (increasing attention given to achieving food security), in approaches (from model farmers to “farmer-to-farmer”), in interest group membership (from male to female pig producers), and in innovations tested (dropping mucuna for grassland rehabilitation, dropping inappropriate duck breeds, and following farmers’ lead in fish production).

The team would benefit from use and application of the impact analysis model provided by Douglas White of CIAT. The model is simple to calibrate and use, is highly appropriate to the work being done by the project, and would provide analysis much needed by the project regarding future potential impacts or explanations of adoption or non-adoption of project innovations. Additional but focused data gathering would be required.

## **CONCLUSIONS: CHALLENGES FOR THE FUTURE**

The project has made substantial and very satisfactory progress in achieving project goals and objectives.

The capabilities and effectiveness of the research team--as a team, and of its individual members have increased over the project period.

A learning approach has been effectively employed, resulting in timely, appropriate, and needed project modifications.

Major challenges face the group, however, as it builds upon lessons learned in subsequent project phases. Challenges would include:

1. Recognizing and better targeting the needs of different segments of local society (as defined largely by gender and economic status).
2. Increasing the “depth” of the participatory approach.
3. Continuing to search for ways to influence stakeholder policies in ways supportive of participatory approaches and co-governance.
4. Understanding and measuring project (and other) impacts on sustainable livelihoods in terms of human, social, financial, and natural capital.
5. Scaling up from village to multiple villages to district to region and beyond.

The team finalized the review with a discussion of ways to improve or “deepen” participatory approaches, of ways to scale-up in the most effective and economic manner; and to influence policy (to increase co-governance) and institutions (to be more participatory).

How can we better improve participatory approaches and participation?

1. Recognize and better target the needs of different segments of local society (as defined largely by gender and economic status).
2. Facilitate formation of interest groups organized around such needs and around each group’s own efforts to build (different types of) capital.
3. Diversify project interventions to reflect the above diversity.
4. Strengthen such nascent institutions by actively working to help build social capital.
5. Monitor and strive to increase levels of participation (from “knowledge of” to “implementation” to “partnership” to “control of”).

How can we best scale up?

1. Combine farmer evaluation field days with farmer-to-farmer dialogue.



2. Facilitate “successful” farmer adoptors in hosting and sharing lessons learned with new groups of interested farmers.
3. Develop farmer- and locally appropriate information sharing tools (e.g., pamphlets, posters, village information center, farmer visits and study tours).
4. Strengthen linkages among project, farmers, and district extension agencies and agents (DARD, others).
5. Document process as it develops, share lessons learned with stakeholders.

How can we influence policies (seeking greater co-governance) and institutions (seeking adoption of more participatory approaches)?

1. Organize and facilitate meetings of stakeholders and farmer interest groups held in Hong Ha.
2. Facilitate formation of provincial and regional level stakeholder task force to share information and findings and to promote (upwards) needed changes.
3. Develop joint action plan (largely focused on resource use) among stakeholders.