ASSESSING PARTICIPATORY ACTION RESEARCH: A CASE STUDY FROM THE LAO PDR.

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ASSESSING PARTICIPATORY ACTION RESEARCH: A CASE STUDY FROM THE LAO PDR.

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Abstract

This research assesses Participatory Action Research (PAR) through the Integrated Upland Agricultural Research Project (IUARP) in Luang Prabang province, Laos. The IUARP is designed to produce alternatives to shifting cultivation for smallholder farmers. Through interviews, observations, and a farmer database I analyzed who participates in the project, who benefits, and the level of participation developed between the project administrators and farmers. Village politics, farmer socio-economic status, village and land location, and gender affect the participation process. Village politics is the most important factor undermining PAR goals. In the IUARP the participation objective is functional with collaborative participation. Farmers are gaining material benefits and knowledge about a variety of agricultural technologies. PAR has the potential to alleviate poverty but it runs the risk of reinforcing social inequalities.
Acknowledgments

I commend the IUARP and its entire staff for their efforts thus far. Considering the complexity of the political arena and various stakeholder group agendas the project is a successful demonstration of functional and collaborative participation.

I’d like to thank Lao-IRRI, the IUARP staff and farmers for allowing me to work with them. It has been an amazing experience for me.

I extend my appreciation of financial support to Ohio University’s South East Asian Studies Program and Lao-IRRI, without their funding contributions my research would not have flourished.
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List of Acronyms

CBNRM= Community Based Natural Resource Management
DAFO= District Agriculture and Forestry Research Office
GOL= The Government of Laos
IRRI= International Rice Research Institute
IT= Implementing team (of the IUARP)
IUARP= Integrated Upland Agricultural Research Project
LUP/LA =Land Use Planning and Land Allocation Program
MAF= Ministry of Agriculture and Forestry
NEM= New Economic Mechanism (of the government of Laos instituted in 1986)
PAFO= Provincial Agriculture and Forestry Research Office
PAR= Participatory Action Research
UNCED=United Nations Conference on the Environment and Development
**Introduction**

In 2000 the Integrated Uplands Agricultural Research Project (IUARP) was established in the Lao People’s Democratic Republic (Laos). The IUARP is one of the first national projects to use a participatory methodology. Touted as a win-win situation, participatory methodologies gained momentum in the past decade. The practice of involving local people in development initiatives regarding their local environments was promoted at the 1992 United Nations Conference on the Environment and Development in Rio de Janeiro. Centralized, non-local control over resources is believed to be a cause of widespread poverty and exaggerated inequalities for rural populations. Since 1992 participatory methodologies were offered as alternatives to top-down approaches and put to practice globally (Schafer and Bell, 2002; Ferraro, 2002; Hayward et. al., 2004). Participatory Action Research (PAR) is a participatory methodology promoting a collaborative knowledge-generating process involving participants and researchers. The win-win situation of PAR is to empower marginalized people while alleviating poverty. PAR was one of the first participatory methodologies implemented in Laos (see Map1 for country location).

The topographic and ethnic diversity present the opportunity for participatory methodologies to be mechanisms of change for the natural resource sector in Laos. Participatory methodologies are in the beginning stages of development in Laos; little is known about who participates, the level of participation and local benefits. The following questions will guide this thesis: Who is participating in the IUARP? What is the level of participation in the IUARP? Who is benefiting from the IUARP and how? These questions will be examined through a case study of two villages participating in the IUARP, Houay Luang and Houay Kha, in the Pak Ou district of the Northern province, Luang Prabang.
The Government of Laos (GOL) has agreed to try participatory research through the IUARP in effort to achieve its goal of “stabilizing shifting cultivation”. The GOL believes that shifting cultivation is the number one cause of deforestation. Since forest products contribute to the overall economic development of the country the GOL wants to protect them by stabilizing shifting cultivation. The IUARP was formed to design alternative agricultural technologies for farmers practicing upland shifting cultivation.

Shifting cultivation is the traditional agriculture practice in Laos as well as much of tropical Southeast Asia. Laos is 80% mountainous (see Photo 1), due to the hilly
topography and previously low-population densities; shifting cultivation was a sustainable system (Roder et. al., 1996). However, land scarcity has lessened fallow periods to only a few years. The shortened fallow system does not allow natural vegetation to regenerate, thus altering the landscape of the region. Families practicing upland shifting cultivation are generally the country’s poorest and belong to ethnic minority groups.

**Photo 1. Mountainous Topography of Laos**

Due to the rugged terrain, geographic isolation has occurred between ethnic groups throughout the history of Laos. Today ethnic diversity is extremely high varying
from the estimated low of 48 groups to the estimated high of 236 groups (GOL and United Nations respectively) (MAF 1999, Hodgdon 2003 *based on UN*).

The topographic and ethnic diversity of Laos makes PAR a likely methodology to assist with change in the region. However, this research will argue that adopting a participatory methodology does not necessitate that all social strata have the same opportunities to participate. This research will demonstrate that village politics, staff and farmer interactions, socio-economic status, village and land location, and gender are all variables affecting the participation process. Village politics are the number one cause undermining PAR goals in the IUARP.

By analyzing farmer participation within the framework of various stakeholders in the IUARP this research seeks to understand if the goals of PAR are accomplished through the IUARP, how participation plays out within the IUARP, and if participatory methodologies are useful for the people and natural resources of Laos.

The IUARP is a young project working towards fulfilling many goals. Due to the newness of participatory methodologies in Laos and the infancy of the IUARP some of the long-term aspects, such as empowerment and poverty alleviation, cannot fairly be assessed with the PAR framework. Nevertheless, this research presents a worthy analysis contributing to the participatory processes of the IUARP, Laos and more broadly the world.
**Participatory Action Research (PAR)**

Participatory Action Research (PAR) includes community members, user groups and the general public in development projects, research activities and initiatives. This concept was first put forth by Kurt Lewin in 1946; he coined the term “action research,” suggesting a need for communication between researchers and participants in which activities shift from action to reflection (Fisher and Ball, 2003). Although researchers conceptualized participatory research as early as the 1940s, it did not become a formally recognized methodology until the 1970s (Johnson et. al., 2003). When the top-down approaches of the 1970s failed to meet promised development, researchers sought bottom-up approaches (Adams and Hulme, 2001; Hayward et.al., 2004).

Participatory methodologies are not new; in 1992, the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, Brazil, sanctioned them (Adams and Hulme, 2001). Agenda 21, the global action plan for sustainable development, was one of the first global initiatives identifying the importance of involving local people in environmental and development issues (Chuenpagdee et.al., 2004). Centralized, non-local control over resources is believed to be a major cause of widespread poverty and exaggerated inequalities for rural populations (Schafer and Bell, 2002; Ferraro, 2002; Hayward et. al., 2004). Involvement of local people has become a vital component of international and national research work. In 2001, Future Harvest

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1 Participatory methodologies have been practiced in Africa since the 1950s (Adams & Hulme, 2001). Murphree has traced it back to the 1930s with Aldo Leopold’s “Congruent Objectives” (Schafer and Bell, 2002).

2 A network of 16 agricultural research centers established to sustain the environment and alleviate poverty worldwide.
centers spent $65 million on 144 worldwide participatory projects (Johnson, 2003, based on Ashby, 2001).

Since its origin, PAR has undergone numerous transformations under various disciplines including anthropology, psychology, sociology, education, urban planning, nursing, organizational development, environmental studies and community health (Brydon-Miller, 2002). However, regardless of the discipline, two common PAR characteristics have persisted:

1. The methods have involved continuous learning on the part of all participants.
2. The methods have minimized the distance between end-users and researchers through dialogue and action (Johnson et al., 2003).

PAR historically works with disenfranchised people—those who have been oppressed, exploited and/or are members of a minority group (Sohng, 1995; Brydon-Miller, 1997). The process is designed to allow people in communities the right to address their problems and then discover solutions. Through active involvement of the research process, people gain knowledge that may empower them to transform their lives, and communities are given the capacity to manage both internal and external changes. PAR not only recognizes the abilities of local people and their knowledge of their livelihood, it also allows researchers to better target their objectives toward specific needs of stakeholder groups (Brydon-Miller, 2002; Johnson et al., 2003; Hayward et al., 2004).

PAR work with farmers of developing nations has shown great success (Johnson et al, 2003). Farmers of developing nations are often poor and marginalized, with limited
access to new agricultural technologies that might better their livelihoods. Involving farmers in PAR increases their capacity to continually stay innovative in their highly variable environments. By influencing agricultural developments, farming groups may make greater contributions to agricultural productivity, research, sustainability and ultimately poverty alleviation. Researchers gain knowledge from farmers, in turn initiating research into new crop technologies and participatory methodologies (Johnson et. al., 2003).

In theory, PAR is iterative. Researchers engage clients as co-researchers; together they plan and carry out the first step of the research process. Then they come back together to reflect on the implementation of the first step and plan how to proceed to the next step (Action Research, 2004). In practice, PAR is a collaborative knowledge-generating process involving participants and researchers (Fisher and Ball, 2003).

The word “participatory” has become a buzzword with an array of applicable meanings to legitimize any and all development projects (Kelly et. al., 1995). In order to clarify “participatory” within the PAR framework, two distinct participatory objectives and five participation modes are described.

PAR’s participatory objectives are “functional participation” and “empowering participation.” “Functional participation” involves potential beneficiaries to obtain feedback to produce a technology that is appropriate and likely to be adopted. Functional participation focuses on increasing the effectiveness and efficiency of an existing innovation process. PAR’s other objective is “empowering participation”—the transformation of the innovation process, not the actual development of specific
technologies. Transforming the innovation process yields empowered rural people who are better equipped to alter existing power relationships (Sohng, 1995; Johnson et. al., 2003).

Researchers have defined five modes of participation typology as a way to allow for empirical analysis of participation, based on who makes what decisions at what stage of the development process. Table 1 gives an explanation of each participation typology. Within the typology, “farmers” refers to intended users or other beneficiaries and “scientists” refers to outside agencies, formal research agencies or extension systems.

<table>
<thead>
<tr>
<th>Participation Typology</th>
<th>Roles of Players</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional (no farmer participation)</td>
<td>Scientists make the decisions without communicating with the farmers.</td>
</tr>
<tr>
<td>Consultative (functional participation)</td>
<td>Scientists make the decisions but with communication from the farmers. Scientists know farmers’ preferences, priorities and opinions through one-way communication; this information may or may not affect scientists’ decisions. Decisions are not made with farmers, nor delegated to them.</td>
</tr>
<tr>
<td>Collaborative (empowering participation)</td>
<td>Decision-making authority is shared between farmers and scientists. Scientists and farmers know about one another’s preferences, priorities and opinions through organized two-way communication. Decisions are made together, no party can make them by itself and neither has the right to revoke the shared decision.</td>
</tr>
<tr>
<td>Collegial (empowering participation)</td>
<td>Farmers make decisions collectively, in a group process, or through individual farmers who are involved in organized communication with the scientists. Farmers know about scientists’ preferences, priorities and opinions through one-way communication; this information may or may not affect the farmers’ decisions.</td>
</tr>
<tr>
<td>Farmer Experimentation (no researcher participation–farmers become researchers)</td>
<td>Farmers make the decisions individually or in a group without scientist communication.</td>
</tr>
</tbody>
</table>

Table 1 demonstrates several ways in which participation can be played out, depending on numerous variables. Therefore, it is important to study the specifics of the region’s political, social and economic arena in order to understand the level of participation for a given project. The purpose of this thesis research is to analyze the level of farmer participation occurring in the Integrated Uplands Agricultural Research Project (IUARP) in Laos. A case study of two villages participating in the IUARP was conducted. It is hoped this analysis will contribute to future evolutions within participatory development models throughout the world and, more specifically, in Laos.

**Research Questions**

This research specifically asks: Who participates in the IUARP? What is the level of participation in the IUARP? Who benefits in the IUARP and how? The answer to each question will offer insight into the success of PAR, the IUARP and future implications for participatory methodologies in Laos.

In development projects there are usually various stakeholders or interest groups with different agendas. Agenda differences can bias who participates and how they participate. In international development projects, the funding source and organizational bodies generally dictate the level of participation for each stakeholder. For example, the project plan may be completed before the local people/ co-researchers are involved; thus, this group is only permitted to participate within the project’s boundaries. Participation is not often a goal in its own right but rather an instrument used to achieve other goals (Hulme and Murphree, 2001). This research will focus on how farmers participate in the
IUARP within the context of other stakeholder groups. I will analyze biases occurring towards farmer participation as a result of various stakeholder agendas.

Who participates in the IUARP? It is important to understand who is participating to determine whether there are participatory biases or if all groups in the community are being reached. The literature review indicates that PAR is capable of empowering marginal people as well as bringing new techniques to the marginal poor farmers in developing countries (Sohng, 1995; Johnson et.al., 2003). If PAR is assisting marginal people, ultimately it may alleviate poverty. Therefore, to know whether PAR may assist in poverty reduction in Laos, we must understand who is participating. If only wealthy farmers are participating, then PAR is not effectively reaching the marginal people of the area and not attaining its goal.

What is the level of participation in the IUARP? Table 1 provides a spectrum of participatory definitions from passive to empowering. Considering that participation as a development apparatus can have numerous definitions, Table 1 is a valuable tool assisting in the designation of a participation typology. The participatory research objective will be analyzed according to the above definitions derived from Johnson et.al. (2003).

By understanding the level of participation in the IUARP, it will be possible to discern whether or not PAR is reaching its goals in Northern Laos. The level of participation is important because if passive participation is occurring then a top-down approach is still being used, which goes against the goals of participatory methodologies and the idea of Agenda 21 from the 1992 UNCED.
Who is benefiting from the IUARP and how? Determining how farmers are benefiting may demonstrate the method in which poverty is being alleviated, if at all; which is a major aspiration of PAR in international development work. If no one is benefiting, or only a select few are benefiting, then PAR is not reaching its goal of poverty alleviation, nor is it reaching the marginal groups of farmers it predicts to assist. Likewise, if only select people are benefiting, and other peoples’ lives are being hindered by these benefits, then the sustainability of the project is jeopardized. The assumption is that people will not agree or adhere to activities and policies that substantially hinder their livelihood options.

How people are benefiting may allude to whether or not the project is working toward empowerment of the people. If people are materially benefiting but not gaining knowledge or insight into the problem-solving process then they are not being empowered through PAR. Although empowerment is the ultimate goal of PAR—and extremely worthy of analysis—it will not be the focus of this research.

By answering the research questions, this research will begin to understand if the goals of PAR are being met within the IUARP, how participation plays out within the IUARP, and if participatory methodologies are useful for the people and natural resources of Laos.
Agriculture and Natural Resource Management

Introduction

The IUARP is a project designed to offer permanent agricultural alternatives to replace traditional shifting cultivation systems. The Government of Laos (GOL) plans to “stabilize” shifting cultivation as a means to protect and optimally manage Lao forests. In Laos forests are viewed as an economic resource therefore natural resources are heavily impacted by politics. For this reason it’s important to provide background information on each topic.

After the 1975 revolution, Laos became the People’s Democratic Republic of Lao, a socialist, one-party state. From 1975 to 1986, Laos was inwardly organized, having little to no dealings with the outside world. The internalized politics of Laos inadvertently preserved its natural resources, making them inaccessible to world trade. In 1986, due to economic hardships, the government introduced the New Economic Mechanism (NEM). Under the NEM the GOL is working to transform the centrally planned economy into a market economy.

Laos’s natural resources greatly contribute to the transformation of a market economy. As Table 2 demonstrates, on average, forest products contribute 32% to Laos’s total export revenue. Since forest products contribute a large amount of revenue that is needed for the economic transformation, policies are being imposed to manage them. However, forests are not entities existing on their own; they are part of a larger ecosystem (watersheds, soil matrices, etc.) encompassing a plethora of natural resources. Consequently, forestry and agriculture are connected, as the vice-minister of the Ministry of Agriculture
and Forestry has expressed, “Slash-and-burn cultivation systems assist in destroying the forestlands and therefore the government is committed to supporting slash-and-burn cultivation limiting and stopping projects” (Van Gansberghe and Pals, 1994, pg. 16).

As a result, since the early 1990’s the GOL has redefined its natural resource policies for the economic future of the country. Pressures on forest products stem from timber exports, which stem from the transformation into a market economy; therefore, international demand for forest products creates a need to protect these resources from local use. Since shifting cultivation is viewed as the number one cause of deforestation, the government’s policy is to stabilize it. Hence, these newly imposed natural resource policies heavily impact the agriculture sector which contributes 51% of the gross domestic product and constitutes 80% of the labor force (NPEP, 2003).

<table>
<thead>
<tr>
<th>Table 2. Lao Exports 1994-1998 (In millions of U.S. dollars)</th>
</tr>
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<tbody>
<tr>
<td>Logs</td>
</tr>
<tr>
<td>Sawnwood</td>
</tr>
<tr>
<td>Other wood products</td>
</tr>
<tr>
<td><strong>Sub-total wood products</strong></td>
</tr>
<tr>
<td>Garments</td>
</tr>
<tr>
<td>Electricity</td>
</tr>
<tr>
<td>Other exports</td>
</tr>
<tr>
<td><strong>Total exports</strong></td>
</tr>
<tr>
<td>% Wood products/total exports</td>
</tr>
</tbody>
</table>

World Bank, 2001 pg. 10 *(based on IMF, 2000)*
Forests in Laos

The climate of Laos is categorized as tropical monsoon with a humid climactic designation: There are three to six dry months per year, an average 2000 millimeters of rainfall and an average temperature of 26 degrees Celsius (Lockwood, 1976; CIA, 2003). The bulk of forest formations are classified as moist deciduous forests and dry deciduous dipterocarp woodlands, with or without pines, although semi-evergreen forests are also common (Blasco, 1996). There is a small area in the Annamite Mountain Range, on the country’s eastern border with Vietnam, that is true tropical rainforest and likewise holds the country’s largest amount of biodiversity (Berkmuller, 1995). Biodiversity can harbor rare species, which is another economic opportunity for the GOL.

Current resources indicate that 80% of Laos is forested (see Map 2) (FAO, 1999); however, 47% is officially classified as forests and 7% as woodlands, with the remaining 26% considered degraded and having less than 20% canopy cover (Berkmuller, 1995; Thapa, 1998, based on department of forestry data, FAO, 1999). Since Laos is highly forested, its government wants to export these forest resources.

Between 1990 and 1999, total deforestation occurring in Laos—caused by unsustainable logging practices, slash-and-burn agriculture, fuel-wood collection, fire and agricultural encroachment—are estimated between 0.3% and 2%, with an average of 0.5% per year (World Bank, 2001). If deforestation continues at 0.5% per year, the natural forest area will be lessened to 30% by 2020 (World Bank, 2001). A decrease in the percentage of forest cover can greatly reduce Laos’s economic capacity to function as a market economy on a global scale. For this reason the GOL is concerned about the current deforestation rate.
Map 2. Lao Forest Cover (Sisouphanthoung and Taillard, 2000)
A winter and summer monsoon blow through Southeast Asia each year. It is the winter, or southwest, monsoon from May to September that brings the majority of moisture, thus influencing agricultural practices.

The northern region of Laos is a continuous expanse of rolling hills and rugged mountain peaks reaching to 2800 meters above sea level ($\approx 9,240$ feet). An estimated 83% of the total 5.9 million population resides in rural areas, and approximately 66% of that population relies on subsistence agriculture (NPEP, 2003). In the traditional subsistence system, Lao farmers integrate the use of crops, animal husbandry and forest resources. Due to high population densities in lowland areas, many farmers migrated to the uplands and became dependent on upland agriculture. Upland agriculture refers to fields that are not leveled or bounded. In the past, the hilly topography and low-population densities rendered slash-and-burn agriculture as the best option (Roder et. al., 1996). Upland regions generally have a four-month food-deficit; this is not a new phenomenon. Rice is not a surplus crop and only provides food for eight to ten months while hunting and gathering provides food for the other months. Some farmers report that they can survive up to a year without rice crops (Roder et.al., 1996).

**Shifting Cultivation Practices**

Shifting cultivation is the traditional agriculture practice in Laos as well as much of tropical Southeast Asia. In Laos it is used as a means for weed control. Upland rice is almost always grown in a slash-and-burn system, with other plants inter-cropped or grown in semi-permanent systems (other crops grown in order of frequency include: maize, cucumber, pumpkin, taro, cassava, chilies, sesame, smooth loofah, sweet potato, long bean,
peanut, eggplant, Job’s tears, ginger, angel loofah, sorghum yam bean, pigeon pea and sun
hemp) (Roder, 2001). Land preparation begins in January and February with the slashing of
secondary forests or shrub vegetation. Burning the dry biomass occurs from March to April
(see Photo 2). Rice is planted using a dibble stick in late May or early June. The knife,
dibble stick and a simple blade for weeding are the main tools used; upland cultivation does
not include tillage (Roder, 2001).

**Photo 2. Burnt hillsides soon to be planted in rice, Luang Prabang.**

Photo by Author March 2004

It is estimated that crops from upland shifting cultivation provide livelihoods to
more than 250,000 families or 35% of the population (MAF, 1999). These families are
generally among the country’s’ poorest and belong to ethnic minority groups in the northern,
eastern and southeastern regions of the country (Ducourtieux, 2004). Consequently, the
large number of ethnic minority groups makes PAR a likely methodology to assist with change in this region.

Due to Laos’s geographical, and previous political isolation, upland agricultural practices have changed little, except for a decline in fallow length. Traditionally, northern hill tribe farmers practiced shifting cultivation with a 20-year fallow period. However, efforts to limit farmers’ access to land (through government policies and protected areas) and population increases (causing land scarcity) have forced farmers to shorten fallow periods. Researchers suggest that anywhere from two to eight years of fallow is common today, with fewer years the norm (Rerkasem, 1995; Blasco et. al., 1996; Roder et.al., 1996). The 20-year fallow period was a sufficient amount of time to allow the forest, land, species and soil to regenerate, thus making it a sustainable system (Ducourtieux, 2004). However, with shortened fallow periods, many new challenges are arising such as soil infertility, soil erosion, pest infestation, loss of biodiversity and increased weeding requirements (Roder et.al., 1996) As Figure 1 demonstrates, weed control is the most demanding labor requirement, accounting for up to 60% of the total 200 to 300 labor days per hectare (ha) per year (Roder, 2001; Ducourtieux, 2004). The GOL asserts their concern with these degradations due to the long-term effects they can have on all natural resources, especially forestry. Concerns like these lead to the institutionalization of recently formed natural resource policies.
Government Policies on Shifting Cultivation

Slash-and-burn agriculture is often criticized for environmental and natural resource degradation (Berkmuller, 1995; Rerkasem et al., 1995). The GOL has targeted it as the main culprit of deforestation. However, other researchers argue that this assessment is inaccurate; the number one cause of deforestation in Laos is commercial logging (Thapa, 1998; Hodgdon, 2003; Holtsberg, 2004). In recent years infrastructure projects such as roads and reservoirs have increasingly caused deforestation, giving rise to speculations that they may be the number one cause in the near future. Nevertheless, the GOL has strict agendas regarding slash-and-burn agriculture.

In August of 1991, the constitution of the Lao PDR was adopted in response to the NEM. The constitutional reforms resulted in the drafting of a new medium-term development strategy. Within the strategy, objectives number three and four directly relate to slash and burn:
3. Sustainability of forestry resources


   In 1993, the government and collaborating international organizations held the “Shifting Cultivation Systems and Rural Development in the Lao PDR” technical meeting at Nabong Agricultural College. The aims of this workshop were to collect available information on shifting cultivation systems and proposed alternatives within the country and to exchange information about shifting cultivation systems between the various organizations present (Van Gansberghe and Pals, 1994). At this meeting, the following government policy was referred to:

   There must be a phasing out of slash-and-burn cultivation (to eventually) stopping it completely, providing the people in the mountainous and remote areas with a permanent occupation and gradually improving their living (standard) (Vongsack, 1993, in Van Gansberghe and Pals, 1994 pg. 18).

The most current government policy on shifting cultivation referenced from 1999 states:

   Shifting cultivation is seen as an unsustainable land-use practice by the government, who have declared their intention to stabilize it by the year 2000 and beyond in favor of more stable and productive agricultural methods, including the more sustainable rotational land use system\(^3\) (MAF, 1999 pg. 26).

   The National Socio-Economic Plan of the GOL outlines eight national priorities, two of which directly relate to the subject at hand; these are stabilization and reduction of shifting cultivation and rural development (NAFRI, 2000). Within this plan, government policy calls for:

   Elimination of upland rice production in densely forested areas, diversification into perennial crops where possible and the development of more sustainable upland rice farming systems in areas where rice production is essential (NAFRI, 2000 pg.5).

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\(^3\) Rotational shifting cultivation simply means using the land already under the system without adding any new land, which is referred to as “pioneer shifting cultivation” (MAF, 1999 pg. 26).
Furthermore, the 2003 National Poverty Eradication Programme points to the importance of stabilizing shifting cultivation as a means of eliminating rural poverty, especially in ethnic minority groups. As of 2001, the GOL assessed that 39% of the population was living under the poverty line and most of these people were living in remote rural areas (NPEP, 2001).

The 5-part strategy for stabilizing shifting cultivation is:

1. Sedentarization of agriculture in upland areas through farming systems, diversification and agro-forestry development
2. Open market access through feeder-road development and market-information delivery
3. Land-use zoning based on slope and land capability
4. Rural savings mobilization and credit extension
5. Land allocation and land-use occupancy entitlement (MAF, 1999 pg. 27).

Parts one and five are of particular interest to this research. In order to stabilize shifting cultivation patterns, alternative technologies and systems must be offered. If permanent systems are used, then people must feel confident they will have access to that land in the future—this is where land allocation comes in.

This section demonstrates that the GOL policy on shifting cultivation is continually in flux, but the important point to draw from this is that stabilization of shifting cultivation is a priority, thus contributing to the formulation of the IUARP.

**Government Policies on Land Allocation**

In Laos, land is seen as national community property, administered by the state for livelihood generation and as a socio-economic development vehicle (MAF, 1999). Due to the NEM, the national Land Use Planning and Land Allocation Program (LUP/LA)

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4 The term “stabilization” implies the elimination of shifting cultivation by turning current plots under this rotational system into permanent crops and completely eradicating pioneer shifting cultivation.
assesses the natural resources of the country, then allocates them to their “best” abilities. Village land is classified into general land use categories such as forestland, agricultural land and homestead land. Forestland is then allocated into production, protection, conservation and sacred categories, each of which has strict management rules because it is considered community land. Agricultural land is then leased to farmers on a long-term basis after they pass a three-year temporary stage. Issued land titles can be inherited, sold or leased as long as the land is registered and the land taxes are paid (MAF, 1999).

By allocating agricultural land, the government hopes farmers will be encouraged to invest in commercial tree planting and establish annual and permanent economic crops. The GOL theorizes that money farmers gain from cash crops will enable them to buy rice (grown in lowland paddy systems), therefore reducing the amount of land under slash-and-burn cultivation (MAF, 1999).

In principle the LUP/LA program has the potential to assist poor farmers through high-quality land-use planning (completed by government officials based on land characteristics), technologies and land rights. However, it has been found to do just the opposite for poor farmers. LUP/LA is successfully taking land away from farmers and forcing them to use a fraction of what they are used to for subsistence purposes (Hodgdon 2003).

LUP/LA has not taken on a uniform system by implementing officials; therefore, each village or farmer is not equally considered in the land allocation process. LUP/LA has caused severe hardships for many shifting cultivators by taking their land away and constraining farmers with a three- to four-year fallow; this short fallow period does not
allow the soil and biomass to regenerate, thereby causing a decrease in soil fertility and an increase in soil erosion. These factors cause more labor days per year for less annual yields.

In other words, shifting cultivators (who are generally poor to begin with) are working harder and reaping less because of LUP/LA’s non-uniform system (State Planning Committee et.al., 2001). Therefore, LUP/LA is protecting forest resources at the cost of agricultural resources. A farmer from Houay Luang village (2004) explains how LUP/LA has disadvantaged him:

Before land allocation, I had land close to the road. After land allocation, they took it [land close to the road] away and now it’s a production forest for the village. Now I have no land to participate in the fruit tree integration project\(^5\). My land is far away from the village. I will ask the village head if I can have my old land back it is close to a water source.

This farmer’s quote represents the negative impact LUP/LA has had on him and his family. And due to the LUP/LA, this particular farmer is unable to participate in a livelihood enhancement and shifting cultivation stabilization project that is of interest to him.

**Decentralized and Area Focused Government Services**

Included in the 1991 constitutional reforms was the decentralization of power to provincial and district levels. The Ministry of Agriculture and Forestry (MAF) is adapting from a centrally planed system to a market-economy system. Within this adaptation, the ministry is changing from regulating its clients (farming communities) to serving them. MAF is recognizing that it is now “partners” with the farmers and is supporting farmer needs and providing technical assistance and information to overcome farmer and village problems (MAF, 1999). The decentralization process of “clients” becoming “partners”

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\(^5\) Fruit tree integration is one of the permanent agricultural alternatives offered within the IUARP.
conforms to PAR concepts where the researched become co-researchers. As a result, the decentralization process assists the IUARP and PAR in reaching their goals.

The concept of the chain of commands is such that the community and farmers needs are communicated to a farming system extension worker at the District Agriculture and Forestry Office (DAFO). If the district staff cannot resolve the problem issues, the problems are then brought to a subject matter specialist at the Provincial Agriculture and Forestry Office (PAFO), and then addressed by the National Agriculture and Forestry Research Institute (NAFRI). NAFRI brings together researchers from various research institutes and units in the livestock, forestry and agriculture sectors. With the integration of disciplines, NAFRI hopes to address problems of poverty and natural resource management in a multi-disciplinary manner (MAF, 1999). NAFRI is the executive branch of the IUARP; without NAFRI support the IUARP could not exist in Laos because of the political environment of the country.

Within this decentralized approach, farming communities are encouraged to express their problems. It is hoped farmers will participate in helping find solutions to their problems and it gives them the opportunity to gain access to problem-solving resources (MAF, 1999). Therefore, the decentralized approach of the MAF assists PAR in reaching out to the people through a non-centralized approach. If farming communities do what is hoped of them through the assistance of decentralization then the people will become empowered which is the highest level of participation that can occur within the PAR framework.
Summary

The GOL has instituted policies regarding shifting cultivation and land-use rights. The GOL believes it has restructured its organizational approach as a means to manage natural resources for the interests of the country’s economic future. Yet, the GOL has limited capacity to research alternative agricultural systems (NAFRI began in 1999). As of 2000, the GOL suggested few alternative systems, without assistance, to the farming communities. The GOL does not possess the resources to assist farmers in the problem-solving process. Accordingly, the need for a project to bridge these haves and have-nots is critical if any change in natural resource use is to occur in the country. The IUARP is the foundation for this bridge.

The GOL regards forests as an economic resource to be protected for future economic purposes. The GOL views shifting cultivation as the number one threat to these economically rich forests. A large amount of forest cover remains in the uplands of Laos; however, 35% of the population incorporates upland shifting cultivation practices with other livelihood strategies for subsistence. These populations are generally made up of ethnic minorities. The ethnic and topographic diversity of the uplands renders PAR a likely methodology to assist with change in this region. There is a need for a project to bring alternative agricultural systems to people practicing slash and burn in order to adhere to government policies. The IUARP is a project designed to accomplish just this through PAR methods.
Integrated Upland Agricultural Research Project (IUARP)

Introduction

Although the IUARP is an agricultural project, it was instituted to decrease deforestation through research and offer viable alternatives to the area’s shifting cultivation. The IUARP is organized in a multi-disciplinary manner that utilizes the help of both international collaborators and local farmers. The IUARP has many goals, however the participatory research approach of the project is the focus of this thesis. Accordingly, the participatory process of the IUARP will be highlighted while other aspects will not receive their deserved attention. The IUARP does not adopt an explicit PAR methodology, the project simply states it is using a participatory research approach. However, academic searches on participatory research continually led me to PAR. Consequently, I analyzed the IUARP within the framework of PAR because it is a well-researched methodology with previously designed diagnostic tools.

According to IUARP documents, project goals include: “Participatory development of applied and appropriate livelihood packages for upland communities and effective and efficient use of limited-research resources” (NAFRI, 2000, pg.8). The project hopes to stabilize the environment\(^6\); improve food security; alleviate poverty, making special efforts to reduce the income disparity between rural and urban populations; contribute to institutional capacity building for the government staff people; and, enhance community development, decision making and leadership capacities within the target communities (NAFRI, 2000).

\(^6\) Through stabilizing shifting cultivation
Since its inception, the IUARP has become a model project for Laos because of its collaborative and participatory efforts. Nine governmental and international organizations collaborated to form the IUARP\(^7\), a rare example of integration between international groups and especially CGIAR\(^8\) centers. Because of limited research on the uplands and the areas diverse ecosystems, the project benefited from pooling resources.

The IUARP is also unique to Laos because of its participatory approach which includes local farmers in the decision making process of the project. Initially, GOL was reluctant to agree on a participatory approach because it wanted to stabilize shifting cultivation quickly (Linquist, 2004). After some discussion, the group agreed to support the participatory methodology, and the first phase of the project—problem diagnosis—began in 2000.

**Organizational Structure**

The project is managed by several different committees, which include a steering committee, NAFRI executive committee, technical management committee, implementing team and the farming communities.

The implementing team (IT) functions as the interface between the project and the community; it coordinates site implementation, organizes field visits, activities and trainings. IT members are based in Luang Prabang and include a NAFRI site coordinator, scientists, PAFO, DAFO and community representatives (village heads and participating

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\(^7\) NAFRI (National Agriculture and Forestry Research Institute), NAFRC (Northern Agriculture and Forestry Research Center), IRRI (International Rice Research Institute), ICRAF (International Center for Research in Agro Forestry), CIAT (International Center for Tropical Agriculture), LSFP (Lao-Swedish Forestry Program), PPI (Potash and Phosphate Institute), IBSRAM (International Board on Soil Research and Management) and ACIAR (Australian Center for International Agricultural Research) (IUARP pg. 25).

\(^8\) Consultative Group of International Agricultural Research
farmers). Since this is a research project, communities provide feedback to project staff, evaluate new technologies and systems and disseminate results to other farmers (NAFRI, 2000).

The following is an example of the IUARP communication network: In the year 2000, problem diagnoses\(^9\) were conducted in four of the eight chosen villages. Male and female farmers were invited to participate in village mapping, a well being ranking and designing seasonal calendars. Through the problem diagnoses, researchers from the IUARP were able to identify problems and potential resources (McAllister, 2000). A staff member explains how the problem diagnoses assisted the project:

These problems were brought to a technical meeting where staff came up with technologies they could offer to help solve the problems. These [technologies] were brought back to the farmers and, if possible, we did field visits to places where these technologies were happening. Following this, farmers could choose what technologies [they were interested in implementing]. We’ve had technologies rejected. Some are rejected before they are tried; a number are rejected after they’re tried.

Coordinators plan and organize trainings, special field days and research agendas. They direct the work plan of the IUARP as well as all members of the IT. The PAFO staff is made up of researchers conducting technical work at research stations with follow up in the field. The DAFO staff are made up of people who are in the field most often and, therefore, are the primary liaisons between farmers and all other staff persons. DAFO staff arrange field activities, farmer-to-researcher meetings and any other necessary field visits. Most researchers are paired with a DAFO person with whom they can work consistently and build rapport. DAFO staff members will also initially accompany any visitors into the field, introducing them to community members.

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\(^9\) Problem diagnosis was conducted using Participatory Rural Assessment (PRA). See McAllister et.al. 2000 for further definition of PRA.
IUARP Research Area

The IUARP chose villages for its project based on limited development in the area (not the focus of current or previous development projects), accessibility (for logistical purposes, some villages had to be easily accessible) and community commitment. The villages were also expected to represent the diversity and complex issues experienced in much of the uplands, have common property areas and open-access resources. Originally, eight villages were chosen—village size ranging from 32 to 142 households—for a total of 528 households (NAFRI, 2000). However, currently only seven villages are participating—one village is in the process of resettlement.

All villages are located in the Pak Ou District of Luang Prabang Province, approximately 50 kilometers north of the city of Luang Prabang (see Map 3). The project area ranges from 300 to 900 meters above sea level, encompassing villages close to major roads as well as in remote locations (see Table 3). The villages are diverse in ethnicity (three ethnic groups—the Lao Leu, Khamu and Hmong—are among those represented), crop and livestock preferences and market accessibility (NAFRI, 2000).
### Table 3. Participating Farmers and Village Description

<table>
<thead>
<tr>
<th>Village Name</th>
<th>Number of Participating Farmers</th>
<th>Distance from road</th>
<th>Village Ethnicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Houay Kha</td>
<td>23</td>
<td>1 hour walk</td>
<td>Khamu</td>
</tr>
<tr>
<td>Houay Luang</td>
<td>36</td>
<td>roadside</td>
<td>Khamu</td>
</tr>
<tr>
<td>Hatxoa</td>
<td>38</td>
<td>roadside</td>
<td>Lao Leu</td>
</tr>
<tr>
<td>Houay Thoum</td>
<td>11</td>
<td>1 hour walk</td>
<td>Khamu</td>
</tr>
<tr>
<td>Lattahae</td>
<td>45</td>
<td>Roadside</td>
<td>Lao Lue</td>
</tr>
<tr>
<td>Mok Muang</td>
<td>9</td>
<td>3 hour walk</td>
<td>Hmong</td>
</tr>
<tr>
<td>Pakcheck</td>
<td>69</td>
<td>roadside</td>
<td>Lao Lue</td>
</tr>
<tr>
<td>Total participants</td>
<td>231</td>
<td>3 away, 4 roadside</td>
<td>3 ethnicities</td>
</tr>
</tbody>
</table>

**Map 3. IUARP Research Area** (Lao-IRRI, 2004, based on Spot Central Maps). Please see [MAP 1](#) to reference enlarged area location.

Map Legend: scale of 1:50,000, North ↑, Blue line is Route 13 a major road, Orange line represents the Ou river
Because the IUARP is a collaborative research project that encompasses many stakeholder groups, the matrix and level of communication within this project is of the utmost importance for each stakeholder, who have individual agendas for success. NAFRI, PAFO and DAFO have government guidelines to consider; international organizations are grappling with budgets, logistics and images; and the farming communities are most concerned with their livelihoods, land holdings and labor. Due to the number of collaborators, compromises will inevitably be made in order to satisfy each participating stakeholder. This research is designed to uncover how farming communities and individual farmers are participating within the context of these other stakeholders.
METHODOLOGY

Introduction

Conducting research in Laos presents many logistical and political obstacles. In order to stay in the country for an extended period of time—3 months—one must find a sponsor. After months of contacting international organizations within Laos about my research goals, I finally found a willing mentor in Lao-IRRI (International Rice Research Institute). Lao-IRRI agreed to sponsor me in exchange for work; and I was allowed access to its resources, which I used for my research. I was assigned the position of student-intern and worked out of its northern regional office in the city of Luang Prabang.

My working position with Lao-IRRI was invaluable; it allowed me access to IUARP communities, staff, coordinators, documents and databases. Within my student-intern capacity, three methodologies were available: active observation, field interviews and statistical analysis. All field research was conducted from January through March of 2004.

Active Observation

With IRRI and IT members, I attended a six-day staff-training course titled “Participatory Monitoring and Evaluation.” Here, I observed how district, provincial and international organization staffs worked together; I was offered insight into the IUARPs organizational manner and the depth of its training courses; and, during a two-day field component that involved working with farmers, I observed how IT staff worked with and related to the farmers. Throughout my three months in Luang Prabang, I actively
observed many interactions within the IUARP. Lao-IRRI gave me my own office space and encouraged me to visit the field and trainings; therefore, research and observation opportunities were not limited.

**Database**

As part of my agreement with Lao-IRRI, I was the formal organizer of the IUARP farmer database. This database is derived from 315 surveys the district staff conducted from 2001 to 2003 with participating farmers. It includes activities the farmers participated in as well as household, livestock and other crop information (see Appendix 1). The database gave me access to quantitative data, allowing me to categorize farmers into socio-economic status groups and choose farmers to interview. The quantitative data compiled in the farmer database yields itself to statistical analysis, aiding my research.

**Interviews**

Interviews were conducted with IUARP implementing team members, who included farmers as well as district, provincial and international organization staff people. After consulting with team members, I chose two villages to conduct research in; Houay Luang and Houay Kha. Both villages were composed of the same ethnic group, but one village was located on the main road, the other was set away from the main road.

After being in the area and discussing issues with staff, I determined that geographic location was an important factor affecting participation; I chose my research villages accordingly. To eliminate ethnic disparity\(^{10}\), villages composed of the same tribe, the

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\(^{10}\) For example, villages composed of different ethnicities may participate differently; in order to compare the geographic location of two villages fairly, they must be composed of the same ethnicity. Comparing the difference of participation due to ethnicity is a whole research project in itself.
Khamu, were chosen. Geographical location may affect levels of participation; therefore, a village along the road and one away from the road was chosen.

Farmer interviews were chosen in a stratified, non-random manner. Farmers participating in the IUARP were chosen based on their socio-economic status (see Table 3). In order to control for socio-economic status, it is important to understand who is participating from the area—if only wealthy farmers are participating, this may indicate that poor farmers are not being reached—so farmers participating in similar activities from both villages were chosen. Socio-economic status was derived by the following formula:

\[
\text{Socio-economic status} = \text{Hired labors-selling labors} + \text{rice sufficiency score} + \text{waterbuffalo} + \text{cows} + \text{horses} \\
\text{Rice sufficiency score} = 5 - (\text{the sum of farmers reported 5-year rice shortages})/5*2
\]

The criteria used for these formulas are farmer based. During the initial stage of the IUARP, farmers from four villages attended a problem-diagnosis workshop. During this workshop, staff members used Participatory Rural Assessment tools to identify farmer community resources and needs. Farmers completed a wealth-ranking chart that was relative to their living conditions. The system farmers use to rank wealth was then applied to the creation of the socio-economic formulas described above. The farmer-derived socio-economic rankings are an important factor when considering any participatory methodology in Laos. The GOL and previous researchers have expressed

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11 Creating an accurate formula to fairly evaluate socio-economic status is a difficult task. This researcher realizes there may be flaws in the formula; however, it was created as best as possible considering the available resources. Also, as it is farmer based, it may not be applicable to any place other than this area in Laos.

12 I.e. Farmers who have large livestock and can afford to hire labor are considered wealthy because they have enough rice to eat annually and can afford new clothes when old ones are tattered (See McAllister et. al., 2000).
the importance of villages ranking their socio-economic status. The rankings are particularly necessary in such an ethnically diverse country on account of various ethnicities assessing wealth differently (State Planning Committee, 2001). For this research, the farmer socio-economic rankings contributed to the design of a stratified interview process, which contributes to the overall understanding of the level of participation in the IUARP.

The village head, based on his perceptions of wealthy, middle-class and poor farmers, chose farmers not participating in the IUARP. I asked for three non-participating farmers from each socio-economic status group. Table 4 indicates that in both Houay Luang and Houay Kha the village heads were unable to satisfy my request. Therefore, the number of participating and non-participating farmers interviewed from each socio-economic status group and within each village is not equal.

Provincial and district staff members and managers were randomly chosen for interviews. The international organization coordinator was chosen to interview because he is the key field representative for the international organizations. In addition both village heads were interviewed. And after conducting two days of interviews, I discovered I needed to interview the Village Committee of Houay Luang in order to more clearly understand its village dynamics.

I conducted a total of 49 interviews: 36 farmers, 2 village heads, 1 village committee (comprised of 4 members), and 10 staff members. The average interview lasted one hour.
Table 4. Status and Number of Interviewed Farmers

<table>
<thead>
<tr>
<th>Farmer Status</th>
<th>Number Interviewed in Houay Kha</th>
<th>Number Interviewed in Houay Luang</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wealthy Participating</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Wealthy Not Participating</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Middle Participating</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Middle Not Participating</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Poor Participating</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Poor Not Participating</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Total Interviewed</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>Total Households per Village (based on village head responses)</td>
<td>~72</td>
<td>~48</td>
</tr>
</tbody>
</table>

Farmers, staff persons and managers were all asked a set of questions (see Appendix 2) to answer the research questions of: Who participates? What is the level of participation? Who benefits and how?

Interviews were conducted in a casual atmosphere (see Photo 3). To make people feel at ease, my interpreter and I went to farmers’ homes. We would either sit inside or outside, generally on bamboo woven floor mats. We brought cookies and small candies for people to enjoy and as a token of appreciation for their time. Often, children and other villagers would gather around. However, I made it clear that I only wanted answers from the people being interviewed and not onlookers. When asking permission from the village heads to interview farmers, I requested that both a man and a woman attend the meetings—I wanted the interview findings to attempt to reflect a fair representation of both sexes.
I introduced myself to farmers explaining my graduate student position and the fact that I was neither affiliated with an organization nor the government. I did this in hope of creating a platform for open discussion. I expressed there were no right or wrong answers; I just wanted them to speak honestly and freely.

Staff and management interviews were conducted along similar lines. However, instead of going to their homes, we went to their offices and requested a private space. By securing privacy, I hoped staff members would speak freely and wouldn’t worry about the possibility of their responses being scrutinized by other staff members.

All three methodologies complement one another, contributing to the overall research goals: if the goals of PAR are being met within the IUARP, how participation
plays out within the IUARP, and if participatory methodologies are useful for the people and natural resources of Laos.
**Data and Discussion**

This chapter is organized by the three research questions: Who participates? What is the level of participation? Who benefits and how? Main findings about each research question will be discussed while data is presented to validate discussion points. Numerous variables affect the overall participation and benefits of the IUARP, as this chapter will demonstrate.

**Who Participates?**

Socio-economic status, village politics, village and land location, and gender all affect who participates in the IUARP. Due to the details of each factor they will be discussed and presented separately as indicated by sub-headings.

**Socio-Economic Factors**

As mentioned in the methodology chapter participating farmers were categorized by socio-economic status based on the aforementioned farmer derived formula. In this section when I refer to wealthy, middle and poor farmers I am simply making reference to socio-economic status groups.

Graph 1 demonstrates participating farmers by socio-economic status over a three-year time period in the IUARP. As the years progress the percentage of wealthy farmers decreases while the percentage of poor farmers increases and the percentage of middle farmers remains fairly constant\textsuperscript{13}. Graph 2 demonstrates the actual number of

\textsuperscript{13} Data for the graph is derived from the IUARP farmer database. Percentages are based on the total of 315 surveys conducted over the 3 year time period. Some farmers participate for more than one year therefore; they would be accounted for twice (231 total farmers).
participating farmers by socio-economic status over the three year time period. Although
Graph 1 shows the decline in the percentage of wealthy farmers, Graph 2 shows wealthy
farmers numbers are not declining, the percentages are diffused by the increase of poor
farmer participation. This can be interpreted in a couple of ways: 1) by year three the
majority of the wealthy and middle farmers were already participating so the poor
farmers were the last group to encompass. 2) By years two and three poor farmers saw
how the technologies were successful for other farmers so they wanted to participate. My
analysis leads me to believe that a mixture of both explanations is the reason for poor
farmer participation increases. In the beginning, due to project criteria, poor farmers had
fewer opportunities to participate. Interview responses suggest that as poor farmers
observed higher status farmers growing alternative crops they became more interested in
the project. The poor farmers began to voice their desires to participate. When 2003
arrived poor farmers were included to participate more because they were interested and
because the project wanted to reach out to previously non-participating farmers.

Graph 1. Percentages of Participating farmers by Socio-economic status
The IUARP has offered 39 technologies over the past 3 years. Various farmers participate in certain technologies based on socio-economic status. Graphs 3-4 represent two favored technologies by farmer socio-economic status group; poor farmers favor upland rice trials and wealthy farmers favor fruit tree integration. I chose these two technologies to demonstrate because they are two of the most popular technologies and they clearly represent the differences that wealth makes. Graphs 3 and 4 show upland rice trial and fruit tree integration participating farmers by socio-economic status. Both graphs represent a high percentage of wealthy and middle participating farmers in the first year. As time progresses by year three poor farmers make up 67% of the upland rice trial participating farmers and only 29% of the fruit tree integration participating farmers. These percentages demonstrate that a higher percent of poor farmers participate in upland rice trails.
Wealthy farmers participate in technologies that are more time and labor intensive since they have the resources to hire labor and they may have extra labor time themselves.
to pitch in. Poor farmers generally suffer from labor deficiencies therefore they are less likely to try a labor intensive technology. Since poor farmers already grow their own rice trying a new variety does not add labor, for this reason many poor farmers participate in this technology. Increasing rice yield for consumptive purposes is the main benefit of this technology.

On the other hand, fruit tree integration systems are labor intensive. Families must have several laborers or be able to hire labor to assist them with this technology. This is why fewer poor farmers and more wealthy farmers participate in this technology. However, interview responses indicate that the benefits of fruit tree integration are much greater than a new rice variety due to their marketability. People get more food to eat and they can make money selling the fruits.

Another limitation for poor farmers regarding participating in the fruit tree technology is that a “good” fence is needed. The definition of a “good” fence varies between the villages. In Houay Luang a good fence means a barbwire fence, which means you need to have the money to buy the barbwire. In Houay Kha a good fence may mean barbwire or wooden, just as long as it keeps animals out. Keeping the animals out is a project requirement. In the initial stages the project was providing pineapple suckers and fruit tree seedlings. The project did not want to futilely supply materials so farmers wanting to participate in growing fruit trees had to supply a good fence. The fences protect the tree seedlings and pineapple suckers from foraging animals. The irony is that the large foraging livestock often only belong to
a select few wealthy farmers in the village. However, these few livestock affect the entire community’s participatory options.

Literature regarding poor farmers points to the fact that poor farmers are less likely to take risks whereas wealthy farmers are more likely to take risks. Generally, wealthy farmers have access to more resources and a failure will not cause devastation. On the contrary, a poor farmer would be devastated to try a new technique and have it fail because s/he has access to fewer resources. A number of poor non-participating farmers said, “I’m not ready to try yet because I don’t know if the technologies are good yet.” “Yet”, implies these farmers intend to participate and try some technologies in the future.

**Village Politics**

From the national level to the district level the IUARP is organized in a manner that allows for open participation. However, once the project reaches the villages in the field it becomes ambiguous and subject to village politics. Within the IUARP organizational framework this ambiguous area is where discrepancies occur and village politics have control over who participates hence creating participation biases. Interpretations of project agenda may vary according to various stakeholders. It is impossible to know exactly how IUARP goals and objectives are literally translated to the farmers through various staff persons. Following are examples of how field organization has lead to discretionary actions.

In the field, initial village meetings to identify participating farmers used the following format: DAFO staff went to village heads to arrange a meeting time. Village
heads informed their communities about the meeting. Staff visited each village to discuss
technologies being offered that year (taking into account reflection from the previous
years technologies). Farmers who were able to participate depending on labor inputs, land
holdings and a willing attitude were identified. Researchers and farmers began
collaborating on the current years technologies. This was the format for the years 2001
and 2002 (NAFRI, 2002).

In 2003 it was restructured due to the timeliness of the previous years format.
From 2003 onward key farmers (often village heads and village committee people) were
asked to come to a central meeting place to discuss technologies. These key farmers were
then responsible to go back to their villages and inform other farmers what technologies
were being offered and to identify who was able to participate. After a week the key
farmers came back to meet with the researchers and provide lists of farmer names for
each technology. After the farmers were identified researchers met with specified farmers
to begin the collaboration process (IUARP, 2003).

For the first two years discretions were created by how the village heads invited
farmers to come to the meetings. Village heads could invite only their friends or only
wealthy and middle farmers assuming that poor farmers would not be interested.
Likewise, once the meeting is underway and interested farmers raise their hands to
participate, village politicians can tell staff persons this particular farmer does not qualify
for the criteria. For some technologies the project can only afford a certain amount of
supplies, therefore a specific number of farmers can participate in that project for that
year. For example, assume the project was able to support 5 farmers from each village in
the year 2002 for fallow improvement because of the expense of the barbwire supply. But, 8 farmers from one village were interested in this project. How this scenario is handled is unclear. No staff person, village head, village committee person, or farmer could give me a straight answer on the procedure for choosing what 5 farmers could participate that year. Most respondents said that with further questioning only 5 farmers met the criteria, others said the extra 3 went on a list to participate in the technology the following year and still another said they would try to give these extra farmers a few supplies for that year to keep them happy. It appears to me that when this scenario occurred people in the village with more power would speak out and say who could and could not participate that year. Then the village head compiled a list of who to assign to participate in that particular technology the following year (as long as that farmer still met all the criteria). This is one method how farmers were “assigned” to participate.

From 2003 onwards-participatory biases occur when key farmers identify participatory farmers. Again, these key farmers may give their friends and relatives first pick of technologies and then open up participation to the remainder of the village. Also, farmers may be identified to participate depending on their land holdings or available resources. One family told me they were asked by the village head to participate in fruit tree integration because he knew they could afford to buy a barbwire fence. They said they did not receive a return on their investment yet, but they had hoped it was going to be a good investment for the future once their trees began to produce fruits. Another family told me that staff asked them to participate because their land was close to the road and the soil looked good for that technology. These are two more methods of how
farmers are “assigned” to participate. Therefore, after conducting 49 interviews it is not known for certain how each farmer is identified to participate but I am certain this is where village politics take over and bias who can participate.

The criteria of what constitutes a good fence are dependent on village politicians. As mentioned in the socio-economic discussion, in Houay Luang a good fence is a barbwire fence, in Houay Kha a good fence is something to keep the animals out regardless of what it’s made of. This is another example of how village politics can bias who participates. In Houay Luang farmers who can afford barbwire fences are the only ones able to participate in fruit tree integration. Hence, the poor farmers are automatically eliminated from this technology. In fact many poor farmers participating in fallow improvement saw the barbwire fence they received from the project as a major benefit. They said if the fallow improvement technology was not successful they could at least have the opportunity to participate in fruit tree integration because they now had a barbwire fence. Therefore, village politics controls who participates through a variety of impositions.

The number one reason why people were not participating was because they were not “assigned” to participate; 7 of 18 (39%) farmers stated this. As explained above, “assigned” refers to farmers being told they can or cannot participate by village politicians or staff members. The second reason was lack of labor; 5 of 18 (28%) farmers stated this. Even though some technologies like the upland rice trails don’t require more

14 The IUARP only supplied barbwire fences to fallow improvement participating farmers, no other technology received barbwire fences. Barbwire fences are a controversially topic among the villagers. Also, fruit tree integration is one of the most popular and sought out technologies. Many farmers want and hope to participate in this technology in the near future.
labor time, people still could not afford the time commitments to attend project meetings. Some families have only one laborer and cannot afford to spend time on activities other than subsistence ones. Some people not participating had unusual circumstances: not having any land yet, living part time between two villages and/or having a job or another project they were involved with. Land appeared to be a bit scarce in Houay Luang village. The village is nestled along the Ou River and the road, so much of the villages’ land holdings are a far walk into the hills. Some farmers’ fields were as far as 3 hours away.

In both villages miscommunication between farmers, village head and staff was another reason for non-participation. Farmers voiced their interests to participate but they were not assigned, they had to go on a waiting list, or the supplies never came for them. Some farmers interested in a certain technology were unable to participate in it for reasons that remain unclear. Instead the staff asked them to try a different technology; many farmers seemed ok with this but still wanted to try the initial technology they were interested in.

**Land and Village Location**

The location of the village affects who participates. Villages away from the roadside participate less than villages along the roadside (see Table 3). Mok Muang (refer to Map 3) is the farthest village from the roadside, correspondingly they have the smallest farmer participation. Over 3 years, only 9 of the 231 (3%) total participating farmers resided in Mok Muang. The farmer database demonstrates that 43 of the total 231 (19%)
participating farmers live in villages away from the road, the other 188 (81%) live in villages on the roadside.

The low number of participants in far away villages relates back to the agendas of various stakeholder groups. The DAFO and PAFO have government policies to adhere to; accordingly they want to make their area look good from the roadside so people passing through observe the agriculture projects and success of the area. One staff person expressed, “This project is an example to show other farmers who pass this area, that they can do it, it’s a demonstration”

Some staff members explained participation criteria to be: “First [farmers must have] area close to the village which can be seen clearly from the roadside, Second, do they have enough labor? Third, the farmers are willing and they’re hard workers.”

Several staff persons said technologies were limited away from the roadside due to the “demonstration” objective of the project. The distance of landholdings from the roadside made a difference in participation along roadside villages. Many farmers complained they were interested in technologies but IUARP staff would not walk the distance to their fields, as a result they could not participate. Farmers with land holdings along the roadside were in some cases individually requested to participate. However, villages already away from the roadside did not have the same participatory criteria.

In Houay Kha, the village was already a one-hour walk from the roadside. Once staff was in this village, distance to farmers’ fields did not have an effect on participation criteria. Land holdings were generally not a far distance from the village, as land did not appear to be scarce. The village relocated about 4 years ago; therefore land holdings were
not conditional on length of time in the village. No farmer in Houay Kha stated having no land.

Houay Luang was resettled in 1978, shortly after the war ended. In Houay Luang people who lived in the village the longest had the best land holdings and people who were relative new comers had land far away from the village. Some relative new comers (residing in the village a couple of years) still had no land allocated to them. However, these families at least had access to land through relatives or relatives in nearby villages.

Land holding issues may be associated with the land allocation process. In Houay Luang land allocation was completed in December of 2000. Farmers possess some form of land title (whether temporary or permanent was unclear). This may be the cause of delay for allocating land to newcomers. In Houay Kha land allocation has only occurred up to the first phase. Government staff came to the village and delineated land areas such as forest areas, agriculture areas and homestead area. However, they have not allocated agriculture plots to individual farmers, so no one in the village holds any kind of land title.

Both the qualitative and quantitative data suggest that distance from the roadside greatly affects who participates. Staff members explained that because of the “demonstration objective” of the IUARP, project activities were limited in villages away from the roads. Likewise, numbers from the database presented in Table 3 demonstrate the difference of participation between farmers residing along the roadside versus those in far away villages. Geographical location of both the village and particular land holdings affects who can participate.
The “demonstration objective” of the IUARP is not referred to in any IUARP literature. I assume it is an interpretation of the IUARP objectives that assists particular stakeholders in fulfilling their agenda. Certain stakeholder groups according to their own agendas help shape the project in a direction that is useful for their particular goals. As demonstrated in this section stakeholder group agendas affect who participates.

In villages along the roadside, location of land holdings affects who can participate. In villages away from the roadside, farmer land holdings do not affect who can participate. However, fewer farmers from far away villages participate due to the lack of “demonstrative” qualities; they are offered fewer technologies.

*Marketability*

Marketability affects who participates and what technology farmers participate in. Farmers living away from the road are less likely to participate in technologies focused on market crops because the market is not easily accessible to them. In Houay Kha if a farmer wants to sell his/her products they must transport it (on a single wide footpath) for an hour up and down hills and through the creek 7 times before reaching the road. A roundtrip journey like this with a 50 kg bag of sellable crops requires time and labor. By the time the farmer sells his/her crop in the market s/he will receive a smaller return on his/her product due to transportation costs. Table 5 shows the total number of farmers from Houay Kha (away from road) and Houay Luang (roadside) participating in technologies from 2001-2003 and the total number of technologies they participated in. As demonstrated in Table 5 farmers from Houay Luang participate in more than double
Table 5. Farmers and Technologies Participated in from Research Villages

<table>
<thead>
<tr>
<th>Technologies and Farmer Participatory numbers</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Houay Kha total number of Participating Farmers</td>
<td>0</td>
<td>22</td>
<td>7</td>
</tr>
<tr>
<td>Houay Luang total number of Participating farmers</td>
<td>9</td>
<td>27</td>
<td>20</td>
</tr>
<tr>
<td>Total number of technologies participated in from Houay Kha</td>
<td>0</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Total number of technologies participated in from Houay Luang</td>
<td>5</td>
<td>7</td>
<td>9</td>
</tr>
</tbody>
</table>

the amount of technologies than Houay Kha farmers. I believe this has to do with both location and marketability. Please note that Houay Kha did not begin to participate in the IUARP until 2002; this was part of the IUARP master plan. In 2001 four villages began the project and in 2002 the other 3 villages started. Participation numbers are noticeably high for 2002 this is due to the research strategy of upland rice trials.

Graph 5 represents selected\(^\text{15}\) market driven technologies that farmers from Houay Luang and Houay Kha participated in from 2002-2003. Graph 5 shows that Houay Kha farmers only participated in 2 of the 6 marketable technologies. The most common technology for Houay Kha farmers to participate in was the upland rice trials accounting for 20 farmers (69%) of the total 29 participating farmers over the two years. One farmer from Houay Kha who participated in fruit tree integration

\(^{15}\) Obviously many crops can be sold at market but certain crops are grown as market crops. I choose the “selected” marketable crops out of the total 14 crops farmers from Houay Luang were participating in. The IUARP offers more than these 6 crops but farmers from my two study villages were not participating in all of them.
told me he does not sell his pineapples at the market because the walk to the road is too far. Instead his daughter carries baskets of pineapples to the neighboring villages and sells them. This same farmer sells the pineapples in his own village but at a decreased price because he does not need to charge for his daughters labor. In this case the local fruit selling options may be saturated by the 3 farmers already participating in fruit tree integration from Houay Kha. This may cause future participants from Houay Kha to not want to participate in fruit trees because they would not be easily marketable. Therefore, the distance from the road affects marketability which affects who participates in what technology.

**Graph 5. Marketable Crops**

Key: PM=Paper Mulberry, FT= Fruit Trees, RT=Rattan, SY= Soybeans in the dry season, TM=Teak Management, EW=Eaglewood

![Representation of Selected Marketable Crops Houay Kha and Houay Luang Farmers Participated In from 2002-2003](graph.png)
Gender

In Houay Luang the majority of farmers said only household heads were invited to IUARP meetings. In Houay Kha the general response was that everyone, men and women, were invited to meetings. This is another example of a discrepancy that occurred due to the ambiguous organizational guidelines on the village level. This can also be attributed to village politics; some village politicians invited the women while others did not. When I asked the staff about who was invited I received mixed answers, although there was a general agreement that they wanted more women to attend the meetings.

Older women attended meetings with their husbands but younger women rarely attended meetings. Younger women attended meetings in their village only, if their husbands were away. As mentioned in the methodology chapter, I requested to the village heads that I wanted both men and women present for my interviews. In Houay Luang women attended all my interviews. In Houay Kha there was a 33% absentee rate for the women, even though their presence was requested. Younger women rarely spoke during the interview even when I tried to specifically ask them questions. The older women felt more comfortable to talk. Younger men often referred to their wives as “stupid” or “uneducated” as explained by one farmer, “My wife never went to school; she doesn’t know the alphabet and can’t read or write.” The uneducated level of women was a reason given for why the majority of women do not attend meetings. One male farmer and one unrelated female farmer said the women needed to watch the kids, not attend meetings.

Within the IUARP gender is not equally represented and it cannot accurately be measured. Since the database is cataloged by farmer name it is only the household head
whose name is recorded. Consequently, only a few women are represented because they are household heads. Interviews disclose that women partake in at least 50% of the labor for IUARP technologies, but they are lacking representation at meetings and within the database\textsuperscript{16}.

**Summary of who participates**

Who participates is based on socio-economic status, village politics, village and land location, and gender. In the first year wealthy and middle status farmers participated more than poor status farmers. By the third year poor farmer participation was increasing. The technologies preferred by each status group vary and so do the benefits. Interviews yield information to make the assumption that in both villages, village politics regulate who can participate and when they can. In both villages respondents stated they weren’t assigned and they were waiting their turn to participate. However, the village politics in Houay Luang appear to be much more exclusive than in Houay Kha. In Houay Luang it is the people in power positions who are making the decisions on participation. As Table 3 (in the Methodology section) indicates, the village head could not provide me with any wealthy farmers not participating because every wealthy farmer in the village had participated at some point in time. Additionally, he could provide me with only 2 middle status non-participating farmers because all other middle farmers had participated. How people were chosen to go on field trips and to special training sessions depended on who the village head nominated to go; in some cases the village head would nominate himself even if he was not actively participating in that technology.

\textsuperscript{16} Gender inequality is occurring throughout Laos in all sectors, it is not unique to the IUARP.
If the village is located near a road more farmers from that village have the opportunity to participate due to the “demonstration” interpretation of the project objective. Technologies in far away villages are limited. Land location of individual farmers in villages on the road affects who can participate from that village. Men and women both participate but only men are officially recognized as participants.

Wealthy male farmers who live in a village on the road with land holdings viewable from the roadside have the best opportunity to participate. Everyone else has a bias against them due to one of the following factors: socio-economic status, village politics, village and land location, or gender.

What is the Level of Participation?

The level of participation was analyzed according to Table 1 and functional and empowering participation objectives described in the PAR Chapter. The participation objective is functional. Functional participation is the act of involving potential beneficiaries to obtain feedback to produce a technology that is appropriate and likely to be adopted. Within the IUARP farmers assist scientists\(^1\) to gain knowledge on farmer preferences and issues so they may introduce technologies that are more likely to be adopted. The effectiveness and efficiency of the innovation process are heightened due to the functional participation process of the farmers and scientists. Empowering participation focuses on the transformation of the innovation process not the development of specific technologies. Through analysis the IUARP is not focusing on the

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\(^1\) For this discussion scientist refers to all other stakeholder groups other than farmers in the IUARP; local and national government staff, International organizations staff, researchers and all outside agencies.
transformation of the innovation process but rather the effectiveness and efficiency of the innovation process. Hence, within the IUARP the participation objective is functional.

Based on Table 1 the participation typology is analyzed as a low level of collaboration. The definition of a collaborative typology is: decision-making authority is shared between farmers and scientists. Scientists and farmers know about each other’s preferences, priorities, and opinions through organized two-way communication. The decisions are made together—no party can make them on their own and neither has the right to revoke the shared decision (Johnson et.al. 2003).

Within the IUARP, two-way communication is occurring between the farmers and the scientists; however the decisions are not made as a collaborative effort between the groups. Decisions are made at a higher level and then brought to the farmers. At this point the farmers decide to accept or reject offered technologies. Farmers do reject technologies. When a technology is rejected it is viewed as an opportunity, not a failure. As one staff person explains: [when farmers reject a technology]...

We try to find out why and this leads us to other possible solutions. Reject isn’t a bad word, it helps us modify technologies. We ask farmers what areas they want us to do research in. We come and test different technologies and we modify things to suit the farmers.

The above quotation demonstrates both the functional participation and two-way communication that occurs in the IUARP.

I analyzed the participation typology as a low level of collaboration for two reasons. In Table 1 collaborative typology is considered to be empowering participation, however in the IUARP functional participation is the focus. Although there is two-way communication occurring between farmers and scientists, scientists make ultimate
implementation decisions based on their own criteria. The two groups do not necessarily make the decisions together, and both groups do not share decision-making authority.

Referring to Table 1, one may wonder why I do not analyze the IUARP as a consultative typology. This is due to the fact that two-way communication is occurring and the farmers’ preferences do affect scientist decisions. Technologies cannot be implemented without farmer consent, consequently a rejected technology necessitates scientists to modify or discard that particular technology option. Farmers do partake in the decision making process but they do not make the final decisions. Consequently, the act of farmers rejecting technologies implies that a level of empowerment is occurring. However, this was not further analyzed.

Farmers have many options to offer feedback to scientists: within their own technology working groups, at annual field days and other farmer day activities. The farmer field day is an annual gathering for farmers to attend to expose farmers from non-participating villages to activities, provide a platform for farmers to discuss activities and approaches, and discuss what activities farmers are most interested in (Field day 2002).

A written report is then compiled and made available to all of the collaborative IUARP organizations. In 2002 farmer feedback included:

When appointments are made with farmers, the staff needs to keep the appointment. Also, inputs need to be timelier and more follow [up] needs to be made to all experiments (this was especially the case for Mok Muang village, which is relatively far from the road). (Field day report 2002 pg 4)

A comment as blunt as this indicates the level of rapport occurring between the farmers and scientists. The scientists are not subjugating the farmers; the farmers are
being honest about their position and expectations from the project. One staff person perceives the building of trust between farmers and scientists through time.

This year we’ve developed a fair amount of farmer trust, they try many things just because we suggest it, even if they think we’re wacko. The 1st year they were more cautious. This [trust] can broaden out into community based concepts like crop and livestock management. We’re finding farmers are more willing to address broader natural resource management issues because of increased farmer trust [in the project] and they’re realizing that certain issues require community action.

Analysis leads me to believe that through participatory activities farmers are gaining trust in scientists therefore they are more willing to try new strategies, even ones that may include the entire community. There are numerous alternative techniques that can work for farmers but fencing to keep livestock out in the dry season is a major hindrance to the success of technologies and participation. If the community can come together to find strategies to eliminate livestock and crop competition then more farmers will be able to participate in the project and hopefully reap future benefits. Natural resource management on the community level utilizes another participatory methodology termed Community Based Natural Resource Management (CBNRM). Although CBNRM is not the focus of this research it is worth mentioning; if the community initiates management strategies on their own, empowerment is implied.

Key farmers, village heads and village committee persons have a different level of participation with staff members than other farmers. Because key farmers are asked to represent the village and the village heads are key contact people for each village, they have a stronger rapport with the staff. If a key farmer suggests something like CBNRM it will be considered more heavily than if a poor, non-participating farmer suggests it. This rides on the assumption that a person who is already in a power position will have the
influence and contacts to mobilize the community, whereas a poor person with little power may not have these resources. Therefore, the staff to farmer interface with people of power in the villages is stronger than the staff interface with ordinary farmers. In this way the staff and village powers have the ability to focus the project in the directions they want it to go. The strength of the staff and village politicians’ relationship enables the village powers to remain in their power positions. A group of village politicians will most likely feel threatened if they allow poor farmers the opportunities to increase their status. In this light the village powers benefit from their rapport with the project staff by quelling the less powerful.

Staff personalities affect the staff to farmer interactions and the level of participation. Although staff is trained on participatory tools, knowing when to use what tool and being flexible in the use of them can be a challenge for some. An authoritative staff member will encourage certain farmers to participate while discouraging others. In this way some farmers may feel rejected and not have interest to participate in the future. The staff to farmer interface plays a vital role in who participates and the level of participation occurring between the two stakeholder groups.

Several farmers who only participated in the upland rice variety trials for one year did not consider themselves IUARP participants. When I asked them what they were participating in they said nothing. Once they were reminded they participated in a rice trial experiment they responded that “yes” they did try the rice trial but still they were not participating in the project. They considered people who were participating in complex projects to be participating, but a simple project such as rice trials did not equal
participation. This finding represents that each technology has a different level of participation occurring within its specialized group. Perhaps staff persons working with complex technologies consult their farmers more often, whereas a simple technology like rice growing does not need constant feedback. Therefore, the particular technologies as well as the individual staff person farmers work with affect the level of participation.

A special situation was recognized with Mok Muang village. While I did not conduct a case study in this village, through observations and conversations I was able to gather some insights into its position within the IUARP. Mok Muang is the only village comprised of ethnic Hmong. This village is also the furthest from the road; a 3 hour walk. When government officials came to do land allocation, this village refused to assist in and accept this policy. As a result some of the staff in the area “lost face”\textsuperscript{18} by the actions of this village and are now less willing to work there. Due to the decline in the farmer staff relationship and the long distance from the roadside this village participates least in the IUARP. Although they have asked for more activities in their village and for more follow up (as the aforementioned Field day quotation expresses) they still receive the least amount of project assistance. Table 3 demonstrates over a 3 year period a mere 9 farmers have participated from Mok Muang. This is by far the lowest amount of participants from any village in the IUARP.

Distance from the roadside affects who participates. Likewise farmer and scientist trust and the number of participants reflect the level of participation. Because farmers in Mok Muang and scientists are suffering from an untrusting relationship, the level of

\textsuperscript{18} In Lao culture and many SE Asian cultures, “losing face” is not good. The best I can translate it, it means to lose respect from others; one is not regarded as highly as they were prior to losing face.
participation from Mok Muang farmers is on the decline. Scientists are not providing the amount of inputs and feedback farmers are requesting due to the lack of trust between the two groups and the low number of participants. In this light, Mok Muang farmers are not asked for feedback as often as other farmers, therefore both trust and the number of participants from a given village affects the level of participation within that village. The number of participants affects participation based on the assumption that if only 9 farmers from one village are participating but 69 from another village participate, a staff person would be more concerned about the feedback from 69 farmers than from 9. The feedback from 69 farmers will have a larger impact due to the larger number of participants it is likely to affect. Therefore, the number of farmer participants from a given village affects the level of participation.

The participation objective is functional. The participation typology is a low level of collaboration. There is dialog occurring between farmers and scientists. However, scientists make the final decisions first and then farmers make their choices based on the scientists’ decisions. Both parties are making decisions but not on a collaborative level at the same time. The decision making process is iterative. Scientists look at their resources and decide what technologies they can offer the farmers, farmers listen to the options and accept and reject some, and then scientists make decisions accordingly. The level of trust, what technology one is participating in, staff personalities, position within social strata of the village, and the number of participants from a village affects the level of participation. The building of trust between farmers and scientists is leading to other participatory methodologies like CBNRM.
Who Benefits and how?

Interviews are the major methodology used to answer this question. There are several ways people are benefiting from the project. However there are various levels of benefits depending on what technology farmers participate in. For example wealthy farmers, who began participating in fruit tree integration in 2001, are now reaping monetary and food benefits from their crops. Wealthy farmers in general mentioned monetary benefits such as selling pineapples. Some of these farmers said they were able to bring electricity to their homes because of the money earned from selling pineapples. However, the pineapple earnings only accounted for approximately 25% of the cost of electricity. It is possible farmers felt more secure in their future incomes, due to their fruit tree gardens, that it did affect their choice to have electricity hooked up (the option of electricity is only available to villages along the roads, therefore no electricity benefits were mentioned in Houay Kha).

Middle and poor status farmers often stated other farmers were benefiting from pineapple sales. Pineapple sales were the number one mentioned benefit; 22 of 36 (61%) interviewee’s mentioned it. The second most common benefit mentioned falls under the “other” category, 14 out of 36 (39%) of farmers mentioned this. The “other” category includes materials such as: the sheet metal roofs the project provided to each village in order to construct a village meeting hall, barb wire fences supplied to Fallow Improvement participating farmers, and pineapple and fruit tree seedlings. One non-

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19 For more precise information regarding the farmer #’s and percentages refer to Appendix 3 Respondent tables
participating poor farmer even mentions encouragement, “The staff comes to the village they help motivate the farmers to improve their livelihoods”.

The third most common benefit discussed was knowledge, 9 of the 36 (25%) farmers mentioned this as a benefit. Both participating and non-participating farmers discussed all three of these benefits.

Participating farmers did seem to bring in some extra labor activities for other village members. A few mentioned hiring laborers to assist with digging holes for fruit trees and other labor duties. This is just beginning to happen; therefore it’s premature to assess at this point in time.

Although 3 of 36 (8%) said, “The rich are becoming richer and the poor are still poor.” None of the farmers said they were being negatively affected by the project. The majority of farmers 28 out of 36 (78%) said the project was affecting the community in a good way. Five of the 36 (14%) said they didn’t know if the project was affecting the community.

Interview responses indicate people are benefiting both materially and through knowledge. The knowledge discussed in the interviews was knowledge about agricultural techniques not about the participation process or leadership skills. Not one farmer mentioned a benefit that had to do with empowerment or learning how to find solutions to their problems. All the benefits mentioned were taken directly from the agricultural aspect of the project. While not directly asked, it appeared that none of the perceived benefits were inferred from a social or psychological aspect. However, empowerment is a complex concept and I do not believe the interviewed farmers are educated about this
concept. In fact, I don’t believe this word can clearly be translated into the Lao language. The concept can be explained but there is no Lao word for empowerment.

Farmers are not educated on PAR; they are educated on agricultural alternatives and how to communicate with the staff people. Once the project leaves the area if the farmers continue with working groups and community mobilization then empowerment can be assessed. For now the project still makes the ultimate decisions, due to this and translation difficulties assessing empowerment proves to be a challenge.

At the time of this research only 3 years of technologies had been implemented in the 7 IUARP villages. For most agricultural techniques 3 years is a short period of time to fully assess their applicability and success. The IUARP is a relatively young project and the future implications of it cannot be assessed at this point in time. As this section demonstrates people are benefiting with material products as well as some knowledge but whether or not poverty alleviation is occurring remains unknown. The project and technologies need more maturation before this goal of the IUARP and PAR can fairly be assessed.

**Chapter Summary**

In summary, several variables affect the overall level of farmer participation and benefits within the IUARP. Who participates is dependent on socio-economic status, village politics, village and land location criteria derived from stakeholder agendas, and gender. The level of participation is collaborative with a functional objective. Farmer and scientist trust, what technology one participates in, staff personalities, position within the village social strata, and the number of participants from each village affects the level of
participation. People are beginning to have short-term benefits, which may lead into long-term benefits. People are benefiting both materially and through knowledge. However, benefits are dependent on what technology farmers participate in.
Conclusion

By analyzing farmer participation through various stakeholders this research contributes to the understanding of participatory processes in the IUARP and Laos. From two village case studies, observations and a farmer database, this research has analyzed who participates in the IUARP, the level of participation in the IUARP, and who benefits from the IUARP and how. The analyses derived from the research questions yield the following conclusions.

The use of PAR methods in the IUARP has involved continuous learning on the part of all participants and minimized the distance between end-users and researchers through dialogue and action. PAR methods have created a collaborative knowledge-generating process involving farmers and scientists in the IUARP. The collaborative knowledge generating process has iterative qualities, although scientists have the authority to make the final decisions. Because scientists have the authority to make final decisions, the participation objective is functional, not empowering.

Through active involvement of the research process, the goal of PAR is to empower marginalized people to transforms their lives, ultimately leading to empowerment and poverty alleviation. At the time of research PAR was not achieving these goals through the IUARP. The most marginal group — poor farmers — suffered from the most biases that excluded them from participation. But, poor farmer participation is increasing as the project matures. Because scientists were facilitating the decision making process it was not possible to clearly assess if farmers were becoming empowered and no farmer replies represented personal empowerment. Although
empowerment was implied through farmers rejecting technologies and voicing their expectations of the project, it is uncertain if the project has influenced these actions.

Farmers were gaining material and knowledge benefits, but it is unknown if these benefits are leading to poverty alleviation. Currently, the process of PAR is being used on a functional level but it is not attaining the goals of empowerment and poverty alleviation, it is designed to through the IUARP. However, the IUARP is a young project with time to grow and change; PAR goals may be achieved in the future. The IUARP fits into the third level of participation types shown in Table 1. Farmer initiated discussions of CBNRM indicate farmer leadership; in the future IUARP farmers may become the researchers thus achieving ultimate empowerment and attainment of PAR goals. In order to accurately assess the PAR goals of empowerment and poverty alleviation, research must be conducted after project support is withdrawn. If farmers from the 7 participating IUARP villages continue to solve their own problems and transform their lives on their own, then PAR goals will be reached through the IUARP.

Participation in the IUARP is played out through many variables, creating biases against the most marginalized group. Today the biggest challenge undermining the attainment of PAR goals is village politics. Consequently, the assumption that participatory action research touches marginal groups in society (Sohng 1995; Johnson et.al., 2003) assisting to empower them, hence leading to poverty alleviation, is not a guaranteed outcome. Participation does not necessarily equal a social good. Participation can foster the powerful to gain more power and further marginalize the poor thus reinforcing social inequalities. My findings of PAR coincide with PAR research findings.
by Hayward et.al. (2004) and research findings on the participatory methodology of CBNRM in Asia (Johnson and Forsyth 2002; Timsina 2003).

The IUARP is accomplishing its goals of participatory development and effective and efficient use of limited resources. Farmer adoption of alternative technologies demonstrates that appropriate livelihood packages for the upland communities are beginning to be developed. Since some farmers are adopting permanent agriculture systems it is hoped they will decrease shifting cultivation systems thus contributing to the GOL and IUARP goals of “stabilizing shifting cultivation.” However, just because some farmers are adopting permanent systems does not guarantee that most upland farmers will adopt them or that shifting cultivation will be lessened.

Anticipated outcomes of the IUARP goals include improved food security, poverty alleviation, staff capacity building, and enhanced community development, decision-making and leadership capacities within the target villages. Again, it is too early to accurately assess if improved food security and poverty alleviation is occurring as a result of the IUARP. Through my observations staff capacity building is occurring. In my three month stay in Laos staff had the opportunity to participate in 3 separate week-long training courses. I observed improved English speaking and computer skills among staff members.

In my interviews I asked farmers if community development projects were occurring since the IUARP began. The only response I got was that the IUARP supplied an aluminum siding roof for villages to construct meeting halls. There were no responses indicating community developments outside the IUARP. I believe it is too early to assess
whether or not village capacity building is occurring. Gaining leadership and decision-making skills goes hand in hand with empowerment and these factors can be accurately assessed once project support is withdrawn.

Laos’ topography and ethnic diversity create challenges for homogenous development methods, so the flexibility of participatory methodologies is vital to implement change in upland agro-ecosystems. Local people are involved and change is occurring in the natural resource sector of Laos. Participatory methodologies are responsive to local settings. In this way participatory methodologies are mechanisms of change, affecting the future of Laos, its people, and its natural resources. Although PAR is not reaching its own goals of empowerment and poverty alleviation, it is assisting the IUARP and GOL to attain their goals of permanent agricultural technologies for the uplands and stabilization of shifting cultivation. PAR has potential to continually assist with change in the diverse arena of Laos.

However, participatory methodologies are in a fragile state in Laos because they teeter on the edge of creating good changes for all strata of society or negative changes for marginal groups in the society. The implementation process of participatory methodologies must be finely organized to attempt to eliminate a platform for the creation of social inequalities.
**Recommendations**

Distance from the road is a factor influencing who participates; I suggest the implementation of village volunteer extension workers [Julian Gonsalves (2004) has found this to be an effective system in the Philippines]. It appears to be a challenge for staff to walk long distances and therefore not provide the follow up villages are requesting. Therefore, a village volunteer extension worker can be nominated to do the walking to get the requested knowledge. If one or two farmers are elected from each village away from the roadside then they become responsible for communicating with staff persons and acting as a representative for the village. For example: In Mok Muang farmers have requested more staff inputs and feedback in a timely manner. Since the staff is unable to fulfill this request, a willing farmer can. When situations arise the extension farmer can contact staff persons, explain the situation and get feedback for the village. If a system like this is implemented then information dissemination will increase and participation will not be hindered by distance.

Laos is 80% mountainous; infrastructure in the uplands is sparse. In order to reach the rural poor a system independent of roads will be most effective to reach these marginal people.

Any project wanting to involve poor status farmers more equally can benefit by mandating the number of farmers participating each year from each socio-economic status group, making certain to offer applicable technologies for each group according to their available resources. Mandates can be devised specifically to projects: for example, if a project wants to mandate ethnic minority numbers or gender numbers, they have the
flexibility to do so. A process like this will assist in eliminating the power that village politics has over who can participate, hence reaching out to the most marginalized groups of the society.

However, a system of mandates may lead to unintended protests from social elites. Mandates may allow participatory methodologies to undermine village politics creating a change in the societal relations of the area. The ambiguity that is created by village politics and the staff to farmer interface may actually be preserving the current status-quo of the society. If mandates are put in place they could possibly cause a series of social change which may or may not be a project goal. Therefore, the details of the research area must be well studied before implementing mandates.

Offering techniques that address the needs of women is a way to get more women involved. Women contribute 50% of the agricultural labor, therefore it is important to represent them in the decision making process. Organizational efforts to promote female involvement will again reach out to one of the most marginalized groups in society.
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Appendix 1.

Participating farmers IUARP data base line survey 2003

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<th>Date of interview:</th>
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Social-economic information

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<td>3. Number of household Men:</td>
<td>Women:</td>
</tr>
<tr>
<td>4. Number of laborers Men:</td>
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Rice shortage and Laborers

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<td>Hiring labors (yes/no)</td>
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Livestock 2003

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Land use 2003

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<tr>
<td>Upland rice</td>
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</tr>
<tr>
<td>Garden</td>
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</tr>
<tr>
<td>Vegetables garden</td>
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</table>
Appendix 2.

Farmer Interview Questions
Since these are semi-structured interviews many questions will be asked according to respondents answers. The following questions are opening questions:
Practical data:
1. What is your name?
2. What is your age?
3. How many household members?
4. How many children?
5. How many adults?
6. How many laborers?
7. How many years have you lived in this village?
8. What are your agricultural problems? Are you trying to solve these? (This question was rarely asked)
9. What is your agricultural hope for the future? (What do you think your children will do when they grow up? Agri or something different? (Maybe asked differently –this question was asked at the end of the interview)
Research data:
1. Have you heard of the Agriculture project (IUARP)?
2. How did you hear about it? Have you attended any IUARP functions? (i.e.: field days cross farmer visits etc.)
3. Have you participated in the IUARP/ not participated in the IUARP?
4. Were you invited/not invited to participate?
5. How did you decide to participate/ not participate?
6. Please explain the process?
If you do participate:
1. Before the IUARP how did you get agricultural information?
2. Did anyone ever visit the village? If yes what kind of information did they ask you/give you?
3. How did you choose what technologies to participate in?
4. How many staff members have you worked with?
5. Please explain your relationship with each Implementing staff member?
6. Positives/negatives? Give an example?
7. Does the IT staff understand your situation? Has this changed (improved/decreased) over the years?
8. Does IT staff listen to your comments fairly? Do they try to accommodate your requests?
9. Please explain/ give example.
10. Does the IUARP train you on the technologies? Do you learn enough about them to continue them on your own (if you want) the following years?
11. Have you taught any other farmers technologies you learned from the IUARP? Have they tried them on their own? (i.e.: without project support) (elaborate here).
12. Has participating in the IUARP affected your life?
13. How? Please explain positives and negatives?
14. Do you have more/less food available to you because of the IUARP?
15. Do you have more /less cash flow availability?
16. Is there access to more forms of employment because of the IUARP?
17. Has the village increased development projects because of the IUARP?
18. Do you think the IUARP is affecting the village community? How? Please explain/give an example.
* some of these questions may not be able to be answered
If you do not participate:
1. Why did you choose not to participate in the IUARP?
2. Do you feel welcome to participate?
3. Please explain positives/negatives.
4. How do you receive agricultural information?
5. Do you know what technologies are offered?
6. Have you seen new technologies being practiced in your village?
7. Are you interested in any of these? To try on your own or with the project?
8. Do you want to find out more about it?
9. Are you interested in technologies not being offered? If yes what ones?
10. Have you tried any new technologies on your own in the past 5 years? If yes have any of these been taught to you by an IUARP participant?
11. Has not participating in the IUARP affected your life?
12. How? Please explain positives & negatives?
13. More/less food availability?
14. More/less cash availability?
15. More less employment availability? (the word “job” does not translate well here, using the word “work” or hiring or selling labor was most effective)
16. Has the village increased development projects because of the IUARP?
17. Do you think the IUARP is affecting the village community? How? Please explain/give an example.

**Staff Interview Questions**

The following questions are the form for this interview. New questions may arise dependent on responses:

1. How are people chosen or not chosen to participate? Please explain
2. What kind of farmers participate the most in the IUARP? The least?
3. What do you suspect the reason is for this?
4. How are new technologies chosen?
5. Do farmers help choose new implementing technologies for the upcoming years? How were technologies chosen for the 1st year? Subsequent years?
6. Are farmers trained on the technologies? If yes, do they learn enough to be able to implement them on their own in the following years? Why/ Why not?
7. How does farmer training occur? Who teaches whom?
8. Are farmers trained on the overall purpose/goal of the project?
9. Do you know of any farmers in the IUARP who have taught farmers not in the IUARP new technologies?
10. Please explain what a participatory approach is?
11. Do you feel you’ve been properly trained to use a participatory approach? Please explain?
12. How has using a participatory approach affected your work? (harder, easier etc)
13. What kind of relationship do you have with the participating farmers? Please explain.
15. When farmers make requests do you listen fairly?
16. Would you suggest a participatory approach for other agricultural projects in he country? Why/Why not?
17. Have you been trained on the overall purpose/goal of the project?
18. Have you noticed any affects the IUARP has had (is having) on the village community? How? Please explain/give an example.

The following questions were added for particular staff members after I talked with the villagers:
1. Do you limit projects per village per year? If yes how do you decide who gets to participate the first year?
2. Do the Village Heads assign who can participate? Do they keep a list of farmers who want a certain activity but were unable to do it the previous year?
3. Do you limit projects to villages off the road?
4. In Houay Luang to people have to provide barbwire fences to participate in Fruit Tree gardens?
5. Please explain the process of turning the production forest into Fruit tree gardens in Houay Luang?
6. In villages along the road, do you choose farmers who have land near the road to participate more than farmers who have land far away?
7. Was NAFREC established b/c of the IUARP? What year was it established?
8. If a farmer doesn’t take care of the activity do they have to pay the project back?
9. Is the staff harder or easier to manage when using a participatory approach?
10. Are farmers managing the new agric system by themselves?
11. Who’s the NAFRI project leader?
12. Is the staff sufficiently trained to use the participatory approach? How did they work with the villages before the IUARP?
14. Is the participatory approach working to attain the goals of the IUARP?
15. What do you project will happen in these villages when the project is complete?
Appendix 3.

Respondent Tables key: Staff = people heard about the project from staff persons, HH Only = only household heads being invited to attend meetings, Everyone = everyone being invited, Assigned = people who were assigned technologies - they did not get to choose freely. Affect Community and Affect Life categories are how people responded to these questions, P = Pineapple gardens/selling, K = Knowledge, O = other such as encouragement or supplies like: metal roof sheeting for village meeting halls, barb wire fences for people participating in fallow improvement, fruit tree seedlings etc. For Non-Participating Tables B&D the other columns are reasons why people are not participating.

Table A. Participating Farmers Houay Luang

<table>
<thead>
<tr>
<th>Staff</th>
<th>HH only</th>
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<th>Affect Life</th>
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<td></td>
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<tr>
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Table B. Participating Farmers Houay Kha

<table>
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### Table C. Non-Participating Farmers Houay Luang

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### Table D. Non-Participating Farmers Houay Kha

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