Table 3. Change in household (HH) poverty over time in Doan Thang village, Hoang Nong commune, Thai Nguyen district, Vietnam (Stages 1, 2 are under poverty line; 3, 4 are average; above 5 is well-being, see Table 2)

	82 - 86	91 -92	94	97	2001	2005	2007	Reasons for changes
		Land allocation and 'Red book' issued		Selling young labor to the south	Electricity available	GTZ project started Establishment of a 'safe tea' cooperation		
1				1			3	Children grow up, health improve, hard working (14 hours/day)
2				4			3	Old parents, pay for small children go to school
2				4			3	Old parents, pay for small children go to school
3						2	3	Purchase more land for tea, children get bigger
4				2			3	Children get bigger
5			2				3	Parents are less sick
6				1	2		4	Business service, selling equipment for tea and drying processing
7	2				3		4	working with tea, children grow up, more labor
8	3	4					4	More labor, creativity, pension

Discussion

The method help researchers to understand livelihood strategies that people use to get out of poverty and how much these key livelihoods have positive or negative impact on the environment. The fact that using fertilizers are the main way to get out of poverty indicates the complexity of harmonizing between environmental protection and livelihood improvement for the poor. However, the poverty lines, wealthy line as well as the poverty indicators show future solutions to gradually address the issues via promotion of livestock raising and clean tea.

Focus-groups in Hoang Nong province

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PARTICIPATORY ANALYSIS OF POVERTY, LIVELIHOODS AND ENVIRONMENT DYNAMICS (PAPOLD)

Trees in Multi-Use Landscape in Southeast Asia (TUL-SEA)
A negotiation support toolbox for Integrated Natural Resource Management

Introduction

Poverty, people's livelihood strategies, and the natural environment are inter-linked in both space and time. Some of those inter-linkages are distinctly spatial phenomena, which can be measured using household surveys and remote sensing technologies and mapped using geographic information systems, while other inter-linkages are more context-specific and difficult to observe. The method of Participatory Analysis of Poverty, Livelihoods and Environment Dynamics (PAPOLD) was developed to capture local specific issues of these inter-linkages. The method is asserted to be more comparative than other methods because it is participatory, dynamic and comparable[1]. It is a refinement of the Stages of Progress (SoP) developed by Anirudh Krishna of Duke University in the USA[2]. In Vietnam, it was modified by ICRAF team in collaboration with Ministry of Labour, Invalids and Social Affairs and Vietnam Institute of Economics in 2007 to better address links between poverty and environment in Vietnam. By integrating PAPOLD with sustainable livelihood approach, Poverty and Environmental linkages are seen in a comprehensive way.

Applied methods in Vietnam (Table 1)

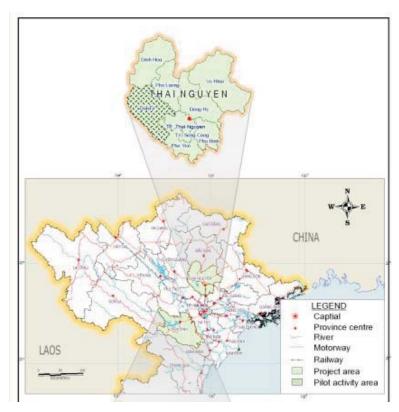| Step	Objectives	Specific questions/ tasks
1	To understand viewpoints of the local people and stakeholders on poverty and environment.	1.What is poverty, what are the causes of poverty, and who are the poor? 2.How do people conceive of their environment, and what are their environmental concerns?
2	To understand Stages of progress and livelihood activities in the area	1.What are the livelihood assets/capital that people use in pursuit of their livelihood activities? 2.What are the natural and environment-related livelihood assets and the dynamics/ changes of those assets? 3.List of communal livelihood activities. 4.Indications, changes of life (escape from poverty line, fall back into poverty, rich, etc.) in relation to key livelihood activities. 5.Rank the importance of respective livelihood activities.
3	To identify impacts of natural resources and environment on livelihood activities and strategy and vice-versa	1.How do people use natural resources for their livelihood activities? 2. How do livelihood activities interact with environment? (Use tool to analyze the value chain).
4	To identify shocks, risks, vulnerability, regarding the environment and natural resources.	1.What are the sources of natural and environment-related shocks and risks for livelihood?
5	To understand Institutional and policy-related issues	1.To what extent are the livelihood activities influenced by policies and institutional arrangement that relate to natural resources?

[1] Hoang Minh Ha, Pham Thu Thuy, Brent Swallow, Nguyen Thi Lan Huong, Thai Phuc Thanh, Nguyen Van Huan and Dao Ngoc Nga. 2007. Understanding the Voice of the Poor- Participatory Poverty Analysis with Environment Focus, United Nation Development Program and Ministry of Natural Resources and Environment of Vietnam, Hanoi.

[2] Dr. Krishna and colleagues have produced a training manual for the method as well as a number of journal articles summarizing the results. His work is gathered on the web site: http://www.pubpol.duke.edu/krishna/. This includes a training manual and results from India, Kenya, Uganda and Peru

Case study: Land Use Strategies and Impacts of Resource Access on poor tea growers in Hoang Nong commune (Dai Tu, Thai Nguyen, Vietnam)[3]

Hoang Nong commune, Dai Tu district in Thai Nguyen province, belongs to the buffer zone of Tam Dao National Park. The population of the study village comprises of six ethnic groups. Currently, most households mainly get their incomes from agricultural activities, such as paddy farming, rearing cattle and tea cultivation. Among them, livestock gearing, especially cattle gearing, gives the highest economic return for farmers. Local farmers, especially poor households, also earn their living through forestry-related activities, such as hunting, wildlife trading, etc. PAPOLD was used together with other Participatory Rapid Appraisal (PRA) tools in order study *land use strategies of the upland rural households in dealing with the changes in the commercialisation processes*. Two villages representative for two most dominated ethnic groups, Kinh in Doan Thang and Dao group in Dinh Cuong, were selected for the study. Village representative groups in two villages (about 30% of the total households in each village) defined the local notion of poverty, identify "stages of progress" that households in the villages might go through as they obtained more and more investment funds, and characterized each household in the village according to its current and

Map of Thai Nguyen

[3] Hoang Minh Ha, Nguyen Le Hoa, Pham Thu Thuy, Mai Hoang Yen, Be Quynh Nga, 2007. Comparative Analysis of Market and Resource Access of the Poor in Upland Zones of the Greater Mekong Region (MMSEA project) Vietnam case study. ICRAF Vietnam working paper.

past stage. Focus-groups also characterized livelihood strategies. Two focus-groups of tea growers per each village were selected using representative criteria related to wealth, age and gender.

Summary of the findings of PAPOLD in Hoang Nong

Poverty and Policy linkages: The timeline of Hoang Nong commune showed land use changes over time in relation to land and cooperative reforms. Particularly in early 90s, together with land privatization and the establishing Tam Dao National Park, there were no lands left for young households. This was the main reason that led the young households become poor.

Poverty indicators: The common poverty indicators were house, land areas, labor, and income, selling tea price, loan, and furniture (Table 2).

Self poverty lines: Most of the poor villagers are in stage 1 (Table 2), which specified by lacking of land, bad health, lack of labor. The medium farmers (stages 3-7) seemed to have a more diverse crop and animal pattern, which gave them higher security and sometimes benefit enough to expand or invest. The better-off households (stage above 5) either had big land from the beginning or they had managed well in investments and had bought more land and therefore advanced from being medium to become better-off.

Poverty changes over time in each household: Wealth changes over time showed that access to land, credit and labor were the main causes that helped local farmers to get out from poverty (Table 3).

Strategies for getting out from poverty: Having tea land and having money for getting more fertilizers use, wage employment, population control, reduced expenditure and wild food collection.

Table 2. Example SoP in Doan Thang village

Stage	
10	Expand business, having brand name of Hoang Nong
9	Applying technology, investment, marketing, learning about product market
8	Owning advanced multimedia (radio, television)
7	Savings, take care of health
	From average to wealthy
6	Buying motorbike
5	Building houses, improve and upgrade kitchen and house furniture, bathroom
	Poverty line
4	Buying cows and buffalo
3	Buying fertilizers and basic machines
2	Buying additional land
1	Little and poor land, many dependent people, do not have basic houses, sick