

A Study of Women's Time Utilization in Relation to the Market Economy in Khammouane Province, Lao PDR

Final Report (Revision 2)

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Preface

In writing this report a number of intertwining issues all related ultimately to women's time utilization have had to be considered including gender, Southeast Asia as a cultural area, the anthropology of time, economic anthropology, political economy and poverty. These have not been accorded equal attention. However in order to provide coherence to the discourse and an appreciation of the complexities comprising the whole, it has been necessary to touch upon all of them. And even here certain theoretical approaches have for the most part been omitted such as developmental psychology (Piaget), theories of time in social geography (Carlstein), and phenomenological theories (Husserl, Merleau-Ponty).

Broadly speaking, time and temporal orientation has been the concern of philosophy (Aristotle, Bergson), sociology (Durkheim, Bordieu), anthropology (Malinowski, Evens-Prichard, Geertz, Mull, Gell), and more recently economics (Becker, Linder, Soule). These disciplines have discussed time in what might be collapsed into four main topics: (1) time reckoning (natural phenomena, spatiotemporal linkages, time as a measure of motion, phased movement between field and village, social space, time as process, etc.), (2) calendric patterns (lunations, Georgian, astrological, linkages of action with nature [i.e. agriculture and ritual linked with both cyclicism and linear sequence]), (3) cultural constructs (age-based kin stratification, teknonomy, representations of the past, trance, importance of ancestors, static time, detemporalized time, noncumulative time, etc.), and (4) time as a medium or strategy of control (religio-magic, clocks, duration, standardization of work and leisure, and so on).

While there is no dearth of sources for each of these approaches or theories, consensus has been lacking. Within each of the disciplines major rifts in thinking occur. Thus in the present report on time allocation research carried out in Khammouane Province, Lao PDR, primary foci are descriptive and explanatory accounts of time use by women. Some suggestion for theoretical direction is included, albeit heretical since in the end, for Laos at least, the inescapability of time notwithstanding, action clearly takes precedence over time where valuation is concerned. Time does not intrude upon villager consciousness in any dramatic way. The situation in Laos is not unlike Geertz's depiction of time in Bali, and we are confronted with what he so aptly described as the detemporalization of time evidenced by an ever-presence of ancestors, teknonomy, and general absence of the sort of "time famine" so common in more developed countries. This indeed begs the underlying question for development in Laos - whether time can be treated as a resource to be saved or spent, and if so, in what contexts.

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Introduction

Over the past few decades economists, sociologists and anthropologists have engaged in studies of time allocation, the imagined applications of which vary somewhat, but which contain a general theme of improving efficiency or income. Substantial bias in favor of Western economic theory underlies many such studies, especially Western notions of time, the “rational and needful man”, and the separation of work and leisure.¹ Not surprisingly, the overwhelming majority of this body of research has been carried out in developed countries, particularly the US and Europe. These countries are characterized by labor situations which do not exist in many developing countries, especially those that may fall into the same typological category as the Lao PDR where the findings of time use studies may offer little guidance in the formulation of development plans.

When time allocation studies that have been carried out in developing countries are examined separately, the situation turns out to be similar. But here divisions between economic and anthropological research becomes more stark. Cultural characteristics not captured by economists are evident. And where conditions such as those in Laos prevail (extremely low population density, predominantly agriculture based livelihoods, absence of wage dependency in labor) indeed no studies were found in the literature. The same is true if the focus is adjusted further to consider gender aspects of time use within developing countries that possess sociocultural and biophysical environments similar to those in Laos. That is to say, even if time is granted a measure of objective universality, the sociocultural and environmental settings are site specific and not readily open to comparison with dissimilar situations. Hence to study women’s time utilization in Khammouane in a way that is meaningful for development, a more qualitative and subjective approach is called for.

World Bank interest in this area of study in Laos derives from preliminary observations of rural situations in Khammouane province during the preparation phase of a project that aims to improve rural livelihoods. In particular, it was noticed that women control family finances and carry out both the marketing and the marketeering. (This is of course the case in most Southeast Asian societies, both insular and mainland, and is in fact one of those characteristics originating with bilateralism in social structure that separates Southeast Asia as a cultural area from its neighbors in China or South Asia.) Following from this, a working hypothesis was set forth suggesting that considerable potential exists for income generation by women as capital inputs to the province increase with revenues expected both from the operation of the new Nam Theun 2 hydroelectric facility and the general increase in economic activity in the province during the construction phase of that project. That is, with increased capital available for purchase of time saving infrastructure such as rice mills and water systems, the free time of women would increase and be available for income generation, since household chores like pounding

¹ See Box 1 on Metaphysical Considerations for a discussion of economic issues related to time.

rice and fetching water are considered women's activities. To test this hypothesis, the present study was proposed.

Aspects of Gender and Culture That Need to be Considered

Before proceeding further a number of essential details regarding women in Southeast Asia need to be presented in order to properly situate our area of study within the general confines of cultural structures in the region. Gender studies tend to fall into two groups based upon sets of underlying presuppositions: those that posit universal feminist ideology, and those that are area specific. The findings of the present study support well the extensive research that has been carried out by Western and Southeast Asian women on gender in the region and the particular characteristics that result from typological convergence of distinctive features. Our concern lies with how Southeast Asia as a cultural area differs from others, for example East Asia or South Asia, and thus an areal approach has been adopted in the analysis.

Gender in Southeast Asia

Compared with the neighboring societies of China and India that are traditionally typified by male dominance and stark opposition between the sexes, Southeast Asia has been characterized as an area of complementarity as opposed to stratification, an area where history reveals a dazzling array of powerful female figures including queens and sultanas (Van Esterik, 1995), (Whitmore 2000).

Social and ecological conditions that account for the relative equality of Southeast Asian women have been suggested, among them:

1. availability of new frontier land and women as pioneers in land development;
2. low population density on the mainland that lend importance to women's work in agriculture and in the household;
3. wet rice production and farm management systems dominated by women;
4. the late development of centralized states distancing patriarchal states from local cultures;
5. the predominance of bilateral kinship, and an emphasis on matrilocality;
6. the inheritance of land by daughters;
7. women's control over money and management of family finances (Van Esterik, 1982).

However, because the world of development has been dominated by Western feminist ideology and analysis, much of the Southeast Asian women's situation has been ignored, and indeed the study of gender in Southeast Asia had a rather late beginning for precisely this reason (Karim, 1995a). It is, in fact, a situation that is not restricted to gender studies

per se, but which applies to anthropological research as a whole because of the failed efforts to satisfactorily define elusive bilateral kinship systems leading to the now classic characterization “loosely structured social systems” (Embree, 1950).

Van Esterik notes that Western concepts such as women’s invisible work, the opposition between production and reproduction, and private and public domains are in fact not appropriate for Southeast Asia. For mothers, she writes, work is simultaneously a burden and a source of enjoyment, and self-fulfillment, and happiness. “This is because the goal of their life is the direct production of life, not the production of things, or wealth” (Van Esterik, 1995). If, however, the role as the producer of life is denied, then a crisis may result. Of Thailand, she notes, the terms for ‘work’ and for ‘festival’ are the same (*ngaan*), and when ‘work’ ceases to be fun (*sanuk*) the job may simply be abandoned. If festivals are removed from the agricultural work cycle then it is no longer ‘fun.’ Women workers in Thailand are successful because of their capacity to merge socially necessary tasks with pleasure (*ibid*). The same is of course true for Laos, and no doubt even more so. It might be ventured, following these insights, that to the degree development processes remove the fun from work, to that degree will development be less successful.

Bilateralism and its implications

Because of the dominant bilateral or cognatic system of kin relations, analytical emphasis in Southeast Asian anthropology has been on residence patterns of couples following marriage as the structural basis for kin units. This has led to a wide variety of social groupings of people brought together by consanguinity, marriage, friendship, and either adoptive or fictitious kin relations. And although the appointment of leaders, kings, chiefs, and so on, may be based upon inheritance, their power lasts only as long as they are able to reciprocate by demonstrating the values of honor, generosity, benevolence, or charity in their leadership. (Karim, 1995) These traits hold true regardless of the particular system of government espoused.

Typically in Southeast Asia, for girls, sexual experience is usually sought independent of family censorship, but without losing one’s perceived natural gender attributes. For women these include femininity, being sexually accommodating, motherhood, home-maker, food processor, and keeper of communal ritual relations. For men, the comparable attributes would include masculinity, aggressiveness, hunter, economic provider, guardian of political and religious institutions. However, what sets Southeast Asia apart is the flexibility and fluidity of the boundaries, and the considerable degree to which either sex may easily and gracefully penetrate into the territory of the other. Thus male dancers are typically ‘feminine’ and female politicians or businesswomen may appear ‘masculine,’ without upsetting social the equilibrium. (Karim, 1995, Ockey, 1999, Ong, 1995)

Power, whether it be male or female, need not be openly displayed, and indeed in Southeast Asia, such displays are considered crude and damaging to prestige, something that Europeans usually find difficult to comprehend. Furthermore, to alleviate the

potential harshness or abruptness inherent in hierarchical social relations, bilateral kinship structures are imposed by substituting kin categories, for example relations like boss-employee may become uncle and niece, thereby neutralizing power, but preserving hierarchy. Thus prototypical Southeast Asia kinship systems are characterized by gender neutrality and age hierarchy. Gender relations are consequently complementary and non-hierarchical. (Karim, 1995)

State formation in Southeast Asia was rather late to develop in comparison with the rest of the world. The early states of Southeast Asia were not long lasting and even the largest and most powerful of these were not integrated beyond the boundaries of the ruling ethnic group (Winzeler, 1974, Winzeler, 1976). At the level of the state bilateralism of gender relations between male and female is mirrored in the complementary relations between the state and the village, and between lowland and upland, or between wet rice and dry rice cultivation. Heine-Geldern characterized the Southeast Asian state as founded on a belief of parallelism between a macrocosmos and a microcosmos, between a universe of humans and a universe of gods, that is, divine kingship (Heine-Geldern, 1942). But the parallels in such a state would have been based upon the premise of reciprocity and complementarity. Such concepts contrasted sharply with the patriarchies of imperial China based on unilineal male descent systems that continued for hundreds of years. After considerable study into the reasons for late state development in Southeast Asia, Winzeler concluded that ecological explanations were not sufficient as similar conditions existed in other areas where strong states were established from an early time (e.g. India and China). Rather, Southeast Asian states were never able to establish the necessary vertical linkages between rulers and ruled, and the prevalent bilateral forms of social organization were not conducive to the formation of such linkages (Winzeler, 1974, Winzeler, 1976).

The fluidity of boundaries between gender, class, and politics is also present in the essential animism that underlies the great religions of the world that were imported into Southeast Asia, whether Hinduism, Buddhism, Islam or Christianity. As Karim and others (Bird-David, 1999) rightly emphasize, animism is a bilateral, individualistic, and egocentric form of religion. It encourages the democratization of power between the masses and the elite, as well as between men and women, and provides a sense of personal autonomy in daily life.

Finally, gender complementarity may be vulnerable or threatened and even transformed into gender stratification when new meanings of gender are acquired from cities or from outside influences, including development projects. When major upheavals are undergone, such as in cases of relocation of villages, or when access to natural resources is denied, women lose control of agricultural land and may cease to participate in rituals for ancestors, and their power to preserve culture may be lost as a result. This dialectic between bilateralism and ecological change (for whatever reason) leads to gender asymmetry that is detrimental to women. (Karim, 1995a).

Gender complementarity, bilateralism, and hierarchies defined by age rather than sex therefore lie at the heart of any social research undertaken in the region.

Cyclicism, Teknonomy, Ancestors and Acronicity

Subjectively, time's many aspects present an interesting heterogeneity that leads to the most elemental substrate of human existence. Time may be reckoned by seconds, minutes, hours, days, and months as fractions of a year or one orbit of the earth around the sun. It can also be reckoned by the lunar cycles and the shadows cast by the earth on the moon's surface. Human societies identify various stages in the life cycle between birth and death such as puberty, marriage, childbirth, and biological ageing. Depending on the part of the planet they inhabit, societies also identify seasons of the year characterized by weather conditions. In many parts of Southeast Asia and China larger cycles are important as well, especially denary and duodenary lunar cycles named after animals which rotate and come together every sixty years, a sexagenary cycle. A person who has lived sixty years has completed a full cycle. Traditional Southeast Asian music such as *gamelan* is also based on the principle of independent cycles that come together periodically, reminiscent of Stravinsky's observation that, "Music is given to us with the sole purpose of establishing an order in things, including, and particularly, the coordination between man and time."

Natural occurrences are yet another aspect of time some of which are specific to women such as menstruation, and gestation periods. The appearance of the mast in forests in long term cycles of eight or ten years when wild fruit is plentiful, certain types of bamboo flower, and rats multiply is well known to Southeast Asian farmers and forest dwellers. And during the year, when the various species of cicadas sing, when and where the big-headed turtle nests, or when the *Clarias* spawns. The average villager in rural Laos has a faunal vocabulary in excess of 800 terms, and undoubtedly more for trees and plants. Thus nature conditions the reckoning of time for people in rural areas. For most the day begins when the rooster crows the second time.

The premise of cyclicism is at once complex and contradictory. The agricultural cycle stands as the prototype for the cultures with which the study is concerned, with annual seasons and biological changes connected to the larger cycles of the universe by numerous rituals that form an inseparable part of the production process. This gives birth to the notion that time is cyclical, as opposed to linear, that the past is as important as the future as evidenced by the emphasis on the propitiation of ancestors in villages studied. Cycles are contradictory because while they mark the passage of time, they are unchanging.

Coincidences, the harmony of two or more cycles, are important, especially calendrical ones between lunar and solar calendars and astrological positions of the stars. Astrologers (usually men) and fortune tellers (usually women) are accorded special reverence. Local history is often centered upon coincidences rather than the linear progression of events. Lao grammar (as well as that of Brou and Phou Thay) like most other Southeast Asian languages, Whorfian critics notwithstanding, is essentially 'timeless' rendering translation of phrases like "it would have been" difficult if not impossibly awkward.

Teknonomy is the practice of addressing a person as the parent of their named offspring as opposed to their given name. Geertz argues that in Bali this practice operates as a static system that serves to freeze time since the relationship does not change even as time passes on. This indeed is the case among the ethnic groups studied in Khammouane, and no doubt for many ethnic groups in Laos and elsewhere in Southeast Asia.

Thus local notions of time contrast starkly with Western premises that change leads to progress and that the future is always better than the past. Villagers enjoy new inventions or gadgets and they are ready to adopt those aspects of change that are of value to their livelihoods as has been demonstrated by the rapid adoption of the hand tractor. At the same time it is valuable to our understanding to see what doesn't change, and primary among these is the reverence for ancestors, as Geertz writes, "the completed lives of the dead weigh[ing] on the uncompleted lives of the living". The clearest example is with the Brou in all three zones. Even the Brou of Pong Kiu, Christians for more than one hundred years, still carry out the rituals honoring their ancestors.

Cyclicism, teknonomy and the place of ancestors in the home might be considered a denial of time, the spatial locating of the past in the present, what Geertz called "detemporalizing time" or, the achronic nature of Balinese thought noted by Gregory Bateson. That is to say, the cyclic, teknonymic, and ancestor systems of the Balinese (and the ethnic groups in our study area, albeit with some differences in detail) rather than providing evidence of a temporal process is best analyzed as the maintenance of a steady state system like that described by Bateson. It might be suggested more generally, that where human cultures are concerned, cultural systems and structures tend to immobilize time. In consequence, as we shall now examine, time in Khammouane, and by projection in Laos, should not be considered the primary aspect of activities.

Time Use in Perspective

The conceptual roots of time allocation studies date from the work of Frédéric Le Play in 19th century France (Minge-Klevana, 1980). He was a mining engineer who became interested in sociology after having observed the miserable conditions of industrial laborers and the recurring revolutions in France. In 1855 he gave up mining entirely in favor of sociology. As a sociologist, Le Play opposed the then-fashionable notion of society's continuous evolutionary progress. He viewed the family as the chief agent of social stability and moral authority in the face of industrialization and its accompanying social conflicts, and he put forth a theory of cyclic changes in society that were related to rises or declines in family morale. In the course of gathering data for his theories, Le Play developed what is now known as the case-study method, in which a field-worker lives with a family for a period of time, gathering data on the family members' attitudes and interactions and on their income, expenditures, and physical possessions. (The development of statistical sampling, fundamental to social survey methodology, was indeed influenced by Le Play's method of collating data that he obtained through field research.)

Largely as a result of Le Play's influence, until as late as the 1950s economically based time allocation studies were confined to England, France, the US and the Soviet Union. The first anthropological study was carried out by Richards in Rhodesia (Richards, 1939). Interest grew in these disciplines (sociology, economics, anthropology) and were especially motivated by the "New Household Economists" who had their beginnings with Becker's *Theory of the Allocation of Time* (Becker, 1965). Becker was the first person to explicitly include women's time in household activities in the analysis of labor supply.

Some general assumptions were propounded by Marshall Sahlins, that with respect to hunter-gatherers, the Neolithic did not differ substantially from the Paleolithic in the amount of time spent on subsistence per capita, and that labor time increased only with the introduction of agriculture (Sahlins, 1972). (This led to Sahlins' dubbing of hunter-gatherers as the "original affluent society.") Boserup offered a more detailed support for this assumption noting that plow agriculture requires more time than hoe agriculture (Boserup, 1970).

In Southeast Asia Michael Dove (Dove, 1983, Dove, 1985, Dove, 1997) arrived at similar conclusions with respect to swidden and paddy agriculture. Depending on conditions, Dove found that when measured as a return on labor, swidden production was anywhere from 88 percent to 256 percent higher than paddy production.

Being concerned with the use of time by women necessitates that the literature on the sexual division of labor be consulted as well as that which is devoted strictly to time allocation. Brown (Brown, 1970) points out that in 1893 another French scholar, Emile Durkheim in his classic work *On the Division of Labor in Society* (Durkheim, 1984 [1893]) was one of the first to examine the origins of labor differentiation by sex. He theorized that under primitive conditions men and women were similar in strength and intelligence, but as "morality" progressed, women grew weaker and their brains became smaller due to their increasing dependence on men. Indeed, he asserted, the modern Parisienne of his day probably had the smallest human brain on record.

Brown puts the major emphasis on child care as the limiting factor in women's labor capabilities. But oddly, this perspective is not found widely discussed in the anthropological literature prior to her writing.

Thus Brown's statement on the issue, as logical and intuitive as it may seem today, was in fact unique at the time:

I would like to suggest that the degree to which women contribute to the subsistence of a particular society can be predicted with considerable accuracy from a knowledge of the major subsistence activity. It is determined by the compatibility of this pursuit with the demands of child care. (Female physiology and psychology are only peripheral to this explanation.) This fact has been noted repeatedly by ethnographers, but it has never been articulated in the theoretical literature dealing with the division of labor by sex. (1970:1075)

On the basis of the ethnographic evidence, it is clear that the exigencies of child care are primary, and that women's labor is limited to repetitive, interruptible and non-dangerous tasks that can be carried out simultaneously with child care.

Brown went on to expand our understanding significantly by incorporating the issue of women's age into the division of labor equation (Brown, 1982). Middle aged women (defined as women with adult children) play a significantly different role in household and village social structures than, say, women with younger children and women with infants. These age implications impact profoundly on ways in which women utilize time, and the kinds of activities in which women engage.

Following on from this very basic foundation, the various approaches to time allocation and the division of labor by sex can be roughly divided into economic, anthropological, and gender (or political economy), although there is obviously much overlap, in actual practice if not overtly in academic reporting.

The Economic Approach

A recent survey of the empirical economic literature on intra-household time use (Ilahi, 2000) is worth examining in some detail as it appears to reflect much of the thinking that underlies decisions on development planning and areas where this may be influenced by quantitative time allocation studies. Although this study is based on evidence from countries that bear little resemblance to Laos, several questions are addressed that are of interest to the Khammouane research. Among them,

- a) how economic incentives affect time use;
- b) whether access to basic needs (water, fuel, etc.) have gendered impacts on time use;
- c) how agricultural commercialization affects or alters time and tasks by gender.

The studies examined by Ilahi focus on intra-household time allocation, as opposed to viewing the household as a whole or a single unit.² Unfortunately no studies from Southeast Asia are included and there are no studies considered which have been carried out in countries that are typologically similar to Laos, that is, with little wage labor and an almost complete absence of wage dependency. There are other problems as well with the evidence from a Lao perspective. The economists represented are looking at time allocation and women's work as differentiated by outside chores (fuel wood collection, fetching water, etc.) versus inside chores (cooking, cleaning, washing). This is probably an epistemological error in any context, but for Laos in particular it really does not apply. If a line must be drawn, it might be that work in the fields (planting, weeding, harvesting) should be in one category, and household chores (water, fuel, cooking, washing) in

² It might be argued here that by focusing on the parts of a household as separate entities that a sense of the systemic nature of households generally is lost, all the more so in Laos where households are independent self-sufficient units with little economic interdependence.

another. But even here there are problems. Pounding rice, for example, might be considered as part of the food production process, or it might be considered as food preparation (cooking). Furthermore, depending on the ethnic group, it might be done either inside or outside of the house. Decisions in any direction affect the statistical outcome.³

The measurements used by the quantitative studies surveyed by Ilahi are based on respondents' recollection of time spent in certain activities in the last 24 hour period, or from a time diary of that same period. It is not clear, however, how activities that are measured are preselected, or how such factors as seasonality and weather are accounted for if at all. As we shall see, time scarcity waxes and wanes with the agricultural calendar, so the representativeness of the season is crucial when looking at agrarian societies.

One problem addressed extensively in the survey is that of child care. It is a problem for quantitative economic research because it often leads to double counting of time spent on activities where a parent is both carrying out a task such as cooking while simultaneously caring for one or more children. Since apparently multitasking is not an option, the suggestion is made that each segment of time be counted no matter how small, such that each time a parent turns from one task to another, even if it is a few seconds, it is measured lineally in a sequence of backs and forths. Or, it is suggested that tasks be divided into primary and secondary (although how this decision would be made is difficult to imagine). Since in Laos and in the majority of developing countries simultaneous child care takes place during each waking hour, these measurement suggestions do not capture reality in any meaningful way. Other simultaneity problems arise in such activities as gathering of wild food, which may be defined by local villagers as a form of recreation, or when a child is responsible for grazing the family buffalo and spends the bulk of his or her time "lazing around" under a tree singing and dozing. These are all rural realities that are not well explained in the economic literature on time allocation where work and leisure are always treated as discreet categories.⁴

Ilahi's task is made more difficult because the notion of 'housework' is essentially absent from most empirical literature, a difficulty that is compounded in developing countries where large volumes of time are spent in the home.

In addition, there are substantial differences between male and female time use that are not accounted for by standard economic models or economic variables. These are the cases where social norms, ethnicity and culture are the main determinants of time use. (Ilahi's own empirical work in Peru on estimating the determinants of male and female

³ Another example of epistemological error in Ilahi occurs when the task of fetching water is taken as a substitute for piped in water, when intuitively we know that the reverse is the case. Such errors stem from the extreme logical positivist reliance on symbolic logic and diametrical opposition that flies in the face of historical experience and so far as I can see, doesn't get us very far in terms of understanding or as a tool for development planning. Maintaining that piped in water is the default position is of the magnitude claiming that industrialization precedes agriculture, and so on ad absurdum.

⁴ To make matters worse, in much of the literature surveyed by Ilahi, housework was classified as leisure.

time use as related to market activities and housework indeed concluded that, “there is little effect of wages on time-use for either gender.”)

The evidence from the surveyed empirical literature found that education is negatively correlated with female participation in income generating activities and increases women’s leisure time. This runs contrary to the conventional view of education as human capital that yields returns through employment and begs the question whether education should be treated as human capital or as a luxury good. While acknowledging the problem, Ilahi in fact tries to explain away this conundrum by noting that most time-use data are from rural areas where returns on education are lower. However, from the point of view of Laos, where 85 percent of the population is rural, this is not a particularly satisfying line of reasoning.

On the issue of basic services only water and firewood are mentioned as outside chores that may constrain women’s time; time that might otherwise be allocated to income generating activities. But it turns out the implications of the empirical literature are not at all clear on this point. Ilahi’s own work in Peru concluded that women in households using firewood or without an in-house water supply did not have higher work burdens than other women with access to the infrastructure. In terms of the composition of work, women in rural households using firewood tended to devote only a slightly smaller amount of time (10%) to self-employment activities.

Technical change in agriculture, Ilahi reasons, is hardly gender neutral. Potentially it would involve improved returns on land and labor. As a result increasing income should increase the demand for leisure, creating an opposition of forces with respect to time use. However, the empirical evidence is rare, especially evidence that is gendered. In the end Ilahi concludes that it is impossible to say at this time, other than to assume that it is dependant upon the (ill-defined) notion of relative bargaining positions of men and women or the environment in any given region.

In general the role of child care in women’s labor is downplayed by Ilahi. This is frustrating since the importance is readily apparent to anyone working in rural areas in developing countries. It can only be assumed that difficulties that arise in trying to accommodate the multitasking nature of the situation is beyond the scope of current economic models. The discussion is so counter-intuitive that it is probably not worth pursuing at this time.

It is also perplexing to discover in Ilahi’s survey that children’s time use is mostly ignored in the empirical literature and that only two studies were found that measured the inputs. But even these two did not differentiate between the labor of boys and girls. It was found, however, that as a general trend throughout the time allocation studies, women’s wage labor increases girls’ housework and decreases girls’ school time.

As we have seen, many of the issues addressed by Ilahi are inconclusive. The degree to which these non-conclusions are due to economic methodology, to oversight, or to erroneous assumptions remains to be seen. Much of the dissatisfaction from the Lao point

of view seems directly attributable to a lack of familiarity with real rural situations in developing countries.

Nevertheless, several main conclusions seem relevant.

- a) Women's work decreases with the existence of labor markets, but where there is no hired labor available to replace housework, leisure time does not increase even as income does;
- b) Both women and men respond to economic incentives if markets exist;
- c) A decline in access to energy does not alter the work burdens of women – that is, infrastructure does not alter the total time spent on housework;
- d) The existing evidence on time use by gender indicates that girls tend to absorb a large share of the household adjustment to shocks and to poverty.

Probably justice has not been done to many of Ilahi's ideas and findings, but in spite of disagreements or inherent difficulties which result from approaching the problems from different disciplinary perspectives, we remain deeply indebted to Ilahi for this very apt and honest appraisal of the empirical economic literature on time use. It is regrettable though that the economists have not availed themselves of the considerable anthropological (especially economic anthropology) literature on time allocation.

In economic studies of time allocation in developing countries the distinction between work inside and outside the home has been interpreted literally with the rather ludicrous result that activities such as fetching water and collection of firewood are counted as activities outside the home and are thus classed with employment in factories. Whether this is the influence of the reductionists or simply anthropological ignorance is impossible to speculate, but the result is a permanently flawed view of time allocation, far from reality, akin to the classification of sleep (a biological necessity) as leisure (a psychological necessity) which happens to be the case in most or all of the studies reviewed.⁵

Anthropology and Time Use

⁵ While on the subject of work it is worth mentioning that the origin of the English *work* is from the Indo-European root ***werg-** meaning simply 'to do'. In Lao, the word *viak*, although it can mean something similar to the English, can also mean simply '(having) something to do'. And a blue-collar/white-collar type class distinction has arisen such that *viak* [work in general] is separate from *kaan* (<Sanskrit *kaar*) [office work]. Thus in the Lao context, these points about work and leisure are largely moot and we need to focus more on the general allocation of time as opposed to the sociology of work in the Western or industrialized context.

Anthropological critiques of time use studies can be summarized by the following points which seemed particularly relevant and instructive in designing an approach to the research.

1. A lack of literature from typologically similar countries indicates that from a development perspective Laos is unique in terms of there being no extant models on which to base the study, especially low population density and lack of wage dependency in non-farm labor.

2. The economic literature is not very satisfying for our purposes since it lacks detail. Of special interest though, is the finding that infrastructure does not alter the total time spent on housework by women. (Ilahi 2000)

3. To include all dimensions of time use, it is necessary to consider activities in social context, and in terms of the meaningfulness of the activities for people. There may or may not be a correlation between time and importance. (Thomas Carlstein commentary on Minge-Klevana 1980)

4. Structural dimensions include asking the questions: *who interacts with whom?* - *For how long?* - *And in what sequence?* That is, the focus should be not only on the single-order dimensions of space and time. Following Rotenburg's (1981) suggestions, a study should include:

- sequential data or patterns of sequences of tasks and activities;
- occasion and seasonality data, justification for the representativeness of the period covered in which time is allocated;
- contextual sensitivity, i.e. models of context (political, economic, on-going changes, etc.);
- context of the tasks themselves, relation of the actor to the task, social function of the tasks;
- disaggregation by mode of production, otherwise it may not be comparable (tantamount to an epistemological flaw), especially swidden and paddy systems may not be comparable;
- under what conditions labor may be intensified (that is, when is time made scarce).

5. There is a need to use local classification systems for time units and types of activities if we are to understand how time allocation operates in local settings. This is especially necessary when making distinctions between housework and agricultural work since there are many areas of overlap. Thus, categories of activities are not preconceived but emerge as a part of the research process.

6. Clear distinctions are found not to exist between work and leisure since these are post-industrial concepts.

7. Age of actors, especially women, is an important variable (Brown 1982). But rather than delineating age by years, life-cycle periods, defined by local cultural categories should be employed. These include such categories as pubescence, marital status, age of children, and so on.

Needless to say there is no single approach that is agreed upon, either between or within disciplines (see Box 1). One thing is clear, however, based upon this brief review of gender in Southeast Asia and of time use generally: to approach the study in a Western neo-classical frame where assumptions about the maximization of income within time available will not work since even the most primitive assumed categorical distinctions such as between work and leisure do not hold up in the rural Lao context.

The anthropological approach to economics assumes that neoclassical economic theory is thoroughly grounded in Western epistemology, morality and cosmology and represents only one of many “economies” that exist around the world. Its imposition on non-Western situations, using monetary metaphors in societies where cash is not the medium of transaction, for example, represents a form of ethnocentrism often in contexts where other forms of ethnocentrism would be frowned upon. When closer attention is paid to intimate knowledge of local values, theories and concepts, as is characteristic of ethnographic approaches to research the mismatches with neoclassical theory are often stark. (This is explored in more detail later in the section on epistemology and inference, below.)

Sahlins (1972:183) in his chapter entitled “The Spirit of the Gift” summed up the essential principle of economic anthropology: “...that every exchange, as it embodies some coefficient of sociability, cannot be understood in its material terms apart from its social terms.”

Box 1 - Metaphysical Considerations and Observations – The Experts Don't Agree

Studying time remains an enigmatic enterprise, whether it should be considered as strictly socially determined in keeping with the precepts of cultural relativism, or whether, with specific reference to mortality by reductionists like Hegel or Marx, it is objective and universal.

Not surprisingly, time being problematic in all disciplines, economists are not united in their views on time. Gell (1992), following Shackle (1965), one of the most prominent economists to make a special study on time, classifies economic theories according to the kind of 'time' on which they are based along two axes, 'expectational time' and 'mechanical time'. The first Gell identifies with his *A-Series* (where subjective time is a reflection of 'real' time), and the second his *B-Series* (where subjective time consciousness is distanced from 'real' time). In the end three groups emerge, (1) the 'timeless' equilibrium model, represented by Walras; (2) 'models of systematic change' including economic growth models, such as the theories of Hicks and Harrod, that fall at the extreme end of the 'mechanical time' axis, and; (3) less common 'expectational' models that take fiduciary elements into account when explaining changes in the values of economic indices, represented by Shackle himself, but also, to a lesser degree, by economists such as Keynes.

Gell sees the A-Series/B-Series philosophical contrast as parallel to the relativist/reductionist debate in anthropology, and his own thinking, while tending towards the B-Series side, attempts to preserve many elements of the relativist position: "[T]emporal cultural relativism is in fact justified, but . . . it can only be successfully defended against the reductionist positions which deny cultural relativities due recognition, on condition that the specific form of cultural relativist theory adopted is not presented as if it were a contribution to metaphysics, in the manner initiated by Durkheim" (p. 54). This places Gell's work squarely in the camp of cognitive anthropology such as represented by the folk biological taxonomists, or as Shweder (2003) would call them, neo-positivists.

At some point, though, the debate becomes endless for be that as it may, when time is addressed by positivist theories characterized by obdurate objectivism, like the old *time and motion* efficiency models, it may always be argued that 'scientific' units of measurement are in fact ultimately the product of Western folk religio-magic practices used in divining and prognostication, and therefore no more objectively 'true' than any other such practice. This is basically the phenomenological position. Pyle (1998) in his "truth functional theory of language" goes further, arguing that all 'science,' ethno- or otherwise, is a direct consequence of the structure of human language, that is, upon the logic of symbols or symbolic language where relations between the symbol and what it represents are arbitrary (false); once the process of symbolization begins the structure of human thinking is forever constrained by language, as Lacan (1993) would say, "man is the subject captured and tortured by language."

In Buddhism, although it is not stated in this way per se, the aim of meditation is in fact to eliminate symbolic (false) language from the mind because that is the cause of suffering (Pali *dukkha* > Lao *thuk* 'poor'). Furthermore, the cause of suffering as stated in the second of the Four Noble Truths, is not 'desire' as is conventionally believed, but "desire leading to rebirth," that is, never ending cycles. For Buddhism, "language is the conventional institutionalization of the system of false beliefs that causes the suffering (Lao *thuk* 'poverty') that plagues mankind" (Pyle 1998).⁶ In one way or another, depending upon the degree of sophistication of individual monks, this is the message of Buddhism in the study area. It both reinforces and contradicts the premise of cycicism.⁷

⁶ A common causal explanation in Lao for sadness or depression (i.e. suffering) is that he or she is "thinking a lot," [*khit lai*] which can be interpreted as using symbolic language too much leading to the endless labyrinth of dissatisfaction. In other words, thinking leads to suffering for which the Buddhist solution is meditation or non-thinking.

⁷ This is a vastly abbreviated concatenation of the arguments here, for more details see Pyle's work and that of Bhikkhu P.A. Payutto (1993).

One profitable approach is to examine sociocultural constraints on production as in the work of the Russian social agronomist Alexander Chayanov who studied peasant household economies in Russia in the early years of the 20th century. He noted anomalies in peasant economics that did not make sense in either a capitalist or a Marxist frame of reference. For example households would not adopt threshing machines even though it would improve profits; they would pay rents higher than the profits obtained from the land; and they would grow labor-intensive crops that were less profitable than other crops. “Rather than deciding the peasants were irrational, a favorite choice for development workers and government officials, Chayanov argued that peasants operated rationally within a different economic system.”⁸

The Study and the Study Area

Therefore the main objective of the study is to record the use of time by rural women and to provide data to test the assumptions that so-called time saving technology such as the introduction of hand-pumps or mechanized rice threshers will (i) free up women's time, and (ii) use this time to undertake income-generating activities. These need to be questioned in the light of anthropological reality. We need to investigate whether the findings of specialists in Southeast Asia discussed above are relevant in Khammouane Province.

A second objective is to generate data that can bring about a greater understanding, awareness and appreciation of women's use of time and their multiple roles in the family and household economy. It has been assumed that (i) presently in Lao PDR, as in many other countries, there is little knowledge and awareness of the multiplicity of demands on women in the household and in the family economy, and (ii) that these demands are even more pronounced in the rural sector where a variety of factors including poverty, absence of labor saving appliances, and higher child-rearing responsibilities combine to burden women more heavily than their urban counterparts. The study tests these assumptions and the results in order to provide useful empirically grounded data that would serve a variety of ends, including the correction of misconceptions regarding women's time and gender relations.

A third objective is to generate data on the different ways in which women from various ethnic groups participate in the cash economy and on how they allocate time and effort to different activities. Such data would be useful in view of the ethnic diversity of the

⁸ E. Paul Durrenberger and Nicola Tennenbaum. 2002. Chayanov and Theory in Economic Anthropology. In *Theory in Economic Anthropology*. ed. Jean Ensminger. Walnut Creek, California: AltaMira. (Chayanov [1888-1938] was killed in a Stalinist purge.) Marshal Sahlins used his own reading of Chayanov to support his idea that the difference between the expected ideal production of a household and the empirically observed one is a measure of the impact of the social system upon the economic system. He interpreted Chayanov's theory as, “the greater the relative working capacity of the household, the less its members work.” Durrenberger and Tannenbaum, however, note that contrary to Sahlins' interpretation, “the relationship between the number of consumers to support and the amount each worker needs to produce is not linear.” And that other considerations apart from dependency ratios needed to be considered.

country and the need to formulate development policies that are sensitive to the context of the different groups.

To obtain data the study used both quantitative and qualitative (semi-structured interviews, participant observation, focus group) methods. While it was necessary to record time use patterns that are as precise as possible, it was also necessary to see these patterns as part of a larger whole in terms of social structure. These structures varied considerably along the parameters set forth in the village selection process. Of primary interest was the collection of information that allowed some degree of generalization regarding those aspects of social structures that may change and those that may not change, and within this, to assess the positive and the negative impacts of time saving interventions for women, especially with regard to participation in the growing market economy. This analytical process was made easier since contrasting examples were then available in a comparative frame.

Operationally, for purposes of the time use study it was decided to focus on villages inhabited by groups belong broadly to the three categories of Lao, Phou Thay, and Brou, for when taken together they comprise the bulk of the population (97 percent), and are therefore most representative of the province as a whole. (Working with the smaller hunter-gatherer peoples, while interesting, would present linguistic and cultural challenges beyond the scope of this study.) Furthermore, all three of these groupings were represented in each of the designated regions.⁹

The most valuable approach was felt to be a limited number of in-depth studies to better understand the local dynamics of women's time use and the impacts of technological change on time use, especially with respect to production and the market economy. Understanding at this level implies a micro economic vantage point and an appreciation for the socio-cultural constraints and opportunities that affect villages resulting from intensified development efforts. Therefore, it was decided to restrict the number of villages to nine in all, with focus on villages inhabited by Lao, Phou Thay, and Brou in each of the three designated zones allowing for detailed comparisons of women's time use along a scale of relative exposure to technological innovations and markets while controlling for ethnicity. In this way it was possible to assemble empirical evidence on the relative importance of ethno-cultural versus economic aspects of the use of time in market activities and the cash economy, and the degree to which economic development may lead to homogenization.

Methodology Adopted

Apart from the time record, the major portion of the methodology utilized was qualitative and aimed at a cognized (emic) model, consisting of semi-structured interviews (small group discussions and use of key informants), and participant observation.

⁹ The district of Nakai has not been included in the study proposal since many of the issues are different from the others, the reservoir and the flooding on the plateau, and the special type of development that will be necessitated for the conservation area that will be managed by WMPA.

The following modules were incorporated: (details in Appendix)

1. Local categories/classification (time, calendar, activities – using local terms)
2. Village annual calendar
3. Wealth ranking
4. Socioeconomic baseline
5. Time allocation of women (quantitative) [participant observation during waking hours of the day]
6. Time allocation in general and of men (qualitative)
7. Gender considerations and women's status (qualitative)

Research was carried out in May-June 2005 in nine villages.

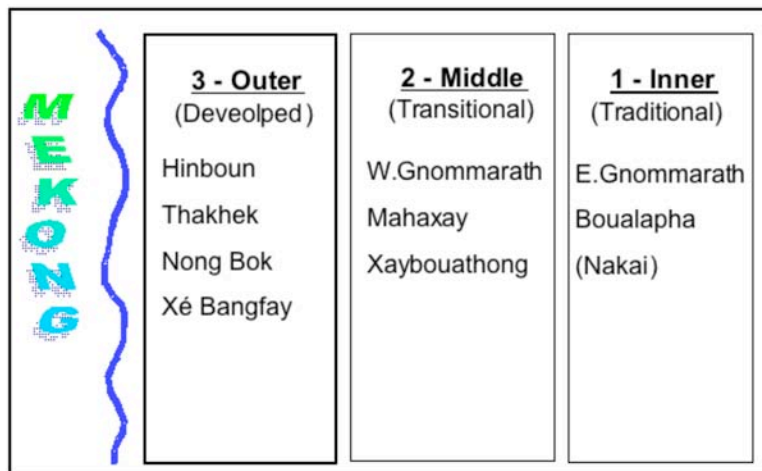
Geography

In terms of the geographical locations of the study area, the province may be divided into three regions arranged according to relative proximity to the Mekong River and Route 13 South. These regions are taken to represent the degree of exposure to technological change, access to government services, and markets.

Khammouane Sociocultural Zones

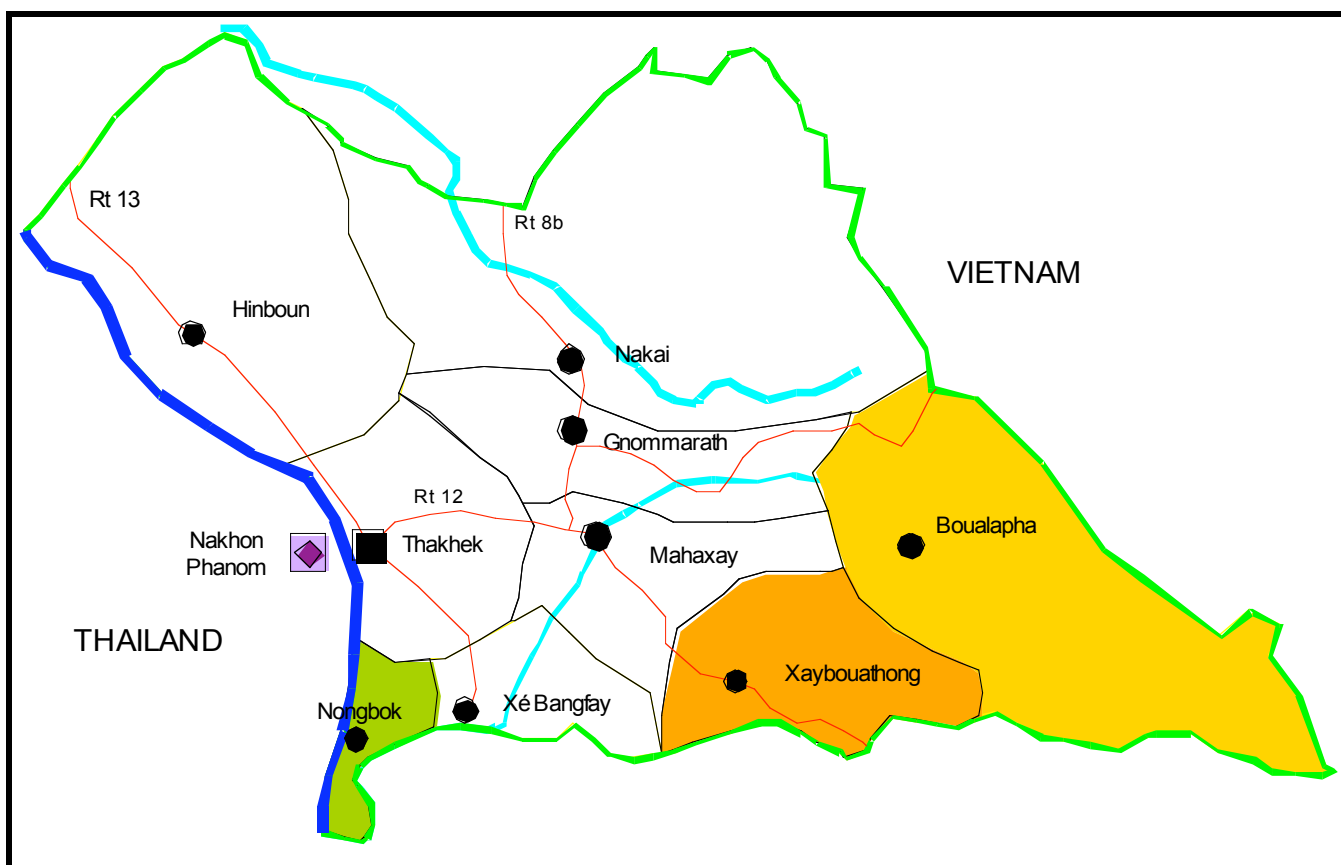
For the purposes of this study, Khammouane province is conveniently divided into sociocultural zones or panels that represent different stages of exposure to the outside world and development in the conventional sense. These are shown in Figure 1 below.

Figure 1 – Khammouane Sociocultural Zones



Although the boundaries are approximate, it was found during the study that the classification was in fact sound and served well to characterize the situation in the province.

Figure 2 – Map of Khammouane Province Showing Districts in the Study



Villages selected

The following villages were selected for the study during a consultative workshop held in Thakhek with the research team members and Central level and Provincial representatives from both the Lao Women's Union and the Lao Front for National Construction. The criteria for selection included membership in one of the three main ethnic categories of the province, old established villages of medium size comprised of a single ethnic group, of approximately 60-100 households.

Table 1 - Selected Villages and Ethnicity

Zones	Ethnicity		
	Brou	Phou Thay	Lao
1 – Traditional	Soy	Na Tangchay	Khagnou
2 – Transitional	Phonsa-at	Keng Chone	Pha Khong
3 – Developed	Pong Kiu	Na Noy	Done Khiau

The details of specific ethnicity and populations of the villages are provided in Table 7.

Table 2– Specific ethnicity and population

Main Ethnic	Specific Ethnic	Villages	Households	Population	Female
Brou	Tri	Soy	68	401	206
	Makong	Phonsa-at	65	331	170
	Charouy	Pong Kiu	123	698	354
Phou Thay	Phou Thay Ho	Na Tangchay	86	457	221
	Phou Thay	Keng Chone	98	567	282
	Phou Thay	Na Noy	57	320	160
Lao	Kaleung	Khagnou	125	681	369
	Kaleung	Pha Khong	71	366	182
	Lao	Done Khiau	73	396	188

Differences between ethnic groups are manifest in both physical and mental domains. Physically, In the Zones 1 and 2 Brou villages are usually located on higher ground, not on rivers or streams, and are surrounded by forest with large trees which separates the village from the rice fields. In contrast Lao and Phou Thay villages are always located on a river or a stream, and are surrounded by light open forest.

Brou houses are characterized by the presence of an ancestral spirit space that is taboo for women to enter. Even a women who accidentally touches this space with an arm or hand may fall ill. (Such an incident was observed when an angry mother was chasing her son who ran into the space for refuge knowing his mother could not follow. She made a last grab for him and her arm entered the forbidden space causing her to fall ill shortly thereafter.)

Table 3 - Religious Syncretism in the Study Villages

Religion	Zone 1	Zone 2	Zone 3
Animist	Brou, Phou Thay	Brou	
Animist + Buddhist	Lao	Lao, Phou Thay	
Animist + Catholic			Brou
Animist+ Buddhist+ Hindu			Phou Thay
Buddhist			Lao

With respect to religion, a wide diversity exists as can be seen in Table 3 and changes are occurring rapidly. In the Kaleung (Lao) village of Zone 1, for example, villagers who were feeling pressure to become Buddhists but who could not in good conscience abandon the traditional spirits, held an ordination ceremony for the guardian spirit of the

village in order to unite the two traditions thereby resolving any potential conflict.¹⁰ Similarly, the Phou Thay in Zone 1 were observed using a monk from a nearby village at a calling-the-souls ceremony. The important fact that villagers see no inherent contradictions in such alliances often leads to misunderstandings by those on the outside.

Political Economy

Villagers of rural Khammouane for the most part exist in social economies that might be characterized as subsistence or peasant, that is, households are at the same time consumers and producers. They do not, however, as the term peasant often implies, live in overpopulated areas and cannot be characterized as working hard for additional small gains, conditions long associated with peasants in Vietnam, Java, and elsewhere, what Chayanov has referred to as “self-exploitation,” or Geertz “agricultural involution.” (Chayanov, Geertz, Scott)¹¹ Rather, villagers in Khammouane live in extensive agricultural economies, where traditional norms remain and where changes are adopted selectively according to a best-fit approach with respect to local cultures and return on labor.

No one who has scrutinized such areas in Laos has any sense of class distinctions. Access to land is universal and there are no big land owners exploiting landless farmers through rent gouging or low wages. Wage labor where it exists is voluntary, not an economic necessity. A good portion of this takes place in neighboring Thailand whose labor market has come to include large parts of Laos, especially those areas adjacent to the Mekong. It could be convincingly argued that this rather idyllic situation in terms of social relations stems from the absence of land titling in rural areas, ownership of land defined primarily by local custom rather than by monetary value. Exploitation, where it exists, takes the form of unworkable government policy which does not fit local conditions, usually in the form of “community” forestry, illegal logging, or a combination of the two. This is discussed further below.

As already mentioned, distinctions between villages within the area of study can be viewed along two sets of parameters. The first between ethnic groups, the population comprised primarily of three ethnic groups: Lao (including Yooy and Kaleung); Phou Thay (including Vang, Ho, Katak, Kapong); and Brou (including Tri, Charouy, Makong, Chouy). The second between “zones”, traditional, transitional, and more developed as defined by exposure to outside influences, access to markets, and cash income. Viewing the situation in this way discernable changes emerge that have occurred within one ethnic

¹⁰ The same ceremony was carried out at the Kaleung village in Zone 2 some five years earlier. Kaleung occupies a mysterious ethnic space. Their language, as defined by the system of splits and coalescences in the tone system, is like that of the Lao who inhabit the valley of the Mekong and the Nam Ou from Phongsaly to Champasak, and including the Isan region of Northeast Thailand north of the Mun river, and most of the province of Rattanakiri in Cambodia. Unlike the other Lao they have not, until now, been associated with Buddhism. In both cases the ordination ceremonies were of the *buat khao* or “white robe” type so the village spirit wears white as opposed saffron worn by fully ordained monks.

¹¹ This is, in fact, the case in all of Laos with the exception of Houa Phan province where lowland collectivization has eroded traditional ownership patterns and created micro-level land shortages and put more pressure on upland areas where access to land was not controlled.

group across zones, or, differences appear between ethnic groups within any particular zone.

Linguistically, Lao and Phou Thay belong to the Southwestern Branch of the Tai family and are classified under Lao-Tai in the Lao system. Distinct culturally, Lao shows a pronounced bilateralism in descent systems in contrast to a more patrilineal system of Phou Thay. In the traditional zone (Zone 1), Lao (Kaleung) and Phou Thay (-Ho) can be characterized as animists who have been encouraged by state forces to become reluctant Buddhists grappling with the problem of how to peacefully integrate the two religions. Ostensibly their ethnic counterparts in Zone 3 have all adopted Theravada Buddhism.

Brou, a Mon-Khmer language, belongs to the Western Katuic branch of that family. Although organized according to patrilineal clans, like other Southeast Asians the Brou have residence patterns that favor bilateralism, either decided upon or commoditized during the marriage agreement or including bride service. The Brou (Tri) of Zone 1 consist of devoted animists, as are the Brou (Makong) of Zone 2 despite efforts to introduce Buddhism. The Brou (Charouy) in the village selected in Zone 3 have been Christians for more than 100 years, though they continue to worship ancestral spirits as well.

Comparing the situation in Khammouane, especially the lowland (non-Nakai) areas that form the basis for this study, one observes a general absence of the kinds of interference in daily lives brought on by planned development activities and policies such as land reform, village consolidation or swidden eradication so marked in other provinces. However access to forests has in some cases become increasingly more difficult primarily as a result of logging interests.

Villagization of hunter-gatherers has occurred in Boualapha targeting groups known as Cheut residing in the Hin Nam No protected area, though the details of this are largely unknown. Likewise, the Mlengbrou, original inhabitants of the Nam One valley on the plateau were relocated to camps outside of Thakhek during the Second Indochina War. Upon returning to their home territory in 1975 they were accused of siding with the enemy and villagized yet again with devastating results. Out of an original population estimated at 200, some 12 members of the group remained, living in a small settlement halfway up the Ak escarpment near the Yooy village of Ban Sang in Gnommarath. Last year these people were moved yet again, down from the escarpment to a dirt patch on the side of Route 12 just outside Ban Sang where they now reside in three households.

The Ak escarpment paralleled by Route 12 falls under the Nakai-Nam Theun protected area and villages along this road in principle now have only restricted access to the forest as determined by the WMPA but the degree to which their well-being would be affected if restrictions were strictly enforced is unknown. The same is true of the largely Brou villages in southern Boualapha that border on Hin Nam No protected area running along the Phou Louang Mountain Range (Annamites). Illegal logging carried on by influential persons is known to be a problem and a threat to local livelihoods in that area.¹²

¹² Local resident, p.c.

Elsewhere, excessive logging in the name of community forestry has taken place in Xé Bangfay District villages, originally participants in the Bank's FOMOCOP project and now again under SUFORD. During the hiatus between the two projects from 2001 until 2004-5 district officials and village mafias pretending to work in the name of the project have conspired to cut trees in unsustainable numbers serving to alienate villagers by depriving them of forest (NTFP) based livelihoods.¹³

Ban Soy presents an interesting case study in ethnic minority defenses against outside intrusions (see Box 1). In addition to having a savvy and respected leader whose revolutionary credentials stand beyond reproach, villagers developed a reputation for expertise in black magic and the use of poisons. This has effectively kept visits by government officials to a minimum and insures that few of them will spend the night, especially those that do not share Brou ethnicity. (Mon-Khmer speakers in Southeast Asia generally have this reputation, possibly due to the belief that as the original inhabitants they control of the spirits of the land.)

This is not to imply that Brou villagers of Ban Soy resist development, quite the contrary. But it seems clear they prefer self determination, desiring to pick and chose those aspects of development that are best suited to their particular situation. Ex-revolutionary leadership, a reputation for possessing special spiritual knowledge, coupled with the relative inaccessibility of the area have empowered villagers with a small degree of autonomy and they have so far proved capable of interacting with the government on their own terms. This village's construction of a school and water system both finished ahead of schedule.

That an abstract government does not interact with villagers, but rather individuals holding specific positions and having individual personalities and family histories should of course be borne in mind. District officers may conspire to facilitate villagers' own *mētis*, to use Scott's term, which allows them to realize autonomous goals in the face of unworkable plans sent from above. However, where local systems have been corrupted by powerful outside forces, especially those engaged in illegal logging, villagers may have less room to maneuver.

Box 2 - Chok Xaygnavong, Village Chief of Ban Soy

Chok is the fifth in a hereditary line of sub-district chiefs (Tasseng) of the Brou Tri in Ban Soy. His most distant ancestor was Grandfather Sisanath who led this group of Brou back from Northeast Thailand (Ban Na Phiang, Kusuman District, Sakol Nakorn Province) where they had been taken by the Siamese sometime between 1826 and 1860. This ancestor was followed by Grandfather Thong, Grandfather Khamxay, and Grandfather Ba Nout (the father of Chok) respectively. Ba Nout and his son joined the revolution against the Vientiane government and Chok was trained in Marxist-Leninist ideology and the communist political approach to local administration. When his father died, Chok was selected to be the Village Chief of Ban Soy and the Houa Na Khet (sub-district leader) of the area. When the war ended, Chok did not opt for a government official position in the city or district seat, preferring instead to remain and help his relatives and fellow villagers to develop.

The collapse of the Soviet Union which followed shortly after the announcement of the New Economic Mechanism in Laos had a profound impact on Chok, as if the order of all things had been thrown into chaos around him. At the same time the subdistrict level of administration was dissolved with all villages now falling directly under the control of the District, his authority was then confined only to the village of Ban Soy.

Main issues in the Village are described by him as the following:

1. The merging of customary laws with the laws of the government.
2. With respect to development plans that come from the government in Vientiane he notes, we need to ask

Time and Time utilization

Agricultural Production

The following tables provide general information on agricultural production. Zones 1 and 2 show good balances between rice and livestock. Estimates of swidden or garden land may be understated (or simply unmeasured) since ample supplies of produce from these plots were seen traded during the study. Since swiddens are normally very productive but frowned upon by the government there could be hesitancy to reveal total holdings.¹⁴ And in addition land is taxed, a further disincentive to open discussion of these areas.

Table 4 – Agricultural Production in Zone 1

	Soy		Natangchay		Khagnou	
	Total	Per hh	Total	Per hh	Total	Per hh
Paddy (ha)	161	2.36	180	2.09	105 ¹⁵	0.85
Yield t/ha	1.0	-	1.8	-	2.0	-
Swidden/garden	-	0.25	+	+	15.5 ¹⁶	0.12
Buffalo	87	1.27	169 ¹⁷	1.96	253	2.0
Cattle	60	0.88	32	0.37	115	0.92
Pigs	125	1.8	60	0.70	312	2.5
Goats ¹⁸	10	-	15	-	120	1.0
Fowl	200	1.8	250	2.9	700	5.6

With the exception of Pha Khong, land holdings are substantially lower in Zone 2 compared to Zone 1. However, in Zone 1, the Lao village of Khagnou makes up for its smaller production land area with increased livestock production, as opposed to the Lao village of Pha Khong in Zone 2 where livestock holdings are minimal. In both Zones 1 and 2 the Phou Thay emerge as the best livestock producers. Brou in both zones have lower overall production figures perhaps related to sociocultural constraints on production discussed above, but further detailed investigation is needed to ascertain the dynamics of what is happening here.

¹⁴ During the detailed time use portion of the study, women villagers in Zone 3 refused to allow the female researcher to accompany them to the swidden fields.

¹⁵ In 1980s this village had a pump irrigation system for dry season rice, but villagers said they could not afford the fuel costs so the project was abandoned.

¹⁶ But villagers gave total production land figures as 145 ha.

¹⁷ Villagers report they sell livestock easily to traders who come to the village, but disease is a problem with increasing production.

¹⁸ Raising goats in Soy and Natangchay has only just begun this year in a few households.

Table 5 – Agricultural Production in Zone 2

	Phonsa-at		Keng Chone		Pha Khong	
	Total	Per hh	Total	Per hh	Total	Per hh
Paddy (ha)	57.5	0.88	84	0.85	159.5	2.24
Yield t/ha	2.0	-	2.0	-	2.0	-
Swidden/garden	9.5	0.14	10	0.10	20	0.28
Buffalo	88	1.35	154 ¹⁹	1.57	18	0.18
Cattle	43	0.66	147	1.5	72	0.73
Pigs	0 ²⁰	0	215	2.19	95	0.97
Goats	0	0	40 ²¹	0.40	0	0
Fowl	0	0	3,500	35.7	150	1.57

Overall, findings on production support findings from the time use portion that production is limited by high value attached to quality of life and the conservation of energy. Lack of urgency or time awareness pervades the livelihood systems in all zones. That given the will production can increase is evident, but villagers are generally unwilling to sacrifice quality of life for profits that may intrude upon social harmony as defined within the purview of their own cultural frames.

Table 6– Agricultural Production in Zone 3

	Pong Kiu		Na Noy		Done Khiau	
	Total	Per hh	Total	Per hh	Total	Per hh
Paddy (ha)	251	2.04 ²²	104	1.82	628	8.6 ²³
Yield t/ha	1.5		2.5		0 ²⁴	
Swidden/garden	uk	uk	10	0.17	75	1.02 ²⁵
Buffalo	100	0.81	41	0.71	19	0.26
Cattle	120	1.0	58	1.0	94	1.28
Pigs	150	1.21	150	2.63	22	0.30
Goats	-	-	-	-	42	0.57
Fowl	500	4.06	370	6.49	500	6.85

¹⁹ Livestock is raised both to sell and to use in ceremonies. Buffaloes and cattle sold only to purchase tractors or build new houses.

²⁰ Pigs and fowl always die in the wet season so they no longer raise. They say the ground is very damp and not good for small livestock.

²¹ Goat raising began only recently.

²² There is an additional 500 ha of potential paddy land that belongs to the village which has not been used.

²³ Even though the paddy land holdings are very high here, they are not used because of the uncertainties of flooding.

²⁴ Land is no longer cultivated because of flooding and the proceeds from vegetable gardening and fishing are sufficient.

²⁵ Used for vegetable gardening on the banks of the Mekong, the main economic activity along with fishing. Produce sold at district market and in That Phanom in Thailand. Villagers collaborate to control the level of production so as not to deflate the value.

Wild Foods

Wild food portions of livelihoods are essential to an understanding of the systems at work. As can be seen in Table 17, the highest degree of variation appears in the category of wild meat, the increasing scarcity of wildlife evident in various degrees in all three zones, though preference for wild foods is clear. In any event, meat (wild or domestic) forms the smallest portion of protein diets, approximately 10 percent compared to 90 percent for fish which is almost entirely natural. Wild plants continue to form the greater part of vegetal diet, even in those villages where production of domestic varieties for sale is considerable. It is important to remember that natural food gathering is not a fixed-time activity but rather an occasional opportunistic one. Thus attempts to replace these portions of diets with domestic counterparts would probably fail. For example, substituting natural fishing with fish raising, as intuitive as it may sound, would require fixed time and energy requirements that would be diametrically opposed to local livelihood structures.

Table 7– Wild Food as a Percentage of All Consumption in the Basic Food Categories

Zone	Village	Wild meat %	Natural fish %	Wild vegetables %
1	Soy ²⁶	70	100	80
	Natangchay ²⁷	30	100 ²⁸	80
	Khagnou	5 ²⁹	100	80
2	Phonsa-at	20	100	80
	Keng Chone	70	100 ³⁰	70 ³¹
	Pha Khong	60 ³²	98	80
3	Pong Kiu	0	100	60
	Na Noy	5	100	100
	Done Khiau	0	100 ³³	+

²⁶ Provision of meat and fish is defined as men's work while vegetable are the responsibility of women.

²⁷ In this village the total diet for proteins is estimated at 90% fish, 10% meat.

²⁸ Fish are very plentiful because in addition to rivers and streams, the many bomb craters have become natural fish ponds. Villagers say natural fish could be marketed if outlets were available.

²⁹ Villagers from Khagnou and Natangchay say during the war the wildlife fled from the area and has never returned. Now the main animals consumed are monitor lizards, squirrels, and the new (to science) bushy-tailed rodent known (also) as the "Khagnou". (It is not clear which name came first, that of the village or that of the animal.)

³⁰ Both for home consumption and for sale.

³¹ Both for home consumption and for sale.

³² Hunting is both for home consumption and for sale, primarily monitor lizards, flying squirrels, tree squirrels, and field rats.

³³ Fishing in the Mekong is a main economic activity along with vegetable gardening. Income from fishing ranges from 10 million to 40 million kip per household per year.

For this reason, naturalness might be considered a requisite attribute of plans for additional development and livelihood improvements. And by extension, lack of naturalness in planning leads to failed projects such as were found throughout the study area, such as rice banks, buffalo banks, chicken production, village funds, irrigation, and so on. Generally speaking, innovations introduced from the outside that demand shifts in social structure and decision-making behavior have less chance of survival. The determination of naturalness implies continued in-depth investigation of livelihoods and the process through which successful strategies have been adopted. This in turn implies intimate knowledge of local epistemologies. The division of the study area into three zones was premised on the degree of exposure to outside influences and it would be naïve to assume that the responses of villagers in each area (and each ethnic group within an area) would be the same. But what is usually underestimated is villagers' ability to investigate new ideas on their own since the fabric of adaptation to new ideas is decidedly non-summative. The first challenge is therefore how to learn from villagers what they already know, hence naturalness is a requisite characteristic for developers as well.

Income Generation

In Zone 1, using inexpensive metal detectors made in China, villagers from all three locations are engaged in the collection of scrap aluminum, and other alloys used in the manufacture of ordinance dropped during the war or from downed aircraft. This is a relatively lucrative endeavor carried out by both men and women. Interestingly, the income cohorts resulting from this activity break down clearly by ethnic group, indicative of underlying ethnic propensities in income generation all around.

Table 8– Earnings from Scrap Metal Collection

Ethnicity	Income Per HH Per Year (Kip)	
	Highest	Lowest
Phou Thay	2-3 million	500,000
Lao	2 million	200,000
Brou	500 – 1 million	100,000

This is illustrated in Table 14 which may be compared to Table 15 with similar broad conclusions. Note that most villages sell livestock and/or rice produced in surplus, arguing against the myth of subsistence livelihoods or any linking of this mythical condition with poverty.

Also note, as has already been stated, that activities underlying these income generations are not time dependant, nor are they based upon any sort of fixed or regulated propositions. The preponderance of heavy men's work of hiring out labor for energy intensive sawing wood and work in fields furthermore serves to dispel stereotypes of lazy men and overworked women so common in development literature on Laos, while

supporting Margaret Mead's observation that, "Women have a capacity for continuous monotonous work that men do not share, while men have a capacity for the mobilization of sudden spurts of energy, followed by a need for rest and reassemblage of resources" (Mead, 1949).

Table 9– Main Sources of Cash Income

Zone	Village	Primary	Secondary	Tertiary
1	Ban Soy (Brou)	Sell livestock (bovines sold by joint decision of husband and wife, small livestock women decide)	Hire out labor locally, sawing wood and work in rice fields (men)	Scrap metal collection (men & women)
	Ban Natangchay (Phou Thay)	Scrap metal collection (men & women)	Small livestock sold to weekly mobile market (by women)	Hire out labor, sawing wood or selling sawn wood cut for home use (men)
	Ban Khagnou (Lao)	Scrap metal collection (men & women)	Production of aluminum utensils, pots, pans from scrap metal for sale	Large livestock, sell as needed (joint husband and wife decision)
2	Ban Phonsa-at (Brou)	Sell rice (women)	Hire out labor, work sawing wood and in rice fields (men)	See produce from swiddens & NTFPs (women)
	Ban Keng Chone (Phou Thay)	Sell livestock, fish, handicrafts (women)	Hire out labor (men)	NTFPs (men & women)
	Ban Pha Khong (Lao)	Men hire out labor and tractors (average 2 m kip/hh/yr)	Women open and work in small shops selling sundries and beer (3 shops)	Handicrafts – basketry and weaving (women)
3	Ban Pong Kiu (Brou)	Sell rice and vegetables (women)	Sell fish and NTFPs (women)	Hire out labor; and work in Thailand (127 persons – men & women)
	Ban Na Noy (Phou Thay)	Sell produce and livestock (women)	Hire out labor, often with tractor (men)	Work in Thailand; remittances from abroad - US, France, Australia (men & women) [almost half of pop. works in Thailand]
	Ban Done Khiau (Lao)	Fishing (men & women)	Vegetables grown on river bank (men & women)	Work in Thailand (men and women) – one third of village population does this

Work in Thailand by villagers in Zone 3 is so pervasive as to suggest that these areas are essentially part and parcel of the Thai labor market. With increasingly good connections on the Thai side and increased knowledge of survival in that country, there exists

substantially less risk now than in previous years, including the transfer of remittances through banking channels. Some villagers work for extended periods in Thailand commonly returning to celebrate Lao New Year, while others simply commute back and forth on a daily basis. Since in Khammouane unauthorized work in Thailand is considered illegal, villagers were often reluctant to discuss the issue with outsiders.

Time Saving Infrastructure

It should be apparent by now that what have been classified as time saving infrastructure in the research objectives are in fact better described as energy conservation devices, or labor saving infrastructure. Paramount among these are rice mills and hand tractors. Furthermore, the labor saved by such devices is primarily in traditional women's activities such as pounding rice, fetching water, hauling firewood, transporting harvested produce, and traveling to markets, most of which are now done by men driving tractors (again, illustrative of the gender fluidity described earlier). The primary savings to men's labor lies in plowing. These savings are attributable to two innovations: rice mills and hand tractors. The increasing numbers of these devices moving from Zone 1 toward the Mekong are clear in Table 18. Note that the Brou have the highest ratios per household in all zones (excluding Done Khiau, see fn).

Table 10 – Time Saving Devices

Zone	Ethnicity	Rice Mill	Hand Tractor	Ratio HH : Tractor
Z1	Brou	2	21	3.2
	Phou Thay	12	28	3.1
	Lao	12	41	3.0
Z2	Brou	6	13	5.0
	Phou Thay	7	49	2.0
	Lao	5	18	4.1
Z3	Brou	5 (med size)	52	2.3
	Phou Thay	1 (lg size)	33	1.7
	Lao	1 (lg size)	13	5.9 ³⁴

Hand tractors may be used for plowing where it was estimated by villagers that plowing one hectare of paddy with a buffalo takes 27 days, compared to 3 days with a hand tractor. This could be viewed from the outside as a savings in time, but would be considered by villagers as a savings in energy. Hand tractors, driven by men, replace hauling of firewood and fetching water, usually described as women's work in the descriptions of division of labor throughout the country. Often the engines from the hand tractors are removed to mill rice, pump water, and generate electricity. Finally, simply as

³⁴ In Done Khiau motorized fishing boats replace hand tractors as technical innovations since the primary economic activity is fishing and gardening on the island.

a form of transportation the hand tractor is used for family outings, visiting friends and relatives in other villages, and traveling to district markets, all of which would occur less frequently, hence social functions of the tractor are significant as well.

An unforeseen use of hand tractors was observed in Zone 1 where caravans of 10 or more tractors traveled weekly to villages in the study as a traveling marketplace selling mostly manufactured goods in exchange for pigs and chickens or cash if it is available.

Women's Activities and Time Use

Daily activities which are fixed such as steaming rice and cooking are women's activities for which there are no correlates for men, like menstruation and pregnancy. Some gender specialists have therefore come to associate women with nature and men with culture. For the area under study this does seem to work. Only in the Lao village of Done Khiau does this generalization regarding gender based activities not apply, with traditional male and female roles completely interchangeable, including cooking, marketing, plowing, and even deep water fishing.

As will be seen in any analysis of gender in Southeast Asia, the bilateral premise and fluidity of gender roles underlies such areas as state formation, administration, and the division of labor. Even the premise on which the current study is based, that women are keepers of the family finances is not an absolute given. It was found for example in one of the families studied in the Phou Thay village of Na Noy (Zone 3) that the husband held most of the family earnings, or at least that portion he was responsible for generating. And in the Lao village of Done Khiau, also in Zone 3, either men or women may be involved in marketing activities interchangeably.

Women anthropologists specializing in Southeast Asia agree that for most ethnic groups, complementarity remains the rule. (Only for the Hmong does gender stratification appear to be relevant and even here there is some debate [cf. Symonds]). The complementary argument deviates considerably from universal feminist approaches, and it remains to be seen to what degree development agendas have been pursued in Laos relying on the subordination assumption and what impact they may have had. Many have failed to discern the broader pattern: stratification strongly associated with unilineal descent (as in China or India) and complementarity closely linked to bilateral systems (Southeast Asia).

Therefore it should come as no surprise that in the allocation of time similar structural fluidities obtain. The largest aggregates of time utilized by either men or women in the study were not fixed or well defined, the exceptions being meal times. Use of time by women differed fundamentally from that of men in the feature of multitasking.

Women's Time Use Data

To provide an illustration of the daily activities of women the following time breakdowns for activities of three women from the Brou village of Phonsa-at are presented (others are presented in Appendix 1).

At the time of the visits to Zones 1 and 2, villagers were beginning to prepare and care for the seedling beds which precede other paddy activities. By the time Zone 3 was visited, villagers had just begun pulling up and transplanting seedlings into flooded paddies.

It was not possible to segregate time use spent specifically on market-related activities. The primary goal of all households in the study area was found to be self-sufficiency, defined as producing enough while maintaining quality of life, as defined in ethnic terms. When surpluses are produced under this system, these may be marketed, but this amount varies considerably depending on a large number of factors. An exception to this was the village of Done Khiau in Zone 3 where large portions of the fish catch from the Mekong River and vegetables from the river bank were sold, sometimes to middle women marketers who buy at the home or even at the river bank, but often to other villagers. Surpluses (and number of purchased consumer goods) increase progressively from Zone 1 to Zone 3.

Table 11 – Time use by Nang Ka

Bio	Nang Ka: <ul style="list-style-type: none"> - Ban Phonsa-at (Zone 2) - age 23 - no schooling - husband Thao Hom, age 27 - has had 7 children, 4 survived - 6 person total in hh, children ages 6, 4, 1 yr 2 mo, baby 20 days - ethnic Brou
Time	Activities in 24 hour period (20/5/05)
0415	Gets up, starts fire, puts rice on to steam, husband already up, went fetch water
0430	Watches over steaming rice, chews rice to steam for baby (not awake yet)
0500	Washes diapers at home, husband has returned with water, he fans the rice
0530	Pounds already milled rice to make gruel for 1 yr-old
0610	After boiling rice, cooks, baby wakes up husband goes to bring him to mother
0630	Sets table to eat, holds 1 yr-old in lap and feeds him – as new mother many foods are taboo so she eats own food
0650	Puts table away, husband goes to paddy field with oldest boy
0700	feeds cooked chewed rice to baby
0730	Holds baby and feeds the 1 yr-old, 4 yr-old feeds herself and then is left to play around outside the house by herself
0810	While carrying baby in cloth strap, hangs diapers to dry
0830	Puts baby to sleep, goes to toilet in woods`
0845	Returns from woods, baby still asleep
0850	Chews more rice for to steam for baby
0920	Baby wakes up, goes to pick him up
0930	Puts rice water in bottle for the 1 yr-old and puts him to sleep under the house in cradle
0940	Breast feeds baby while rocking the cradle
1005	1 yr-old asleep, carries baby and goes to pick squash sprouts to cook
1015	Goes up to cook food for husband
1040	Cooking finished goes down to sit with baby in cradle
1115	Husband returns from field, 1 yr-old wakes up
1130	Set table for husband and holds children, she eats only a few non-taboo items
1200	Cleans and puts away table, feeds chewed rice to baby, husband goes to fetch water
1230	Feeds 1 yr old
1250	Puts baby to sleep and goes to take diapers off the line
1300	Goes up to bathe, wash dishes and put rice in pan to soak
1330	Goes to sit and relax under the house with husband and children
1420	Husband goes to field, she stays with children
1530	Starts fire to steam rice, both small children are asleep, pounds rice to cook for 1 yr-old
1610	Fans rice and boils gruel while chewing rice for baby
1630	1 yr-old wakes up, holds him while watching boiling rice
1650	feeds gruel to 1 yr-old and gives rice to 4 yr-old
1720	Breastfeeds baby
1750	Carries baby with cloth strap while cooking, husband returns from field, goes to fetch water
1830	Sets table and they eat their separate foods
1900	Cleans and puts away table, washes dishes, husband takes care of children
1920	puts rice in pan to soak, bathes
2000	Breastfeeds baby and goes to sleep, husband goes frog hunting

Table 12 – Time use by Nang Khamsouk

Bio	Nang Khamsouk: <ul style="list-style-type: none"> - Ban Phonsa-at (Zone 2) - age 40 - never went to school - husband is Thao Ka, 40, no schooling - have 7 children, 3 still in hh with family - 10 total in hh, including 3 children and 5 grandchildren - ethnic Brou
Time	Activities in 24 hour period (21/5/05)
0400	Gets up, makes fire, puts rice on to steam, watches it until ready
0450	Fans rice, husband gets up and goes to work in rice seedling bed (alone)
0500	Goes to fetch water, about 300 meters from house
0515	Returns and roasts some frogs
0545	When frogs are done, gets thing ready to take to the paddy field (about 800 m away), goes with children
0600	Arrive at field, put things away and begins pulling grass from seedling patch
0830	Goes into woods to defecate
0850	Returns and call husband to come to eat
0915	After eating, continue work in field, all family members assist
1100	Goes with 2 daughters to collect bamboo shoots at edge of paddy field
1140	After collecting some shoots, picks up a log and carries it back to the house to use for firewood
1205	Arrive back at house, puts water on to boil for cooking the shoots
1215	Goes to bathe, daughter watches the pot on the fire
1230	Returns from bathing carrying water, daughter cooks the bamboo shoots
1300	Husband returns from field with children, she relaxes and chews betel
1320	Sets the table and eat together, in-laws eat at separate table but eat the same food
1350	Puts table away, daughter washes dishes and fetches water
1400	Sits and relaxes, chews betel and listens to music
1520	Returns to field, continues weeding, husband goes to visit a sick person in the village
1720	Returns home, carries firewood, daughter is at home steaming the rice, Khamsouk relaxes
1750	Goes to bathe and wash clothes
1840	Bring water back, hangs clothes to dry
1910	Sets table and eats
1950	Goes to visit sick person in village
2040	Returns and goes into bedroom
2100	Comes out and sits chewing betel, husband goes out to hunt frogs
2130	Goes to bed

Table 13 – Time use by Nang Pek

Bio	Nang Pek: <ul style="list-style-type: none"> - Ban Phonsa-at (Zone 2) - age 17, completed grade 2, newly married and 2 months pregnant - her husband is Thao Khane, age 21, completed grade 5 - they live together in a house separate from parents - ethnic Brou
Time	Activities in 24 hour period (22/5/05)
0530	Gets up, makes fire, puts rice on to steam
0550	Goes to fetch water, 3 times (2 pails each time), distance to well in about 35 meters
0620	Fans rice, puts pot on fire to make stew
0630	Goes down to feed chickens then comes back up to wake her husband
0645	Adds ingredients to the stew, husband gets up
0700	Sets the table and they eat
0720	Puts the table away, sweeps the floor, husband goes to work at sawmill
0730	Washes dishes, boils water for drinking and waits while it boils
0820	Takes water off the fire and goes to invite friends to go gathering bamboo shoots
0930	Goes out with friends to gather bamboo shoots
1100	Returns home
1120	Starts fire to cook the bamboo shoots and goes out to bathe and fetch water
1210	The bamboo shoot soup is ready, waits for husband
1230	Husband returns from sawmill, they eat together
1300	Puts table away, sweeps the floor, washes dishes, puts rice in pan to soak for next meal
1320	Lies down to rest with husband while listening to music
1350	Goes down to stroll around the village visiting with friends
1515	Fetches water for husband to bathe, two times
1550	Starts fire, puts rice on to steam, husband watches over rice
1610	Fetches more water, two times
1640	Fans rice, cooks
1720	Fetches water two more times
1735	Sets table and they eat
1800	Puts table away, washes dishes
1820	Fetches water two more times
1840	Goes down to feed chickens and goes to the woods to defecate
1900	Returns from woods, rounds up chickens to put in coop for the night
1920	Goes up to house and bathes, puts rice in pan to soak
1940	Lies to rest while husband goes out to hunt frogs
2030	Goes into bedroom to sleep while listening to the radio

Although the days seem full, there is no apparent sense of urgency and it is evident that the pace is rather slow, even for Nang Ka who is looking after 2 small children and a newborn infant.

All women in the study said that time spent gathering food in the forest is not considered to be work, but rather recreation. Also social time is important, visiting friends and going to gather food with them. As women get older, their children take over many of the activities as in the case of Nang Khamsouk.

In the larger households of Phou Thay and Brou, in-law families eat at separate tables but the daughter-in-law is often responsible for preparing meals for all members of the household. This is not the case with the Lao, however since usually the groom comes to live with the bride's parents and the whole extended family eats together.

Village Calendars

As an example of the kinds of data from the study that can be brought to bear on the issue of women's time use in a longer term perspective, it is interesting to compare the time use of women and men in a single village. As with other villages in the study area, months are calculated according to the lunar calendar which of course does not match the solar months. But here the solar months have been added for reference (using 2005 as a base), as have the seasons recognized by the villagers of Ban Khagnou.

Table 14– Annual Calendar of time use for Khagnou women

Calendar of Main Activities for Women in Ban Khagnou, Ethnic Lao (Kaleung)																										
Time	System	MONTHS																								
	Georgian	dec	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov													
	Lunations	1	2	3	4	5	6	7	8	9	10	11	12	(13)												
	Phase**	k	h	k	h	k	h	k	h	k	h	k	h	k												
	Seasons	Cold					Hot					Wet					Cold									
0430																										
	Steam rice																									
	(Pound rice)*																									
	Small garden	x	x	x	x	x	x																			
	Fetch water																									
	Feed animals																									
	Cook food																									
	Eat																									
0700																										
	Swidden /garden					x	x	x	x	x	x						x	x	x	x	x	x				
	Paddy											x	x	x	x							x	x	x	x	
	Gathering	x	x	x	x	x	x	x	x	x	x	x					x	x	x	x	x	x	x	x	x	
	Handicrafts	x	x	x	x	x	x	x	x	x							x	x	x	x						
	Scrap metal	x	x	x	x	x	x	x	x	x							x	x	x							
1200																										
	Fetch water																									
	Cook & eat																									
	Rest																									
1300																										
	Swidden/ garden					x	x	x	x	x	x						x	x	x							
	Paddy											x	x	x	x	x						x	x	x	x	
	Gathering	x	x	x	x	x	x	x	x	x	x	x					x	x	x	x	x	x	x	x	x	
	Handicrafts	x	x	x	x	x	x	x	x	x							x	x	x	x						
	Scrap metal	x	x	x	x	x	x	x	x	x							x	x	x	x						
1700																										
	Small garden	x	x	x	x	x																				
	Fetch water/bathe																									
	Feed animals																									
1830																										
	Cook & eat																									
	Rest																									
2000																										
	Sleep																									
	** lunar phase: k= <i>kheun</i> 'waxing, h= <i>hem</i> 'waning																									
	* now mostly replaced by rice milling, husband takes rice for milling about once per week																									
	NB. x = activities that may be necessary, occasional, or optional, but not performed everyday, and for which time is not fixed																									

The grey shaded areas represent time that is compulsory every day throughout the year while the Xs represent non-compulsory time, the utility of which may be necessary, occasional or optional, but are not performed daily on a regular basis. Thus out of approximately 15 waking hours, 9 are not fixed and fall into the fluid or flexible category.

Table 15—Annual calendar of time use for Khagnou men

Calendar of Main Activities for Men in Ban Khagnou, Ethnic Lao (Kaleung)																											
Time	System	MONTHS																									
	Georgian	dec	jan		feb		mar		apr		may		jun		jul		aug		sep		oct		nov				
	Lunations	1		2		3		4		5		6		7		8		9		10		11		12		13	
	Phase**	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h		
	Seasons	Cold				Hot								Wet								Cold					
		x	x	x	x	x	x							x	x	x	x						x	x	x	x	x
0500	Gathering	x	x	x	x	x	x							x	x	x	x						x	x	x	x	x
	Mill rice	Once per week all year																									
	Feed animals	In cases of 2 person families, husband will help wife feed ducks, chickens, pigs when there are no other activities																									
	Eat																										
0700																											
	Small garden	x	x																								
	Swidden /garden							x	x	x	x							x	x	x	x	x					
	Paddy												x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Gathering	x	x	x	x	x	x	x	x	x	x	x					x	x	x	x	x	x	x	x	x	x	
	Handicrafts/hire labor*			x	x	x	x	x	x	x	x						x	x	x	x							
	Scrap metal	x	x	x	x	x	x	x	x									x	x	x	x	x	x				
1200																											
	Eat																										
	Rest																										
1300																											
	Swidden/ garden							x	x	x	x							x	x	x	x	x					
	Paddy												x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Gathering					x	x	x	x	x	x	x															
	Handicrafts/hire labor			x	x	x	x	x	x	x	x						x	x	x	x							
	Scrap metal	x	x	x	x	x	x	x	x	x	x							x	x	x	x						
	Raise cattle											x	x	x	x	x	x	x	x	x	x	x	x				
1830																											
	Eat																										
	Hunt frogs	x	x	x	x								x	x	x	x	x	x	x								
2200																											
	Sleep																										
	** lunar phase: k= <i>kheun</i> 'waxing, h= <i>hem</i> 'waning																										
	* hire out labor to sawmills or cutting trees																										
	NB. x = activities that may be necessary, occasional, or optional, but not performed everyday, and for which time is not fixed																										

By comparison, the men of the same village have only one fixed activity, to take rice for milling once per week. Although this might be considered a case of gender transference motivated by introduction of rice mills to the village, the pounding of rice usually considered women's work, it might better be thought of as an instance of gender fluidity as will be discussed in connection with areal cultural traits of Southeast Asia. Necessary agricultural work (planting and harvesting), flexible up to a point, needs to be carried out within a certain range of time determined by various types of divination. A number of crops such as cassava and other tubers grown in swiddens can be harvested, more or less, at one's leisure.

That women play the most important role in management of household economic affairs (including allotments of rice for daily, monthly, and annual consumption) was a part of this hypothesis that remains true in most of the villages studied. An exception is noted in the Lao village of Done Khiau where separation of gender roles in most segments of

society was not apparent (apart from monkhood). Women also produce handicrafts, raise small animals and grow vegetables, although in terms of the market, these are all activities that have evolved naturally from non-market (“subsistence”) ones (including selling fish and wildlife to markets), that is, apart from access to the market itself, nothing new has been added.³⁵ New economic activities recently adopted in the study area include using metal detectors to collect scrap metal for sale, the hiring out of labor for sawing wood, working in factories in nearby provinces (rare), working in neighboring rice fields, making charcoal for sale, and traveling to work in Thailand.

No evidence was found to suggest that time in any way constrains women’s (or men’s for that matter) capacity to participate in market oriented activities. Time is mostly abundant and with the exception of counting the rooster crowings at night, daily time is calculated only loosely.³⁶ Some “time-saving” infrastructure was present even in the traditional zone, though not all households made use of them. No villages were encountered that had adopted gas for cooking, so firewood collection remains an activity, albeit an irregular one. Nowadays hand-tractors are used extensively for hauling firewood.

Time “saved” by investment in new technology is not viewed as such by villagers, rather new innovations are valued according to savings in labor or in the expenditure of energy. So although time in the etic sense is saved, this is not relevant in local epistemologies.

Women’s time spent in market activities is not constrained by time but by access. When there is access one makes time. In Zone 1, as described, the market comes to the village, once per week, and that is when women sometimes engage in transactions mostly using local surpluses of rice or livestock to acquire manufactured goods. Time is already abundant so “savings” of time is essentially superfluous. Determining what segments of “saved” time are being used for something else is not really possible. Fixed activities, it was found, occur in early morning (04:00 - 05:30), so re-allocations of time in this period are unlikely to be used for income generation. Furthermore, getting up early is still the practice despite not having to pound rice, and simply means less energy expended. In short, time was found not to be a variable that constrains activities by either women or men.

³⁵ We need to question the use of the term subsistence in the context of Laos. Strictly speaking this term means ‘no surplus’ or “barely sufficient to sustain life”. In fact, all of the villages studied were producing surpluses, and it could readily be argued that for large portions of the country forests are viewed by villagers as surpluses.

³⁶ For astrological or fortune-telling purposes in the Phou Thay village of Na Noy (Zone 3) the Hindu system of periods of the day is important, but these periods are not generally well-known.

Epistemology and Inference

The Neo-classical Approach

Neo-classical economic theory from which most Western and development thinking emerges, is premised on the individual as a rational actor who works out the best way of achieving goals by weighing alternatives against each other in terms of their utility relative to their cost. This is in fact the economic expression of 17th century Cartesian dualistic epistemology, that the rational mind takes care of the needful body. This led to Adam Smith's notion that the pursuit of private ends works for the common good which has become central to the universalist cosmology of Western economics. The icon of the "rational needful man" has indeed led further to the projection of the monetary metaphors of Western society onto peoples for whom cash is not the basis of transaction (Herzfeld 2001). This is indeed the end result of quantitative poverty studies derived from in-kind expenditure and consumption proxies that may then claim to represent poverty measurement in monetary terms, even though economic transactions are not monetarily encoded in the cultural systems of the peoples themselves.³⁷ It is only when we recognize, or admit, that Western economics is just as entrenched in culturally bound thinking as any other society that we begin to appreciate the difficulties of economic planning for the many and diverse peoples of Laos.

Bird-David (1992) writes:

Neoclassical economic theory is deeply rooted in Western epistemology, morality, and cosmology, the influence of which is apparent in methodological details too. The idea of selfish parts, instructed each by the same 'instrumental rationality,' and making up a providential whole, has the methodological implication that multiple actions of diverse individuals can be lifted out of their respective contexts and aggregated. Neoclassical theory offers a body of logically-related concepts with which to understand, explain and predict both an individual's economic conduct and the working of the economy as a whole. The economy is doubly seen as an aggregate of individuals' operations, and as an entity with laws of its own. 'Demand', 'supply', and 'price' are some of the basic concepts, referring to the aggregates of needs for, and availability of a resource a resource and its 'value,' as determined by the relation between these. The deeply-held cosmological notion of the providential whole that encompasses and consists of its self-interested parts assured the viability, indeed the desirability, of such an economy.

But trying to understand other economies using the epistemology of Western economics would be logically the same as a Brou shaman critiquing Western scientific method, something that would appear to us very strange indeed. In fact the role of the economist in Western society is in many respects similar to that of the shaman among the Brou or

³⁷ Bateson describes a logically homologous circumstance: "A description of the behavior or anatomy of a living thing (say a starfish) should relate – be a bridge between – our way of knowing and the way of knowing of the system which we are describing. It is partly false to say that the starfish has five arms if there be no components to represent "five" and "arms" in that communication system which governs the morphogenesis of the beast – nor yet in that other which governs its behavior." (1972)

the Phou Thay. For while economists are miserable failures at predicting fluctuations of the stock market, and shaman may often fail to predict the future, in both cases the authority accorded them in their own respective societies remains intact.

The Ethno-economy of Khammouane Province

Rather than supporting a neoclassical premise of income maximization constrained by time, our study supports a premise of optimization of income constrained by conservation of energy. This should not be taken to imply that villages in the study lacked social stratification, rather that stratification is not based on income beyond a capacity to redistribute income in ritual feasting or the making of merit. Broadly speaking, ritual prestige forms the basis of social stratification.

It is useful to examine well-being from a local perspective. For example, poverty (in the economic sense) was found not to concern villagers in the study, and despite small differences identified that distinguish status among households, large gaping disparities did not appear in any of the villages.³⁸ With respect to subjective indicators of quality of life, indeed the villages in Zone 1 prevailed, that is, in terms of access to land and forests, space in the village, and size of houses, all of which decrease progressively the closer one gets to the Mekong in inverse proportion to population density.

In a Southeast Asian context, a study designed to measure the impact of real social systems upon domestic production carried out by Durrenberger and Tannenbaum applied Chayanov's method in a comparative study of labor and production between lowland socially stratified Shan (Tai) paddy cultivators, and egalitarian upland Lisu (Tibeto-Burman) swiddeners of Mae Hongson District in northern Thailand, convenient proxies for the ethnically cognate lowland and upland ethnic groups found in adjacent Laos. They found that Shan farmers operated in three modes, intensified, normal, and minimal. The Lisu production level was found to be the equivalent to the normal production level of the Shan.

Chayanov's analysis accounted for the limits of production, how the ceiling on *what a household was willing to produce* was calculated. The comparison of Shan and Lisu show that the political and social system also affects the limits of production. We found that the formula that best predicts production for highlanders underpredicts for Shan, while the formula that best characterizes Shan, overpredicts for highlanders... Lisu operate in a system in which the highest levels of production (per

³⁸ During discussions and income ranking the term 'poverty' was not used by villagers in Zones 1 and 2, rather it was only used by villagers in Zone 3, ostensibly the most well-off by external measurements. (Poverty here does not imply statistically defined poverty, calories per day, above or below \$2 per day, etc.) As a matter of interest, the percentage of poor living below the poverty line based on the poverty analysis of LECS 3 data was 33.7 percent, just over the national average of 32.9. As reported in other parts of the country local language terms for 'poverty' or 'poor' do not refer to economic status but apply to individual or personal tragedies such as being widowed or orphaned or in the case of women, not having children.

household) and levels of marginal utility are reserved to those in the worst consumer/worker ratio positions. Other households with lower consumer/household ratios, having less urgent curves of marginal utility that decline faster, engage in lower levels of production. *Why do households in more favorable conditions, those with low consumer/worker ratios, work less than possible? The standard for work is not based on what households in the most favorable position could do but rather on what households in the worst position are able to do. This standard makes it possible for all households to participate at approximately the same level in the system of reciprocal exchanges. This is possible only because low ratio households do not produce at their capacity.* (143) [emphasis mine]

The research concludes that the Shan operate only in terms of a single constraint on equilibrium between drudgery and utility, and those households who are in a position to produce more, do not overproduce except to create wealth to exchange for prestige (for example, making merit in the Buddhist sense), and this is only a temporary overproduction so as not to violate community standards. Among the egalitarian Lisu, however, overproduction constitutes a “threat to balanced reciprocity.” Households that overproduce would be compelled to give away too much and over-obligate other households to a point where debts could not be repaid, thus destroying the social equilibrium.

In both cases, social structures mitigate against overproduction and so livelihood improvement premises that would focus on increasing productivity must be viewed with caution to avoid engendering a classical state system wherein, “controlled access to productive resources and power reinforces unequal access and separates a class of nonproducers who have political and economic power from a class of producers without power ... those without power support those with power.” (144)

In the present study we may cautiously suggest that Lao and Phou Thay social systems vis-à-vis production more closely resemble that of the Shan, and the Brou that of the upland Lisu. This is, however, a very tentative suggestion and although the match between Shan and Lao or Phou Thay seems solid, much more time would be needed to study in detail Brou society and production systems. What can be asserted here from the focus on time allocation in all groups and zones is that the main bulks of time as measured in terms of daily activities, either precisely throughout the day or generally throughout the year, are not urgent or fixed except as surround early morning and evening meal periods of each day, and to a degree, planting, transplanting and harvesting periods of each year (but which are themselves not precisely fixed). The objective might be best interpreted as optimizing production while maximizing quality of life, defined in an ethnic context.

And here Sahlins’ interpretation is perhaps not so far from the mark, for villagers in the study, discussing wealth and poverty, expressed the notion that a good supply of healthy household labor defines well-being. Stated not overtly but implicitly, more children means less labor per person and the capacity to produce “enough” with as little effort as

possible. Again, ethnic differences determine the definition of “enough.” The Phou Thay definition was found to be the highest and that of the Brou the lowest as evidenced by such indicators as returns on sales of scrap metal in Zone 1 (from ordinance or downed aircraft from the war). This conclusion, however, applies to all zones.

Also implicit in the tendency to gravitate towards ‘quality of life’ and the accompanying ethic of ‘enough’ are Lao culture ideals of ‘grace’ /khOOy, khiam/ and ‘elegance’ /ngaam/ which implies that whatever is done should be done in a manner that is unhurried, dignified, without abruptness or apparent attachment. (“Efficiency” does not enter this local arena, being reserved for use in technical or state circles. It was originally borrowed from the Thai language who in turn coined it from Sanskrit where it meant ‘beauty.’ The same root means ‘success.’) And activities should also be ‘fun’ *mouan* (as Van Esterik describes with respect to *sanuk* in Thai). Working too hard without stopping, for little return, without laughing, and so on are in fact traits associated with Lao perceptions of Chinese and Vietnamese people. Therefore, as unintuitive as it may seem, the desire for good ‘quality of life’ acts as a constraint on production since it is quantified in terms of a healthy family labor supply.

Paddy production in most villages forms the mainstay of the production with surpluses produced in most villages. Even the Brou, originally swiddeners, rely primarily on paddy with only subsidiary swiddening for religious purposes, as rice in the swiddens is harvested earlier, important for ceremonial purposes, for food security prior to the paddy harvest, and for production of rice wine (also for ceremonial purposes). Reliance on paddy production means that production systems remain unaffected by land reform and other policies that have negatively affected ethnic groups in the uplands in other areas.

Along with concerns for a healthy family labor supply to insure best returns on labor, Brou women in Zones 1 and 2 evinced the fear that government policies would intrude on family stability, here defining poverty as the breakdown of families. The source of this may stem from female concern with maintaining the moral order which has become exaggerated among the Brou, always somewhat apprehensive regarding ethnic differences. Christian Brou in Pong Kiu, however seem not to share this fear, their self esteem perhaps bolstered by a religion which has brought considerable outside assistance from other Christians and has obviously served to make them better off economically.³⁹

With further respect to the Brou Kirsch’s (1973) main thesis with respect to what is labeled here ethno-economy, is relevant and will probably be shown to be especially so when additional ethnographic research is carried out. This lies in the suggestion that upland societies are oriented toward the maximization of potency and fertility. In his review of upland ethnographies, these qualities, while being characteristic of individuals, are in fact localized in household units or in some cases in lineages and clans. As he writes, “each householder is conceived to be a ‘religious entrepreneur,’ trying to maximize his ‘potency’ in relation to – but not necessarily at the expense of – other householders. In the functioning of this system which might be thought of as

³⁹ It would be interesting here to compare non-Christian Brou villages in Zone 3 to determine to what degree being Christian has helped the village become economically better off.

manufacturing ‘fertility,’ some units will inevitably be more successful than others.” These inequalities expand, and, depending on the particular group, larger units may increase further through affinal links, marriages between the more successful groups, thereby reinforcing their superiority over the less successful ones and the potential for enhanced fertility increases. The economy is therefore one of ritual status. But because this superior ritual status is one that can exist only in relation to other households or clans, there can be no monopolization of “profits,” (that is, enhanced status) because every unit has some degree of such status.

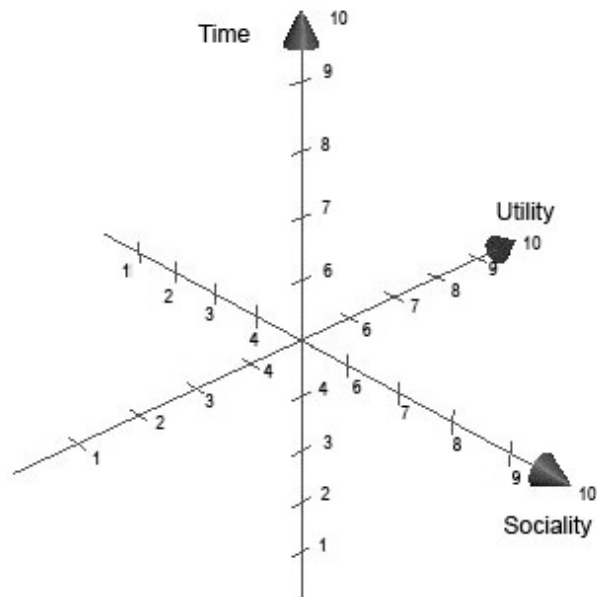
If there is a “market” in these circumstances, it is in fact the feasting system which tends to equalize well-being while increasing the relative differences in ritual status. And for this market only one major type of good is produced, “fertility”. To no small degree this may apply to the Lao and Phou Thay groups as well since all in all groups in all zones, maximization of the family labor supply is paramount.

Primacy of the Activity and Determinants of Importance

While time use is most conveniently viewed as multidimensional and holistic, evidence suggests, in the light of the ‘achronic’ thinking of villagers, that logically the activity itself should be the primary unit of analysis, with time as one of its components together with utility and sociality. The shift in emphasis to the activity, as opposed to the unit of time, frees us from Western bias towards time (“time is money”, time flies”, and so on) as the fundamental prime of measurement of importance. Thus, rather than posing the unilinear question of how many activities exist in a unit of time, the three dimensional question becomes, what components occur simultaneously within the activity, or more precisely, what kinds of processes are being enacted or are culminating in the performance of an activity.

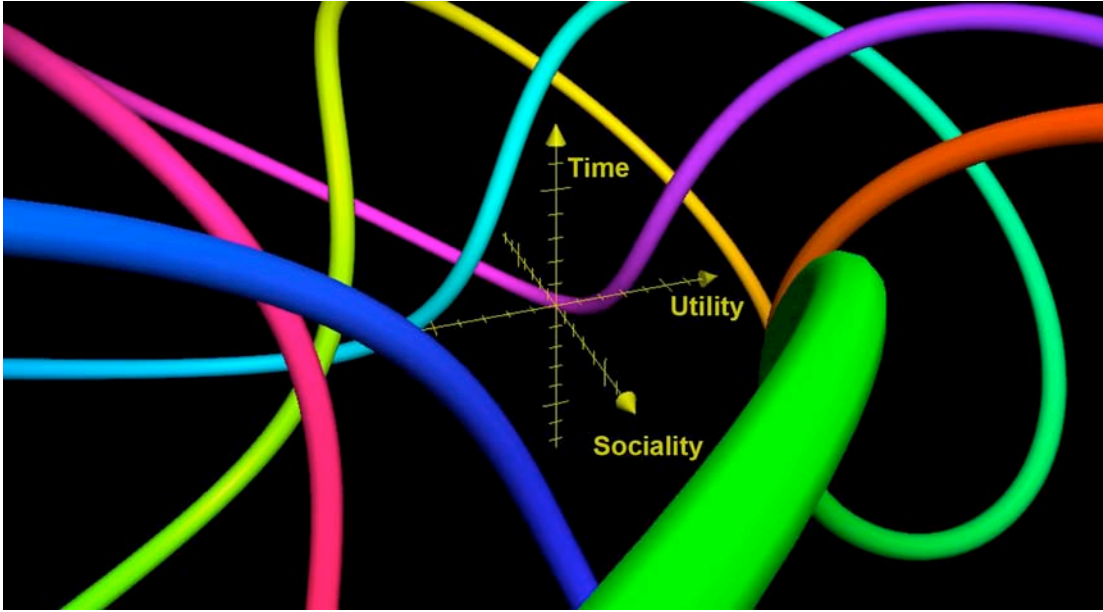
Figure 1 shows a possible way of illustrating the situation using a three dimensional graph. Three axes are postulated any one of which may be dominant in an activity. Time use is only one axis of an activity. Others might be considered as subsumed under sociality and utility. Whichever way the axis is tilted one or the other will be uppermost and therefore primary in determining the importance of the activity. Therefore, in some activities, such as harvesting or planting, time is the dominant factor in determining importance. In others, such as preparing feasts for ancestors, sociality is the foremost determinant of importance. Or the fact that an activity is fixed or optional as a factor of utility, such as a woman steaming rice and preparing meals each morning may likewise determine an activity’s relative meaningfulness. Thus time expended, in and of itself bears no necessary direct relationship to the value of an activity.

Figure 3 – Axis of Time in relation to the Whole Activity



Furthermore, activities themselves remain embedded in a constantly changing cultural whole with a multitude of aspects that dwarf the activity itself as shown in Figure 2. Activities otherwise identical could differ radically in importance depending upon the cultural setting, a circumstance that leads to misunderstandings and misinterpretations on the part of other ethnic groups, governments or donor agencies.

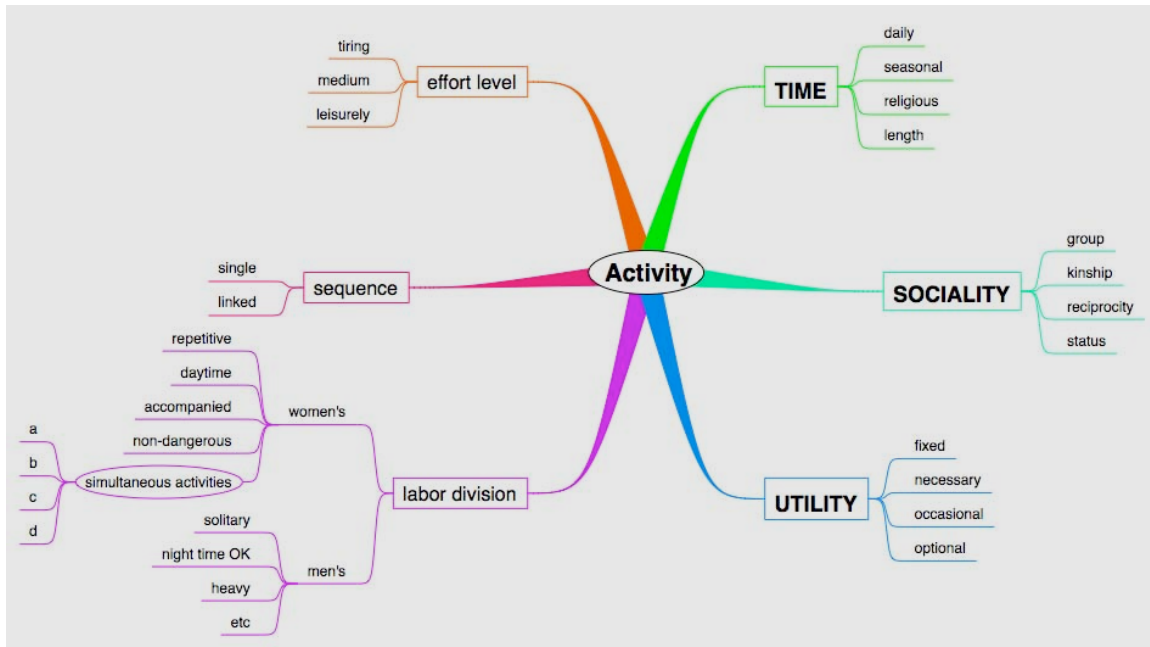
Figure 4 – The Activity in Relation to the Cultural Whole



Obviously an activity does not stand alone as isolated from other activities. However, as a unit of analysis it may be deemed more useful than isolating a single component such as time. But even if retaining the time focus seems desirable, then it would still be possible to select those activities in which time determines importance for further analysis. Such an approach would then help explain cultural difference and diversity in emphasis. It is clear, for example, that time-important activities predominate in Western countries or in China, while in Southeast Asia, and in rural Laos in particular, those activities whose importance is determined by sociality or utility remain dominant.

Other aspects of activities included as in Figure 3 may lead to more refined analyses and allow for multiple definitions of terms like “efficient” or “meaningful,” or their Lao cognate concepts “graceful” and “elegant.”

Figure 5- Composition of an Activity



Take the case of a woman who goes to the river to bathe, wash clothes, fetch water, and socialize. It is difficult to separate the linked tasks, and though these are necessary tasks, they are not fixed, and while utilitarian they are also carried out in groups and therefore serve a simultaneous social function. Likewise if children accompany her, the activities all interact with simultaneous child care. Time actually spent is flexible and focus on that measurement serves only to distort and to mislead.

On the other hand, activities where the utility is fixed and time is compulsory are revealed in the study as women's activities, particularly preparation of meals, an activity that also creates social value for the woman and the family, a product not only of her skill at cooking, but her economic expertise in apportioning just the right amount of rice for each meal.

It would be difficult to make the argument that time is prior to level of energy in determining the structure of activities or in assessing the importance of an activity. Mead (1949) implied that repetitive low energy activities carried out over longer periods of time were characteristic of women while short energy intensive bursts were characteristic of men. This does in fact seem to hold true based on the present study, particularly when danger is added to the list of men's traits (activities carried out alone at night, and so on) where danger is a substitute for energy.⁴⁰ The degree to which this "conservation of energy" factor may operate when faced with new livelihood options and economic benefits appears to be considerable. The decision to invest in a hand tractor would seem

⁴⁰ To measure this in an absolute sense would be difficult, although Rappaport (1968) was able to measure overall calories expended versus calories produced in a New Guinea village.

to be based to no small degree on the energy saved in fetching water, fetching firewood, or transporting rice to the mill. Even the rather clear savings in time when plowing compared to the use of buffalo might just as well be analyzed as a savings in energy (both human and buffalo).

In another dimension of activities, that of skill, time spent is rarely a factor in determining value of handicrafts such as basketry or textiles.

The Essence

In short, whether the broader aspects of agrarian societies in Khammouane are examined, or whether the details of time use by women are scrutinized, neoclassical economic theory cannot account for local patterns of behavior. Other concerns are prior and these are intimately associated with maintenance of the social integrity of the village as a unified whole.

The parameters of women's time use can be summed up with the following rules that apply to all ethnic groups in all sociocultural zones in the study. Exceptions are those activities that are rare or are less frequent in occurrence.

Rule No. 1. All activities are carried out with other persons present [activities done alone are the exception]

Rule No. 2. All activities are simultaneous or multifaceted [single or mono-faceted activities are the exception]

Rule No. 3. No activities have strict time constraints [rushed activities are the exception]

Rule No. 4. The only fixed activities (that must be carried out daily) are rice and food preparation

From this it is concluded: (1) time is not uppermost in villager thinking and this results in, or is reinforced by, cultural systems and structures that serve to immobilize time; (2) in determining value of an activity, energy expended takes precedence over time expended; (3) the unit of analysis in development work would more usefully be regarded as the 'activity' rather than 'time'; and (4) gender roles are fluid, those that have traditionally been associated with women's time use shift easily to men (and vice-versa) when convenient.

Conclusions and Implications

Working through the information collected during the study and the present analysis stark contrasts emerge that challenge existing thinking. And although the synthesis shown in Table 16 could be challenged as being overly stereotyped, it nonetheless conveys accurately the considerable differences one finds when more in-depth ethnographically based investigation is undertaken. Most of these premises are not new to men and women anthropologists specializing in Southeast Asia, and this fact alone bestirs a realization that existing information needs to be thoroughly culled prior to additional research and planning.

Table 16– Contrasting Premises

Assumptions	Conventional (Western)	Laos (Southeast Asian)
Gender relations	Stratified	Complementary
Gender and work	Fixed sexual division of labor	Highly fluid roles and shared tasks
Nature of activities	Distinct/exclusionary/individual	Simultaneous, group
Pleasure and work	Work is drudgery and leisure is pleasure	Work and leisure not separable, both pleasurable
Essential Unit of Value in Activities	Time	Energy
Economic Premises	Neo-classical, The rational and needful man	The moral community

Ethnicity

In all topics covered by this study, ethnicity appears as a variable, sometimes measurable as in the case of income generation, and at other times as a hidden discourse underlying inter-village relations, behavior, interpretation, decision-making, reactions to government policy, and approach to development changes generally. These latter aspects of the ethnic variable need to be described and detailed, perhaps in what would resemble what Penny Van Esterik called “ethnographies of development encounters” (1995).

Of the three ethnic categories in the study, the Mon-Khmer Brou are predictably more different from the Lao and the Phou Thay than the latter two are from each other. The Brou can perhaps be described as closer to nature with a pantheon of nature spirits in

addition to those of the ancestors. These are known (eg Vargyas 1996) to exist but were kept secret from the team during the study indicating there is more work to be done and that more time needs to be spent to gain the trust of villagers. This is in fact a very important issue and needs to be pursued further. Izikowitz, writing on the Lamet, another Mon-Khmer group found in northern Laos, writes, "...the feast of the ancestors and all connected with it is the driving force in the entire economic and social life of the Lamet." It is felt that more of this kind of issue would emerge with additional ethnographic research.

Phou Thay and Lao emerged as distinct ethnic groups, less like each other than is commonly held when Tai-Kadai ethnic groups are lumped together as "lowland Lao," *Lao Loum*, or other such ambiguous terms. Phou Thay kinship reckoning is decidedly patrilineal compared with the bilateral Lao. Strict application of customary law by the Phou Thay is unique in Khammouane. They were also revealed as the most likely to adopt rapid changes in religion and livelihood, to embrace modernization, and to view themselves as a unified, ethnically distinct, group. If Leach's criteria as reanalyzed by Kirsch (1973) for societal typology were to be applied, the Lao would emerge as "democratic" and the Phou Thay as "autocratic" (ignoring for the moment that these terms were used originally by Leach and Kirsch in the analysis of upland societies).⁴¹

Synopsis

On their own, with little assistance from the government or from international aid, villagers have adopted new technologies and have, in their own eyes, made improvements in lives and livelihoods. Most villages have rice surpluses and significant livestock holdings. They also have rice mills and hand tractors in increasing numbers. Villagers in Zone 3 are rapidly graduating to pick-up trucks. To villagers, however, these are not "time saving" devices, they are rather "labor saving devices." The distinction is critical.

The time allocation study has revealed a lack of urgency in time use and an overall feeling of security in terms of rice production and livestock. The relative return on labor or the maintenance of a healthy labor supply is the fundamental definition of well-being and quality of life inextricably embedded in ritual and religion.

Recent adaptations to new technology have dismantled beliefs surrounding the gender division of labor, supporting Karim's notion of the importance of bilateralism and the fluidity of gender roles in Southeast Asia. Men carry out activities previously considered as "women's work" using tractors to haul water, fetch firewood, and to haul rice to the mill, with little visible impact on social structure. Women in Zone 3 are beginning to plow with tractors and are heavily engaged in deep water fishing in the Mekong. Belief

⁴¹ So far as I am aware, the application of this dichotomy has not been acknowledged for lowland Lao-Tai societies other than by myself (1991) which inspired historian Michael Vickery (p.c.) in an unpublished (?) paper.

systems are merging into new syncretisms, with ancestor worship (and the accompanying feasting) held constant.

At the same time, livestock projects, village funds, rice banks, and community forestry projects that have been undertaken in the area have failed, no doubt because planning was not based upon the analysis of real situations on the ground.

Based on the evidence collected here, time re-allocation is demonstrably not the answer for future development. For villagers in the study, when opportunities are seen that meet their criteria of optimizing production while maximizing quality of life, defined in an ethnic context, that is, subject to the vicissitudes of ritual prestige, they will expand or modify their non-compulsory time use to take advantage of the situation.

Implications

It goes without saying that this study has only exposed the tip of the iceberg and that more detailed studies should be carried out to solidify or refine what we think we know. For the Brou this is particularly important since the language barrier has certainly prevented us from obtaining a more in-depth understanding. A number of villages in remote areas of southern Boualapha remain essentially inaccessible both physically and psychologically. However the present study has brought to light the general parameters of time use and activities that can be built upon in future studies.

The central question becomes, what can outside interventions do, what is needed that villagers themselves cannot already supply? How can we come to know what they know prior to implementing mitigations?

Tertiary education opportunities are one of the desired services that has not been adequately provided by the government. Many students, especially in Zone 3, who complete secondary school are unable to continue. This could be provided in the form of an agricultural college or some other form of tertiary education since this is what villagers are requesting. In this way villagers may be offered the opportunity to define their own directions for development which they obviously prefer.

Reliable veterinary services, especially vaccinations likewise have not reached most of the population. Livestock, especially large bovines, are a vital part of livelihood systems providing social security in addition to wealth and prestige. Past failures here need to be investigated first.

With respect to the market, it is concluded that it will happen anyway because it will always appear when the conditions are suitable. Thus focus should be on conditions, not on the economic abstraction. In approaching the market in this indirect way, the primary concern is to insure that societies are not adversely affected by the introduction of artificial changes in social structure, however unintentional.

Villagers need to be involved in the planning process from the beginning, before too many irreversible decisions have been made. This does not mean rapid appraisal but rather in-depth participation and utilization of villager "*mētis*." This process should mirror village attitudes and be scrupulously aware of their considerable knowledge base and their ability to investigate. In the eyes of the villagers there is no urgency so ample time should be allowed to carry out planning and preparation with adequate care, or should we say grace and elegance ?

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Appendix 1 – Time Allocation of Selected Women from Nine Villages

Notes for reading the time allocation tables:

1. Water is carried in pails on both ends of shoulder pole.
2. Glutinous rice is steamed in a basket or wooden tube set on a spittoon-shaped pot of boiling water. When it is ready, it is dumped out of the basket and spread onto a special flat basket or tray where it is fanned to cool off before being put into a special rice basket with a cover. In most languages of Laos the words for rice and for food are separate categories, so cooking food would not include rice as it would in English.
3. The most common food to eat with rice is a kind of soup or stew (*keng*) which can have any ingredients, but commonly leafy vegetables and bamboo shoots or mushrooms.
4. Houses and field huts are on pylons so leaving the house means going down and vice-versa.
5. The table is low, round, and tray-like in shape usually made from bamboo and rattan. People sit on the floor and put the food on the table. The table is kept hanging on the wall or placed in the rafters when not being used.
6. Glutinous rice must be soaked for several hours before it is steamed.

Table 1 – Na Tanchay (1), Zone 1

Bio **Nang Nyengma: - Ban Na Tangchay**

- age 22
- no schooling
- husband Thao Khamtanh, age 24, teacher
- 2 children (son age 3, daughter age 1 yr 6 mo)
- 7 persons in hh, live with husband's family (parents and YoSis of Hu)
- ethnic Phou Thay Ho

Time	Activities in 24 hour period (4/5/05)
0430	Gets up, makes fire, puts rice on to steam (HuMo watches rice)
0450	Goes to fetch water from river (200 m from house)
0510	Bathes and returns with water (stopping to defecate in woods on the way)
0540	Returns with water, takes care of children while cooking (husband goes off to check fish lines in Xé Bangfay river)
0605	Sets table for husband's parents to eat
0630	(parents and sis-in-law go to seedling bed field) she watches children and waits for husband to return from checking fish lines
0700	Husband returns, they sit down to eat, she eats and feeds children at same time
0730	Puts away table, husband watches kids, she washes dishes and sweeps the floor, and puts water on to boil
0800	She takes children from husband, he goes to teach, she stays at home with children
0830	Fries fish that husband caught and puts them in sun to dry, children play nearby
0910	Plays with children under the house
0945	takes children and naps up in the house
1050	Wakes up
1105	Goes into kitchen and makes fish stew while waiting for husband to come back at noon, carries youngest child in cloth strap, husband's parents return from field
1145	Husband returns, sets table, eat
1210	After finish, puts away table washes dishes,
1230	husband plays with oldest child in living area of house
1245	She takes youngest child to relax under the house of a friend nearby
1430	Comes back with child, puts him to sleep in cart under house
1510	Takes children to river to bathe and fetch water
1540	Returns, makes fire, steams rice, HuMo watches rice, goes back to fetch more water, carries child in cloth strap
1620	Returns, brings in the fish left to dry in sun
1640	Fans rice, husband returns from school
1700	Husband's parents return from field, she watches children
1715	Goes to kitchen and cooks
1750	Goes to bathe, waters peppers in garden on the riverbank, returns carrying water
1830	Sets table, eats, feeds children at same time
1900	Puts away the table, washes dishes, sweeps floor, husband watches children
1925	Plays with children in house, husband goes out to set fish lines
2010	Puts rice in pan to soak, looks over house to make sure everything is in order, straightens things
2030	Takes children in and goes to sleep

Table 2 – Na Tangchay (2), Zone 1

Bio	Nang Khay:	<ul style="list-style-type: none"> - Ban Na Tangchay - age 48 - no schooling - husband Thao Len, age 48, teacher - 5 children - 9 persons in hh, (includes SoWi and grandson) - ethnic Phou Thay Ho
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Time	Activities in 24 hour period (5/5/05)
0430	Gets up, makes fire, steams rice
0450	Washes dishes, da-in-law goes to fetch water, husband goes to mill rice
0515	Grandson (3 mo old) wakes up, goes to hold him
0520	Fans rice and watches baby, (da-in-law continues fetching water)
0530	Carries baby in cloth strap and goes to feed chickens
0545	Takes baby back up to house, da-in-law cooks
0600	Eat
0630	Puts table away (da-in-law sweeps floor and washes dishes)
0640	Prepares things and go to field, husband goes to field as well with son
0730	Arrive at field, watches baby in field hut, with da-in-law
1000	Grandson sleeps, goes to collect bamboo shoots
1105	Brings shoots back, cooks them to eat
1130	Grandson wakes up, carries him, cooks, and plays with him
1220	Family returns from paddy field
1240	Set table, eat
1310	Puts table away, relaxes
1420	Goes to work in field with husband and children, da-in-law takes baby and breastfeeds
1510	Goes to field hut and watches baby, da-in-law works in field
1640	Prepares things and returns home (all together)
1720	Arrives home, sits and relaxes
1735	Goes to bathe and wash clothes, goes to woods to defecate
1810	Returns, sits and relaxes
1830	Helps da-in-law washing dishes
1850	Watches baby, da-in-law cooks
1920	Eat
2000	Puts table away, plays with baby
2115	Goes to bed

Table 3 – Na Tangchay (3), Zone 1

Bio	Nang Khao:	<ul style="list-style-type: none"> - Ban Na Tangchay - age 18 - P2 - husband Thao Cheng, age 20 - no children - only the two persons in hh (husband's parents are dead) - ethnic Phou Thay Ho
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Time	Activities in 24 hour period (6/5/05)
0430	Gets up, makes fire, steams rice (husband already up, gone to check fish lines)
0450	Feeds pigs and chickens, keeping an eye on the rice
0510	Washes dishes, sweeps floor, fans rice
0540	Takes shoulder pole and pails and goes to fetch water (almost 1 km from house)
0610	Returns and pounds rice (husband, after checking fish lines, goes directly to paddy field)
0700	After pounding rice, carries it up to put away in house
0715	Prepares food and water to take to join husband and other relatives in paddy field
0730	Walks to paddy, about 1.5 km
0800	Arrives at field hut, calls to husband to come and eat
0810	Eat
0830	Puts table away, goes to nearby stream to fetch water and bring back to field hut
0850	Begins to weed the seedling bed, husband is making a fence
1230	Comes back to the field hut to rest, eat
1300	Puts table away, washes dishes
1315	Lies down to rest
1430	Continues weeding, husband continues fencing
1600	Goes to collect bamboo shoots
1650	Returns and gets things ready to go home
1710	Departs paddy field for home along with husband, carries firewood
1740	Arrive home, sits and rests a little
1750	Makes fire, steams rice
1805	Feeds pigs and chickens
1825	Comes up to fan rice
1840	Goes to bathe, wash clothes, and fetch water (husband follows, carrying the basket with clothes to wash)
1910	Returns home, cooks bamboo stew
1930	Eat
1950	Puts away table, washes dishes, puts rice in pan to soak
2015	Sits down to rest with husband
2130	Go to bed

Table 4 – Khagnou (1) Zone 1

Bio	Nang Pha:	- Ban Khagnou
		- age 34
		- M3, village health volunteer
		- husband Thao Done, P5
		- 3 children (girl 14, girl 12, boy 10)
		- 6 persons in hh, (includes HuMo)
		- ethnic Lao (Kaleung)

Time	Activities in 24 hour period (8/5/05)
0330	Wakes up, makes fire, steams rice
0400	HuMo get up steams rice, while Pha goes to fetch water and water the vegetable garden at the Xé Bangfay river (about 100 m from house)
0520	Bathes
0530	Carries water back to house, daughter wakes up and goes to fetch more water, husband mills rice (rice mill at house)
0550	Goes down feed pigs, ducks, chickens (daughter cooks)
0620	Comes back up and sell medicine to villager
0650	Gets things ready to go to paddy field
0710	Ride on tractor to field about 4.5 km, today is Sunday so children all go along with mother and father
0750	Arrive at field, unload tractor
0800	Burn grass off from paddy field (<i>keuak naa</i>), daughter goes to fetch water and cooks, son cuts wood for fence
1130	Goes to rest at field hut, waits for husband
1200	Eat, daughter puts table away and cleans up, they all rest
1430	Continue working in field, clean up burned grass and vegetation, daughters go to collect bamboo shoots, husband and son go to cut more wood for fence
1700	Depart the field
1740	Arrive home, HuMo has been steaming rice
1750	Feeds pigs, ducks, chickens, daughter cooks
1815	Goes to bathe, wash clothes, and go to toilet in woods
1855	Returns, carries water back
1905	Arrives home, sells medicine, gives an injection to a villager who has come to consult with her
1930	Eats, sells more medicine at same time
2005	Daughter cleans up, Pha gives medical advice to more villagers, rests
2215	Goes to bed

Table 5 – Khagnou (2), Zone 1

Bio **Nang Bounheuang:** **- Ban Khagnou**

- age 30
- P5
- husband Thao Kongsy, 28 yrs, M2
- 2 children (girls 1 and 3)
- 7 persons in hh, (wife's family)
- ethnic Lao (Kaleung)

Time	Activities in 24 hour period (9/5/05)
0405	Gets up, makes fire, puts rice on to steam, Mo gets up and watches rice
0430	Goes down to pound rice, husband gets up and watches children
0525	After pounding rice, goes to water vegetables on the riverbank (100 m) and goes to defecate in woods
0610	Returns to house, carries water back, and goes back two more times
0635	Feeds pigs and chickens (Mo cooks)
0705	Goes up to eat
0730	Puts table away, prepares things for field, husband and wife's mother go along (MoFa stays at home)
0755	Goes to field by tractor, about 3 km
0830	Arrives at field, breast feeds baby, then lets Mo watch over baby
0900	Cuts wood for fence around seedling bed, with husband
1130	Comes back to field hut, carried fence wood, Mo has prepared meal
1210	Eat, feeds child, breastfeeds baby
1240	Puts table away, goes to fetch water to drink
1300	Returns, relaxes
1445	Weeds seedling bed
1720	Return back to field hut, get things ready and go home, bring firewood
1800	Arrive home, unload firewood, Mo watches kids, goes to feed pigs and chickens
1830	Goes to bathe, and fetch water, and water vegetables
1900	Returns home, cooks
1940	Eat, feeds children
2005	Puts away table, sweeps house, Mo washes dishes, husband holds baby
2030	Rests, Fa and Hu go to visit sick person, Mo puts rice in pan to soak
2130	Takes children in to sleep

Bio Nang Chanhtho: - Ban Khagnou

Time	Activities in 24 hour period (10/5/05)
0420	Get up, make fire, steam rice
0450	Go down to pound rice, HuElSis gets up to watch rice steaming, husband is already up, has gone to check fish lines
0600	Feeds pigs and chickens
0620	Fetches water, two trips, about 200 m from house
0640	Cooks, husband returns from checking fish lines
0700	Eat
0720	Puts table away, prepares things to take to paddy field
0740	Walk to paddy field, about 4 km from house, husband and husband's mother accompany
0850	Arrive at paddy field, goes to fetch water for drinking, goes to defecate in woods on way
0905	Returns, begins weeding seedling bed, husband is making fence, HuMo cooks
1130	Stops weeding and goes to field hut, rests, waits for Hu to come back from cutting wood for fence, food is ready
1215	Eat
1240	Puts away table, lies down to rest
1500	Goes back to weeding with HuMo, Hu goes to cut more wood
1730	Go back to field hut and get ready to return home, on the way back, collect bamboo shoots, mushrooms and vegetables
1830	Arrive home, HuElSis has steamed rice already, and HuYoSis has already fetched water
1850	Feeds pigs, ducks, and chickens, HuElSis cooks
1910	Goes to bathe
1935	Returns with more water
1945	Sets table and they eat
2015	Puts table away, sweeps floor, washes dishes, puts rice in pan to soak
2040	Sits and relaxes, husband goes to set fish lines and hunt frogs
2130	Goes to bed

Table 7 – Soy (1), Zone 1

Bio	Nang Thy:	<ul style="list-style-type: none"> - Ban Soy - age 16 - P3 - husband Thao Khen, age 16 - newly married, no children - 6 person total in hh, husband's family (Mo, Fa, FaElBr, niece) - ethnic Brou
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Time	Activities in 24 hour period (12/5/05)
0415	Gets up, makes fire, puts rice on to steam
0430	Goes down to fetch water, three trips (spigot is in front of house)
0440	Wash dishes and watches rice, husband get up and sits with her
0455	Fans rice, puts on stew pot on fire (husband's MO gets up and goes down to feed pigs
0520	Set table, eat together
0550	Puts table away, washes dishes
0600	Prepares rice and water to take to paddy field
0620	Rides tractor to paddy, about 2 km from house, husband and his mother go along
0640	Arrives at paddy field, unloads things from tractor, goes to defecate in woods
0700	Begins weeding the seedling bed, husband goes to cut wood for fence
1105	Stops to rest (at field hut)
1130	Eat
1150	Puts table away, lies down to rest
1430	Helps husband with fence and weeding
1620	Loads up the tractor, goes to collect some bamboo shoots on edge of paddy
1650	Travels home
1700	Arrives home, unloads tractor, husband's MO has been steaming the rice waiting for them to return
1745	Fetches water, three trips, and goes down to feed pigs and chickens
1805	Comes up to cook, makes bamboo shoot stew
1830	Eat dinner
1900	Puts the table away, fetches water two more times to wash dishes
1930	Goes out to hunt frogs with husband
2130	Returns home, bathes
2150	Goes in to sleep

Table 8 – Soy (2), Zone 1

Bio	Nang Mao:	<ul style="list-style-type: none"> - Ban Soy - age 15 - P2 - husband Thao Hom, age 24 - newly married, one child (boy age 5 mo) - 8 person total in hh, husband's family (Mo, Fa, FaMo, YoSibs) - ethnic Brou
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Time	Activities in 24 hour period (13/5/05)
0430	Wakes up, makes fire, steams rice
1450	Goes down to pound rice, stopping occasionally to watch over the rice (baby still asleep with husband)
0530	Fans rice, husband holds baby
0540	Goes down to continue pounding rice
0630	Carries pounded rice up to house
0640	Goes to fetch water, 2 trips (about 50 m from house)
0650	Roasts frogs, prepares things to go to swidden
0720	Walks to swidden, takes baby along, about 1.5 km, goes with husband
0750	Arrive at swidden, gets the table from the field hut and eats while breast feeding baby
0810	Puts table away, puts baby in hammock and rocks to sleep, husband has already begun poking planting holes with dibble stick
0850	Goes to plant rice seed in holes, keeps eye on baby
1210	Stops planting to breast feed baby
1230	Walks back home
1300	Arrives home, FaMo takes baby
1315	Goes to bathe, washes baby clothes, goes to defecate in woods
1345	Returns home, brings water at same time
1350	Cooks, baby sleeps with husband
1410	Eat
1430	Puts table away, sits down to rest and breast feeds baby
1530	Makes fire, puts rice on to steam
1550	Goes to fetch water, 3 trips
1610	Returns from fetching water, feeds pigs and chickens
1640	Cooks, makes bamboo shoot stew
1715	Eat dinner
1745	Puts table away, washes dishes
1800	Goes to round up chickens and put in coop
1820	Goes to bathe, bring back water
1835	Arrives back, breast feeds baby, lies down to rest
2030	Takes baby in and goes to sleep, (husband has gone frog hunting)

Table 9 – Soy (3), Zone 1

Bio	Nang Sone:	<ul style="list-style-type: none"> - Ban Soy - age 28 - no schooling - husband Thao Boun, age 35 - 3 children (son 6, daughter 2, son 6 mo) - 8 person total in hh, husband's family (Mo, YoBr and Wi) - ethnic Brou
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Time	Activities in 24 hour period (14/5/05)
0430	Wake up and pounds rice (BrWi steams rice)
0530	Carries pounded rice up to house
0545	Goes to fetch water and wash face (approx 100 m from house)
0600	Comes back, feeds pigs and chickens
0620	Goes up to cook (husband goes to visit a sick person)
0640	Set table, eats
0705	Puts table away, prepares drinking water to go to swidden
0720	Goes to swidden (alone) about 1 km from house
0740	Arrives and begins weeding
0830	Friend comes to see her, and together they go to her field to prepare holes and plant rice in friend's plot (reciprocal labor exchange)
0850	After arriving at friend's plot, go to nearby forest to cut stake for poking holes to plant rice, and small pieces of wood to cover the holes after rice is planted (use the time in forest to do bodily functions as well), then begin the planting process (there are 6 friends in all helping)
1205	Return home, stopping along the way to gather wild to gather wild mushrooms and vegetables, and when passing by her own plot, pick up a load of firewood to carry back as well (returns with her 6 friends)
1300	After arriving home, picks up shoulder pole and two pails and goes off to bathe
1340	Returns from bathing carrying water
1410	Sets table to eat
1430	Puts table away (younger sister-in-law washes dishes)
1440	Sits down to rest, weaves a small fish net (the kind with triangular wood frame)
1500	A friend comes to invite her to go visit a sick person in the village
1610	Comes back home
1620	Goes to fetch water, 2 trips
1640	Makes fire and steams rice
1700	Feeds pigs and chickens, while keeping an eye on rice
1715	Fans rice
1730	Goes to bathe, and fetch water
1750	Returns and cooks
1830	Eats and then relaxes
2010	Goes in to sleep

Table 10 – Phonsa-at (1), Zone 2

Bio	Nang Ka:	<ul style="list-style-type: none"> - Ban Phonsa-at - age 23 - no schooling - husband Thao Hom, age 27 - has had 7 children, 4 survived - 6 person total in hh, children ages 6, 4, 1 yr 2 mo, baby 20 days - ethnic Brou
Time	Activities in 24 hour period (20/5/05)	
0415	Gets up, starts fire, puts rice on to steam, husband already up, went fetch water	
0430	Watches over steaming rice, chews rice to steam for baby (not awake yet)	
0500	Washes diapers at home, husband has returned with water, he fans the rice	
0530	Pounds already milled rice to make gruel for 1 yr-old	
0610	After boiling rice, cooks, baby wakes up husband goes to bring him to mother	
0630	Sets table to eat, holds 1 yr-old in lap and feeds him – as new mother many foods are taboo so she eats own food	
0650	Puts table away, husband goes to paddy field with oldest boy	
0700	feeds cooked chewed rice to baby	
0730	Holds baby and feeds the 1 yr-old, 4 yr-old feeds herself and then is left to play around outside the house by herself	
0810	While carrying baby in cloth strap, hangs diapers to dry	
0830	Puts baby to sleep, goes to toilet in woods`	
0845	Returns from woods, baby still asleep	
0850	Chews more rice for to steam for baby	
0920	Baby wakes up, goes to pick him up	
0930	Puts rice water in bottle for the 1 yr-old and puts him to sleep under the house in cradle	
0940	Breast feeds baby while rocking the cradle	
1005	1 yr-old asleep, carries baby and goes to pick squash sprouts to cook	
1015	Goes up to cook food for husband	
1040	Cooking finished goes down to sit with baby in cradle	
1115	Husband returns from field, 1 yr-old wakes up	
1130	Set table for husband and holds children, she eats only a few non-taboo items	
1200	Cleans and puts away table, feeds chewed rice to baby, husband goes to fetch water	
1230	Feeds 1 yr old	
1250	Puts baby to sleep and goes to take diapers off the line	
1300	Goes up to bathe, wash dishes and put rice in pan to soak	
1330	Goes to sit and relax under the house with husband and children	
1420	Husband goes to field, she stays with children	
1530	Starts fire to steam rice, both small children are asleep, pounds rice to cook for 1 yr-old	
1610	Fans rice and boils gruel while chewing rice for baby	
1630	1 yr-old wakes up, holds him while watching boiling rice	
1650	feeds gruel to 1 yr-old and gives rice to 4 yr-old	
1720	Breastfeeds baby	
1750	Carries baby with cloth strap while cooking, husband returns from field, goes to fetch water	
1830	Sets table and they eat their separate foods	
1900	Cleans and puts away table, washes dishes, husband takes care of children	
1920	puts rice in pan to soak, bathes	
2000	Breastfeeds baby and goes to sleep, husband goes frog hunting	

Table 11 – Phonsa-at (2), Zone 2

Bio	Nang Khamsouk:	- Ban Phonsa-at - age 40 - never went to school - husband in Thao Ka, 40, no schooling - have 7 children, 3 still in hh with family - 10 total in hh, including 3 children and 5 grandchildren - ethnic Brou
Time	Activities in 24 hour period (21/5/05)	
0400	Gets up, makes fire, puts rice on to steam, watches it until ready	
0450	Fans rice, husband gets up and goes to work in rice seedling bed (alone)	
0500	Goes to fetch water, about 300 meters from house	
0515	Returns and roasts some frogs	
0545	When frogs are done, gets thing ready to take to the paddy field (about 800 m away), goes with children	
0600	Arrive at field, put things away and begins pulling grass from seedling patch	
0830	Goes into woods to defecate	
0850	Returns and call husband to come to eat	
0915	After eating, continue work in field, all family members assist	
1100	Goes with 2 daughters to collect bamboo shoots at edge of paddy field	
1140	After collecting some shoots, picks up a log and carries it back to the house to use for firewood	
1205	Arrive back at house, puts water on to boil for cooking the shoots	
1215	Goes to bathe, daughter watches the pot on the fire	
1230	Returns from bathing carrying water, daughter cooks the bamboo shoots	
1300	Husband returns from field with children, she relaxes and chews betel	
1320	Sets the table and eat together, in-laws eat at separate table but eat the same food	
1350	Puts table away, daughter washes dishes and fetches water	
1400	Sits and relaxes, chews betel and listens to music	
1520	Returns to field, continues weeding, husband goes to visit a sick person in the village	
1720	Returns home, carries firewood, daughter is at home steaming the rice, Khamsouk relaxes	
1750	Goes to bathe and wash clothes	
1840	Bring water back, hangs clothes to dry	
1910	Sets table and eats	
1950	Goes to visit sick person in village	
2040	Returns and goes into bedroom	
2100	Comes out and sits chewing betel, husband goes out to hunt frogs	
2130	Goes to bed	

Table 12 – Phonsa-at (3), Zone 2

Bio	Nang Pek:	- Ban Phonsa-at - age 17, completed grade 2, newly married and 2 months pregnant - her husband is Thao Khane, age 21, completed grade 5 - they live together in a house separate from parents - ethnic Brou
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Time	Activities in 24 hour period (22/5/05)
0530	Gets up, makes fire, puts rice on to steam
0550	Goes to fetch water, 3 times (2 pails each time), distance to well in about 35 meters
0620	Fans rice, puts pot on fire to make stew
0630	Goes down to feed chickens then comes back up to wake her husband
0645	Adds ingredients to the stew, husband gets up
0700	Sets the table and they eat
0720	Puts the table away, sweeps the floor, husband goes to work at sawmill
0730	Washes dishes, boils water for drinking and waits while it boils
0820	Takes water off the fire and goes to invite friends to go gathering bamboo shoots
0930	Goes out with friends to gather bamboo shoots
1100	Returns home
1120	Starts fire to cook the bamboo shoots and goes out to bathe and fetch water
1210	The bamboo shoot soup is ready, waits for husband
1230	Husband returns from sawmill, they eat together
1300	Puts table away, sweeps the floor, washes dishes, puts rice in pan to soak for next meal
1320	Lies down to rest with husband while listening to music
1350	Goes down to stroll around the village visiting with friends
1515	Fetches water for husband to bathe, two times
1550	Starts fire, puts rice on to steam, husband watches over rice
1610	Fetches more water, two times
1640	Fans rice, cooks
1720	Fetches water two more times
1735	Sets table and they eat
1800	Puts table away, washes dishes
1820	Fetches water two more times
1840	Goes down to feed chickens and goes to the woods to defecate
1900	Returns from woods, rounds up chickens to put in coop for the night
1920	Goes up to house and bathes, puts rice in pan to soak
1940	Lies to rest while husband goes out to hunt frogs
2030	Goes into bedroom to sleep while listening to the radio

Table 13 – Keng Chone (1), Zone 2

Bio	Nang Nintha:	<ul style="list-style-type: none"> - Ban Keng Chone - age 33 - never attended school - husband Thao Chane Nouan, age 37, completed P5 - 4 children - live with husband's parents - ethnic Phou Thay
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Time	Activities in 24 hour period (26/5/05)
0410	Gets up, makes fire, puts on rice to steam, oldest son gets up to watch over the rice
0430	Goes to fetch water, about 400 m, husband gets up and goes fishing with casting net
0500	Returns with water (2 trips), gets things ready to go to paddy field
0530	Husband returns from fishing, Nintha cooks for whole hh
0600	Puts everything in the tractor and set off for paddy field (8 km away) along with husband and children
0740	Arrives at field, unpacks tractor
0800	Sets the table (husband's parent's eat separately, but the same food)
0820	Puts the table away, drinks water
0830	Goes to cut wood for fence around the field (and defecate in the woods), accompanied by husband and children
1200	Returns from cutting wood
1220	Eat
1250	Put away table, drinks water, rests
1420	Takes the cut wood to the paddy
1510	Places the fence stakes around the paddy, husband pounds in the stakes
1600	Goes to gather truffles around the edge of the paddy
1650	Returns with truffles, puts things in tractor
1710	Sets off for home, husband's mother has been steaming rice
1850	Arrives home, children unload tractor
1910	Goes to bathe and fetch water
1940	Cooks, makes truffle stew
2000	Eat (separate table from parents)
2030	Chews betel (children clean tables and wash dishes)
2130	Goes to bed

Table 14 – Keng Chone (2), Zone 2

Bio **Nang Noy:** - **Ban Keng Chone**

- age 32

- P5

- husband Thao Thongphanh, age 31, teacher

- 5 children (youngest 5 mo)

- ethnic Phou Thay

Time	Activities in 24 hour period (27/5/05)
0500	Gets up, makes fire, puts rice on to steam (son watches rice)
0515	Goes to fetch water from well, 500 m from house
0545	Returns, fans rice, (husband gets up and goes to check fish lines left overnight, son feeds ducks and chickens)
0610	Cooks, using fish caught by husband
0640	Sets up table, eat
0700	Puts table away, sweeps floor, washes dishes (husband gets ready for school)
0720	Prepares things to go to paddy field, oldest boy carries baby in cloth strap, Noy takes a 5 litre pail and fills with water from well and a basket with things (on both ends of a shoulder pole) and walks to the paddy field about 1.5 km away, goes to toilet on the way, all the children go along
0800	Arrives at field, breast feeds baby
0820	Begins weeding the seedling bed, oldest son takes care of baby and the other children at the field hut ¹
1005	Breast feeds baby
1025	Continues weeding
1130	Eat
1200	Puts away table, rests
1425	Breast feeds baby, puts baby to sleep, oldest son takes care of other children
1435	Continues weeding
1600	Baby wakes up, goes to breast feed, drinks water
1620	Goes to gather truffles, oldest boy watches children
1700	Returns from gathering truffles, husband comes to help take children back to house
1720	Walks home, husband carries baby, oldest son carries firewood, Noy carries shoulder pole with things and picks fruit on the way back
1800	Arrive home, goes up to make fire and steam rice, husband watches rice
1820	Goes to bathe and fetch water
1840	Breast feeds baby, husband goes down to feed pigs, son/children feed the ducks and chickens
1900	Cooks, makes truffle stew
1930	Sets table, eat
2000	Puts away table, (oldest son washes dishes), puts rice in pan to soak
2010	Carries baby in cloth strap to visit sick niece/nephew, husband accompanies
2040	Return home, sit and rest, watches TV
2200	Goes to bed

¹ A 'field hut' is a small hut on a raised platform used for cooking and sleeping.

Table 15 – Keng Chone (3), Zone 2

Bio **Nang Liap:** - **Ban Keng Chone**

- age 20
- P2
- husband Thao Phayvanh, age 28, teacher
- newly married, no children
- live separate from parents
- ethnic Phou Thay

Time	Activities in 24 hour period (28/5/05)
0500	Get up, make fire, put rice on to steam
0520	Goes to fetch water, approx 500m from home, makes two trips
0550	Returns, fans rice
0600	Puts the stew on the fire, and goes down to feed pigs and chickens (husband wakes up and sits grading papers)
0620	Comes back up to continue cooking
0650	Sets out table and eat (together with husband)
0715	Cleans and puts table away, washes dishes, prepares drinking water to take along to charcoal ovens
0730	Go out to remove charcoal from the oven that was put in to smolder the day before (husband accompanies with push cart)
0750	Arrive at charcoal oven (about 1 km from house), puts cart in shade of tree
0800	Together, remove the cooked charcoal from the oven and put out the fire by putting sand on the charcoal to cool it
0910	Place charcoal in bags (100 kg rice sacs), today there are 7 bags full
1100	Carry bags and place them on the cart
1140	Return home pushing the cart with charcoal, with husband
1205	Arrive home, put away the charcoal bags under the house
1220	Cook (husband goes to bathe)
1300	Eat (together)
1320	Put away table sweep the floor, wash dishes, puts rice in pan to soak
1340	Lies down to rest
1450	Prepares drinking water to take along, return to charcoal oven with husband
1510	Arrive at oven, goes into wood to defecate
1525	Removes more charcoal from ovens and puts into bags, 3 bags this time
1605	Puts bags on cart
1615	Goes into woods to gather bamboo shoots and truffles with husband
1700	Returns and puts shoots and truffles on cart
1710	Sets out for home, along with husband
1740	Arrives home, puts charcoal away
1750	Goes up to make fire and put rice on to steam (husband feeds pigs and chickens)
1805	Goes to fetch water and bathe at the well, socialize with other women there (husband remains to watch the rice steam)
1840	Returns, cooks, makes bamboo stew
1910	Arranges table for eating, watches TV at same time, eat
1945	Puts table away, washes dishes, sweeps floor, puts rice in pan to soak
2000	Sits and watches TV, relaxes (husband continues grading exams)
2230	Turns off TV, goes to bathroom
2250	sleep

Table 16 – Pha Khong (1), Zone 2

Bio **Nang Inthava:** - **Ban Pha Khong**
 - age 20
 - M3
 - husband Thao Khek, age 27, M3
 - newly married, no children
 - live with Inthava's family (MO, FA, 5 SIBs)
 - ethnic Lao (Kaleung)

Time	Activities in 24 hour period (01/06/05)
0500	Get up, make fire, steam rice, wash dishes
0530	Goes to fetch water at well, 4 trips, (60 m) (husband gets up, goes to check on seedlings in field, YoSis feeds chickens)
0600	Fans rice, sweeps floor, prepares food
0640	Food is cooked, goes to weave at loom, husband returns
0725	Prepares table and sets out food for husband to eat, she eats separately in the kitchen (YoSis departs for Thakhek)
0750	Puts table away, sweeps floor, washes dishes
0810	Fixes water and food for husband to take to paddy rice field (by himself)
0830	She goes separately to swidden field (distance 2 km), goes along with friend who are also going to their swiddens in same location
0850	Arrives at swidden, starts to weed
1005	Goes to defecate in woods
1020	Continues weeding swidden
1130	Goes to gather bamboo shoots, truffles, returns home
1245	Arrives home, makes fire to boil shoots
1310	Goes to fetch water from well, 2 trips, to bathe at home
1330	Prepares food, makes stew of shoots and truffles
1400	Sets table to eat (eat all together)
1430	Puts table away
1500	Makes fire to boil water for MO to drink, weaves at loom
1630	Puts rice on to steam
1645	Goes to fetch water for MO to bathe (4 trips)
1720	Fans rice and goes down to feed chickens
1750	Comes back up to prepare food
1840	After food is cooked, goes to bathe and wash clothes
1900	Returns from well, hangs out clothes (brings back more water at same time)
1920	Sets table to eat
1955	[YOSIS puts table away and washes dishes]
2010	Goes to visit sick person with husband
2050	Husband brings her back, then returns to sleep with sick person, watches TV
2230	Goes to bed

Table 17 – Pha Khong (2), Zone 2

Bio **Nang Khane:** - **Ban Pha Khong**
 - age 23
 - P5
 - husband Thao Say, age 37, M3
 - gave birth to 3 children, 2 died (remaining son age 8)
 - ethnic Lao (Kaleung)

Time	Activities in 24 hour period (02/6/05)
0415	Wake up, make fire, put on rice to steam
0430	Weaves on loom while waiting for rice to steam
0500	Fans rice, goes to fetch water (40 m)
0530	After fetching water, kills chicken to cook (husband gets up and goes to work in rice field next to house)
0620	Having prepared the meal, goes down to feed pigs and chickens (son wakes up)
0700	Calls husband to come and eat
0730	Sets table, and eat together
0750	Puts table away, cleans up and prepares things to go to another rice field about 1 km away
0810	Departs house with husband and son
0830	Arrive at field, puts things away in the field hut
0845	Begins weeding in seedling bed
0930	Goes to defecate in woods, returns and drinks water
0945	Continues weeding
1145	Stops weeding and goes to field hut
1150	Makes fire, boils water to scald vegetables
1220	Eat and put table away
1240	Sits and rests, drinks water
1330	Continues weeding
1630	Stops weeding, readies things to return home, on the way home gathers mushrooms
1720	Arrives home, makes fire, steams rice, feeds pigs and chickens
1745	Goes to bathe, fetch water, at the well (husband watches rice)
1800	Returns from well, cooks
1840	Eat
1910	Puts away table, washes dishes, puts rice in pan to soak
1940	Goes to visit a sick person with husband and son,
2100	Arrives back home, husband walks them back, and then returns to sleep at sick person's house
2145	Goes to bed

Table 18 – Pha Khong (3), Zone 2

Bio	Nang Phet:	- Ban Pha Khong
		- age 21
		- P4
		- husband Thao Nyeng, age 23, M2
		- 2 children (ages 5 mo and 2)
		- live with Phet's family (Mo, Fa, YoSis)
		- ethnic Lao (Kaleung)

Time	Activities in 24 hour period (03/06/05)
0430	Gets up and steams rice (children still asleep with husband)
0500	Goes to fetch water, 3 trips, (dist 110 m), YoSis gets up to watch rice
0530	Feeds pigs and chickens (goes to defecate in woods)
0600	Prepares food, husband gets up and takes care of children
0640	Breast feeds baby, (Mo goes to water peppers)
0700	Prepares table for meal
0720	Puts table away (YoSis washes dishes and sweeps the floor)
0730	Prepares food and water for husband to take to the paddy field where he is building a field hut (goes alone)
0750	Leaves children with Mo, goes to wash clothes and hag up to dry
0830	Takes children to visit friend's house ²
0940	Returns home, feeds children
1020	Breast feeds baby, puts her to sleep
1050	Weaves at loom
1130	Goes to pick an unripe papaya to make spicy sour salad to eat with rice
1200	Sets table and eats
1220	Puts table away, washes dishes, puts rice in pan to soak and then relaxes with children at home
1340	Leaves children with Mo and goes out to take down the clothes that were hung out to dry
1400	Goes alone to swidden (1 km away), but other people are already there as well
1430	Arrives at swidden, cuts cassava stalks and puts them in the field hut (does this alone)
1510	Digs holes and plants the stalks (15 in all)
1620	After planting stalks, goes to gather bamboo shoots and firewood at edge of swidden
1700	Returns home with shoots and carrying firewood
1730	Arrives home, puts pot on fire to cook shoots
1750	Goes to bathe and fetch water, then breast feeds baby
1815	Makes bamboo stew, YoSis invites her to go with her to water pepper plants, Mo feeds pigs and chickens, husband still not home from paddy field
1920	Husband returns, sets table to eat
1950	Puts away the table, breastfeeds baby, relaxes
2020	Lies down with children to play, husband goes to visit sick person
2130	Goes to bed

² Note: the expression in Lao here is *pay lin*, literally, 'to play with'.

Table 19 – Done Khiau (1), Zone 3

Bio	Nang Pe:	- Done Khiau
		- age 20
		- M6
		- husband Thao So, 23 yrs, M6
		- no children
		- 11 persons in hh [7 female] (live with wife's parents)
		- ethnic Lao

Time	Activities in 24 hour period (12/06/05)
0530	Get up, puts rice on to steam, husband goes to work in Savannakhet (at the Kolao motorcycle factory)
0550	Sweeps floor, goes to wash face and to toilet in Bathroom
0620	Takes niece to wash face and then plays with her in living room
0710	Takes fish that older sister and her husband caught to sell door-to-door in village
0930	Returns home and they eat
0950	Puts table away, sweeps floor, washes dishes
1020	Takes niece with her to visit a friend's house
1110	Returns and puts niece to sleep
1140	Cooks, fries fish and puts out to dry, feeds niece
1250	Sets table and eats
1330	Puts table away, sweeps, floor, washes dishes, soaks rice
1400	Takes niece to watch a CD on the TV
1610	Takes niece out to buy some sweets
1630	Makes fire, steams rice, lets Mo watch the rice and the niece
1650	Goes down to feed ducks
1720	Goes to the vegetable garden on the riverbank to pick some squash sprouts
1750	Returns and cuts up the sprouts
1815	Takes the vegetables to her mother for cooking
1820	Takes niece to watch TV while waiting for sister and her husband to return from fishing
1930	Sets table, eat
2005	Puts table away, washes dishes, goes down to put away fish
2030	Relaxes, watches TV, goes to toilet
2240	Goes to bed (husband stays in Savannakhet)

Table 20 – Done Khiau (2), Zone 3

Bio	Nang Le:	- Done Khiau
		- age 23
		- M5
		- husband Thao Pong, 26 yrs, M6
		- 1 child, girl 3.5 yrs
		- 15 persons in hh [10 female] (live with husband's parents)
		- ethnic Lao

Time	Activities in 24 hour period (13/06/05)
0430	Gets up, makes fire, steams rice (husband has spent the night fishing on the island)
0445	Washes face and goes to toilet in bathroom
0500	Washes dishes, carries water up to house
0540	Cooks
0620	Washes clothes
0715	Hangs clothes to dry
0735	Sets table, eats
0810	Puts table away, sweeps floor, HuSis washes dishes
0830	Prepares food and water and takes to YoSib in paddy field
0945	Cooks, watches children at home, HuMo and HuFa take fish caught by husband to sell
1115	Takes food and water to husband on Padek Island, about 800 m by boat
1200	Returns from island, then takes more food and water to YoSib at paddy field (about 2 km), goes alone
1230	Arrives at field, puts food in the field hut
1245	Watches the seedling bed while YoSib comes to eat (watches to keep cows from entering the seedling bed)
1440	Returns from field, bathes
1510	Feeds daughter and niece/nephew (handicapped since birth)
1540	Puts daughter to sleep, HuMo watches as well as niece/nephew, while Le goes out to the island to get her husband's fish catch and bring it back to sell
1730	Returns from the island, Hu's grandparents have returned from selling fish
1745	Makes fire, steams rice, HuMo watches
1805	Goes to sell fish, marketer comes to purchase some at her home
1830	All fish sold, goes up to kitchen
1905	Carries water, 5 pails, up to kitchen, HuMo feeds niece/nephew
1925	Cooks, HuMo feeds Le's daughter
2000	sets table, eat while watching TV
2035	Puts table away, sweeps floor
2045	Bathes, and goes to toilet in Bathroom
2100	Sits and rests, watches TV with daughter, watches niece/nephew, husband stays overnight fishing on the island
2230	Goes to bed
2420	Gets up to give bottle to niece/nephew, and change diaper
0130	Goes to sleep again

Table 21 – Done Khiau (3), Zone 3

Bio	Nang Noh:	- Done Khiau
		- age 30
		- P5
		- husband Thao Song, 28 yrs, M1
		- 2 children, boys, 8 & 2
		- 4 persons in hh
		- ethnic Lao

Time	Activities in 24 hour period (14/06/05)
0500	Gets up, washes face, goes to toilet, changes clothes, transplants rice in Thailand across the river (120 Baht per day) ³
0600	Begins work transplanting
0810	Eats breakfast and drinks water
0840	Continues transplanting
1300	Eats lunch
1330	Rests
1410	Goes to toilet
1420	Continuers transplanting
1800	Returns home, rests
1830	Bathes
1910	Eats evening meal
1945	Puts table away, drinks water
2015	Relaxes, watches TV
2130	Goes to bed

³ This women was interviewed (not accompanied by researcher). She works occasionally in Thailand on the opposite side of the river. She and 4 friends travel to Thailand by boat, and return home every three days. Noh Says this work is very hard, work precise hours not like working on own fields at home. Owner of field in Thailand comes to pick up and take back, and pays all border crossing costs. Noh says she only does this kind of work because their own fields aren't ready to cultivate yet, and because they are saving money to buy a boat motor like other people in the village.

Table 22 – Na Noy (1), Zone 3

Bio **Nang Phone:** - **Ban Na Noy**
 - age 47
 - M2
 - husband Thao Syron, 53 yrs
 - 7 children (2 girls)
 - 9 persons in hh
 - ethnic Phou Thay

Time	Activities in 24 hour period (17/06/05)
0400	Gets up, makes fire, steams rice
0420	Goes to fetch water from well (50 m from house), makes 3 trips, (son watchjes the rice)
0450	Fans rice, washes dishes, husband gets up, washes face, goes off to rice paddy
0510	Cooks (son feeds pigs and chickens)
0600	Prepares food for son to take to husband at the paddy field
0630	Goes to bathe, and fetch more water, goes to toilet
0700	Returns, sets table to eat with youngest son
0730	Puts table away, administers medicine to son (who has a fever)
0745	Washes dishes at the well, returns with more water
0805	Returns home, sits and watches over her sick son
0830	Makes fire, boils water, sits with son
0940	Takes kettle off fire
1000	Goes to gather mushrooms in forest at edge of village along with 2 friends
1130	Returns from gathering mushrooms, goes to bathe, returns with more water
1150	Arrives home, makes fire, makes mushroom stew
1230	Finishes cooking, sets table, eats
1300	Puts table away, sweeps floor, washes dishes
1320	Gives fish to son to eat
1330	Rests and watches over son
1540	Makes fire, steams rice, watches rice and sits with son
1620	Fans rice, puts kettle on fire to boil water
1635	Goes to fetch water, 5 trips
1710	Feeds chickens and ducks
1730	Goes to water chili plants in garden next to house
1750	Cooks, husband returns from paddy field with son
1830	Finishes cooking, goes to bathe and fetch water
1850	Set table and they eat
1930	Puts table away, sweeps floor, washes dishes
1945	Administers medicine to sick son, then puts rice in pan to soak
2000	Goes to bring doctor to see son
2015	Doctor examines son, sits and watches over son, watch TV (husband goes to hunt frogs)
2145	Goes to bed

Table 23 – Na Noy (2), Zone 3

Bio **Nang Khamphody:** - **Ban Na Noy**
 - age 32
 - P5
 - husband Thao Choum, 34 yrs
 - 5 children (3 girls)
 - 7 persons in hh
 - ethnic Phou Thay

Time		Activities in 24 hour period (18/06/05)
0430		Gets up, makes fire, steams rice (daughter watches rice), husband gets up and holds baby
0450		Fetches water from well (200 m from house) makes 6 trips, daughter fans rice and washes dishes
0540		Returns, takes baby and goes down to feed chickens, husband goes to paddy field
0600		Cooks and boils water for drinking
0630		Prepares things to go to paddy field, loads them in pushcart, puts paralyzed son in cart as well, goes with children
0650		Sets off for paddy field (1.5 km)
0720		Arrives at field hut, unloads cart
0735		Sets table, eats, feeding the paralyzed child
0800		Puts table away, daughter washes dishes
0805		Breastfeeds baby, and oldest daughter watches other children
0825		Clears grass from edge of paddy dykes
1145		Comes back to breastfeed baby
1200		Daughter sets table and they eat
1230		After eating they sit and rest
1250		Goes to gather mushrooms and snails, goes to defecate in woods (goes alone)
1450		Arrives back, breastfeeds baby
1510		Oldest daughter takes mushrooms and snails back home to cook
1530		Carries baby out to look at the seedling bed
1640		Loads up the cart
1700		Depart for home pushing the cart, husband and eldest daughter go to set fish traps
1725		Arrive home, unloads cart
1740		Takes paralyzed child to bathe and washes clothes
1815		Returns fro washing clothes, eldest daughter has steamed rice and prepared food
1830		Carrying baby in cloth strap, goes down to feed chickens, husband returns with son
1910		Sets table and they eat
1945		Puts table away, breastfeeds baby, husband goes to visit friends, daughter sweeps floor and washes dishes
2010		Puts baby to sleep, puts rice in pan to soak
2020		Sits and relaxes, watching TV
2230		Goes to bed

Table 25 – Pong Kiu (1), Zone 3

Bio **Nang Sonekin:** - **Ban Pong Kiu**
 - age 40
 - P5
 - husband Thao Kapa, 40 yrs, P3
 - 5 children
 - 8 persons in hh (including nephew of husband)
 - ethnic Brou (Charouy)

Time	Activities in 24 hour period (29/06/05)
0500	Gets up, washes face, steams rice
0510	Goes out to sell meat at the market
0730	Cooks, roasts fish and makes sauce (while still at the market)
0810	Eats at the market (husband has gone to the paddy)
0900	Goes off to transplant rice seedlings with a group (for mother superior)
1230	Walks home
1250	Arrives home, bathes
1320	Goes to eat at church
1430	Returns from church, goes to market to continue selling meat
1830	The market closes, returns home
1840	Cooks
1930	Eats
1950	Puts table away (son washes dishes)
2010	Bathes and washes clothes
2040	Lies down to rest and watch TV
2120	Goes to bed

Table 26 – Pong Kiu (2), Zone 3

Bio	Nang Von:	- Ban Pong Kiu
		- age 18
		- M5
		- husband Thao My, 23 yrs, M6
		- newly married
		- 6 persons in hh, (live with wife's family)
		- ethnic Brou (Charouy)

Time	Activities in 24 hour period (30/06/05)
0500	Gets up, makes fire, steams rice (Mo watches)
0520	Goes with husband to pull up rice seedlings (seedling bed close to house)
0815	Ties seedlings into bundles for transplanting and load into tractor (Mo is cooking at home)
0840	Return home to eat
0900	Puts table away, prepares food to take to paddy field (2.5 km)
0930	Arrive at paddy, begin transplanting the seedlings, husband plows and then cooks while waiting for wife and WiMo to finish
1320	Come back to where husband is cooking
1330	Eat
1345	Puts table away, sit and rest
1400	Continue transplanting, husband plows some more and then goes off to look for bamboo shoots
1615	Finish transplanting, get in tractor to return home
1640	Arrive home, unload tractor, sit and rest
1700	Goes and gets clothes and bathes and washes clothes (husband goes fishing)
1830	Sits and rests, waits for husband to return from fishing
1945	Husband returns, she cooks
2020	Sets table and eat
2050	Puts table away, washes dishes, puts rice in pan to soak
2120	Goes upstairs to bedroom
2145	Goes to bed

Table 27 – Pong Kiu (3), Zone 3

Bio **Nang Say:** - **Ban Pong Kiu**
 - age 24
 - P3
 - husband Thao Tavanh, 30 yrs, M2
 - 1 child (girl 1 yr), currently 5-6 mo pregnant
 - 4 persons in hh, (including husband's Mother)
 - ethnic Brou (Charouy)

Time	Activities in 24 hour period (01/07/05)
0500	Gets up, makes fire, puts rice on to steam, then goes to get baby
0535	Fans rice, roasts beef for baby
0600	Feeds baby, HuMo goes to sell labor transplanting rice
0630	Carries baby in cloth strap, goes down to feed ducks
0750	Husband returns from fixing paddy dikes, they take baby to clinic (in village)
0805	Arrive at clinic, while they are there Hu goes to transplant rice for the mother superior
1020	Returns from clinic
1030	Puts baby to sleep, eats
1050	After eating, washes dishes
1205	Boils water for making milk for baby
1230	Baby wakes up, feeds her with fish
1300	Plays with baby in house
1610	Makes fire, steams rice
1645	Fans rice, roasts meat for baby to eat later
1700	Carries baby in cloth strap, feeds ducks and chickens
1730	Goes back up to cook, HuMo returns from paddy field, watches baby
1820	Carries water up to house
1840	Boils water to make milk for baby
1910	Feeds baby
1930	Set table, eats
2005	Puts table away, puts rice in pan to soak
2020	Feeds baby with fish and then goes in to sleep

Appendix 2 – Annual Calendars of Main Activities for Men and Women from Nine Villages

(Unlike the time use tables above, the following annual calendric information was acquired through interviews and not by direct observation. The two types of information do not always agree.)

Note:

1. shaded areas on the calendars indicate daily time that is fixed;
2. “x” indicates time spent on activities that may be necessary, occasional, or optional, but not necessarily performed everyday, and for which time is not fixed. These are approximate and does not imply that unmarked time may not be used for such activities.

Figure 1 – Annual Calendar for Women, Na Tangchay, Zone 1

Calendar of Main Activities for Women in Ban Na Tangchay, Ethnic Phou Thay (Ho)																										
Time	System	MONTHS																								
	Georgian	dec	jan		feb		mar		apr		may		jun		jul		aug		sep		oct		nov			
	Lunations	1	2		3		4		5		6		7		8		9		10		11		12		(13)	
	Phase	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	
0430																										
	Steam rice																									
	Fetch water																									
	Pound rice																									
	Feed animals																									
	Cook																									
0730																										
	Ritual			x	x	x	x	x																		
	Gardening		x	x	x	x																				
	Swidden						x	x	x	x	x	x	x				x		x	x	x	x				
	Paddy											x	x	x	x	x							x	x	x	
	Gathering	x	x	x	x	x	x	x	x	x	x	x	x	x		x		x	x	x	x	x	x	x	x	
	Handicraft	x	x	x	x	x	x	x	x			x	x													
	Scrap metal		x	x	x	x	x	x	x			x	x													
1230																										
	Fetch water																									
	Cook																									
	Clean up house																									
	Relaxation																									
	Garden		x	x	x	x																				
	Swidden						x	x	x	x	x	x	x	x			x		x	x	x	x				
	Paddy												x	x	x	x	x							x	x	x
	Gathering	x	x	x	x	x	x	x	x	x	x	x	x	x		x		x	x	x	x	x	x	x	x	
	Handicraft	x	x	x	x	x	x	x	x			x	x													
	Scrap metal		x	x	x	x	x	x	x			x	x													
1700																										
	Pound rice																									
	Fetch water																									
	Steam rice																									
	Feed animals																									
	Cook																									
2030																										
	Relax																									
	Sleep																									

Figure 2 - Annual Calendar for Men, Na Tangchay, Zone 1

Calendar of Main Activities for Men in Ban Na Tangchay, Ethnic Phou Thai																										
Time	System	MONTHS																								
	Georgian	dec	jan		feb		mar		apr		may		jun		jul		aug		sep		oct		nov			
	Lunations	1	2		3		4		5		6		7		8		9		10		11		12		13	
	Phase	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	
0500																										
	Hunt, fish	x	x	x	x	x						x	x	x	x	x										
	Raise bovines											x	x	x	x	x	x	x	x	x	x					
0730																										
	Eat breakfast																									
	Ritual related			x	x	x	x	x	x																	
	Garden	x	x																							
	Swidden						x	x	x	x	x	x					x	x	x	x	x	x				
	Paddy									x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Hire out labor			x	x	x	x	x										x	x	x						
	Handicrafts			x	x	x	x	x										x	x	x						
	Scrap metal	x	x	x	x	x	x	x	x								x	x	x	x						
1230																										
	Eat lunch																									
	Garden	x	x																							
	Swidden						x	x	x	x	x	x					x	x	x	x	x	x				
	Paddy									x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Hire out labor			x	x	x	x	x										x	x	x						
	Handicrafts			x	x	x	x	x										x	x	x						
	Scrap metal	x	x	x	x	x	x	x	x									x	x	x	x					
	Raise bovines												x	x	x	x	x	x	x	x	x					
1800																										
	Eat dinner																									
	Hunt, fish												x	x	x	x	x	x								
2100																										
	Sleep																									

Figure 3 - Annual Calendar for Women, Khagnou, Zone 1

Calendar of Main Activities for Women in Ban Khagnou, Ethnic Lao (Kaleung)																									
Time	System	MONTHS																							
	Georgian	dec	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov												
	Lunations	1	2	3	4	5	6	7	8	9	10	11	12	(13)											
	Phase**	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h
	Seasons	Cold				Hot						Wet						Cold							
0430																									
	Steam rice																								
	(Pound rice)*																								
	Small garden	x	x	x	x	x	x																		
	Fetch water																								
	Feed animals																								
	Cook food																								
	Eat																								
0700																									
	Swidden /garden						x	x	x	x	x	x					x	x	x	x	x				
	Paddy												x	x	x	x						x	x	x	x
	Gathering	x	x	x	x	x	x	x	x	x	x	x					x	x	x	x	x	x	x	x	
	Handicrafts	x	x	x	x	x	x	x	x	x	x						x	x	x	x					
	Scrap metal	x	x	x	x	x	x	x	x	x							x	x	x						
1200																									
	Fetch water																								
	Cook & eat																								
	Rest																								
1300																									
	Swidden/ garden						x	x	x	x	x	x					x	x	x						
	Paddy												x	x	x	x							x	x	x
	Gathering	x	x	x	x	x	x	x	x	x	x	x					x	x	x	x	x	x	x	x	
	Handicrafts	x	x	x	x	x	x	x	x	x	x						x	x	x	x					
	Scrap metal	x	x	x	x	x	x	x	x	x							x	x	x	x					
1700																									
	Small garden	x	x	x	x	x	x																		
	Fetch water/bathe																								
	Feed animals																								
1830																									
	Cook & eat																								
	Rest																								
2000																									
	Sleep																								
	** lunar phase: k= <i>kheun</i> 'waxing, h= <i>hem</i> 'waning																								
	* now mostly replaced by rice milling, husband takes rice for milling about once per week																								

Figure 4 - Annual Calendar for Men, Khagnou, Zone 1

Calendar of Main Activities for Men in Ban Khagnou, Ethnic Lao (Kaleung)																									
Time	System	MONTHS																							
	Georgian	dec	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov												
	Lunations	1	2	3	4	5	6	7	8	9	10	11	12	13											
	Phase**	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h
Seasons		Cold				Hot						Wet						Cold							
0500		x	x	x	x	x	x						x	x	x	x						x	x	x	x
Mill rice		Once per week all year																							
Feed animals		In cases of 2 person families, husband will help wife feed ducks, chickens, pigs when there are no other activities																							
Eat																									
0700																									
Small garden		x	x																						
Swidden /garden						x	x	x	x								x	x	x	x	x				
Paddy										x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Gathering		x	x	x	x	x	x	x	x	x	x					x	x	x	x	x	x	x	x	x	x
Handicrafts/hire labor*			x	x	x	x	x	x	x	x					x	x	x	x							
Scrap metal		x	x	x	x	x	x	x								x	x	x	x	x	x				
1200																									
Eat																									
Rest																									
1300																									
Swidden/ garden						x	x	x	x							x	x	x	x	x					
Paddy										x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Gathering					x	x	x	x	x	x	x														
Handicrafts/hire labor			x	x	x	x	x	x	x	x					x	x	x	x							
Scrap metal		x	x	x	x	x	x	x	x	x															
Raise cattle										x	x	x	x	x	x	x	x	x	x	x	x				
1830																									
Eat																									
Hunt frogs		x	x	x	x					x	x	x	x	x	x	x									
2200																									
Sleep																									
		** lunar phase: k= <i>kheun</i> 'waxing, h= <i>hem</i> 'waning																							
		* hire out labor to sawmills or cutting trees																							

Figure 5 – Annual Calendar for Women, Soy, Zone 1

Calendar of Main Activities for Women in Ban Soy, Ethnic Brou (Tri)																												
Time	System	MONTHS																										
	Georgian	dec	jan		feb		mar		apr		may		jun		jul		aug		sep		oct		nov					
	Lunations	1		2		3		4		5		6		7		8		9		10		11		12		(13) ^a		
	Phase**	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h			
0430																												
	Steam rice																											
	Pound rice*								FIXED ACTIVITIES																			
	Fetch water																											
	Feed animals																											
	Cook, eat																											
0700																												
	Ritual		x			x																						
	Gardening			x	x																							
	Swidden						x	x	x	x	x	x					x	x	x	x								
	Paddy	x											x	x	x	x						x	x	x	x			
	Gathering	x	x	x	x	x	x	x	x								x	x	x	x	x	x	x	x	x			
	Handicraft			x	x	x	x	x	x								x	x				x	x	x	x			
	cooking																											
1200																												
	Gardening			x	x																							
	Swidden						x	x	x	x	x	x																
	Paddy	x											x	x	x	x						x	x	x	x			
	Gathering	x	x	x	x	x	x	x	x	x	x	x					x			x		x		x				
	Handicraft			x	x	x	x													x		x						
1700																												
	Fetch water																											
	Pound rice																											
	Cook																											
	Feed animals																											
	Clean house																											

Figure 6 - Annual Calendar for Men, Soy, Zone 1

Calendar of Main Activities for Men in Ban Soy, Ethnic Brou (Tri)																											
Time	System	MONTHS																									
	Georgian	dec	jan		feb		mar		apr		may		jun		jul		aug		sep		oct		nov				
	Lunations	1		2		3		4		5		6		7		8		9		10		11		12		(13)	
	Phase	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h
0430	Hunt, fish	x	x	x	x									x	x	x	x										
	Raise bovines												x	x	x	x	x	x	x	x							
0700																											
	Gardening			x	x																						
	Swidden					x	x	x	x	x	x								x	x	x	x					
	Paddy	x	x									x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Ritual related		x	x	x	x						x	x														
	Handicraft			x	x	x	x	x	x	x	x																
	Gathering			x	x	x	x	x	x								x	x	x	x	x	x	x	x	x	x	x
	Hire out labor, etc	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Saw wood, house repair			x	x			x	x									x	x	x	x						
1200																											
	Eat lunch																										
	Gardening			x	x																						
	Swidden					x	x	x	x	x	x								x	x	x	x					
	Paddy	x	x									x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Ritual related		x	x	x	x	x	x	x	x	x						x	x	x	x	x	x	x	x	x		
	Handicraft			x	x	x	x	x	x	x																	
	Gathering			x	x	x	x	x	x								x	x	x	x	x	x	x	x	x	x	x
	Hire out labor, etc	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
1800																											
	Eat dinner																										
	Hunt, gather	x	x	x	x							x	x	x	x	x	x	x									
	Drink w/ friends	x	x	x	x	x	x	x	x	x	x	x	x						x	x	x	x	x	x	x	x	x
2100																											
	Sleep																										

Figure 7 – Annual Calendar, women, Phonsa-at, Zone 2

Calendar of Main Activities for Women. in Ban Phonsa-at, Ethnic Brou (Makong)																									
Time	System	MONTHS																							
	Georgian	dec	jan		feb		mar		apr		may		jun		jul		aug		sep		oct		nov		
	Lunations	1	2		3		4		5		6		7		8		9		10		11		12		13
	Phase	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h
0430																									
	Steam rice																								
	Pound rice																								
	Fetch water																								
	Feed animals																								
	Cook																								
0700																									
	Ritual related			x	x	x	x	x	x																
	Swidden					x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				
	Paddy	x	x							x	x	x	x	x	x	x	x	x				x	x	x	
	Gathering	x	x	x	x	x	x	x	x	x	x	x	x	x			x	x	x	x	x	x	x		
	Handicraft, etc	x	x	x	x	x	x	x	x	x	x	x					x	x	x	x	x	x			
1130																									
	Prepare lunch																								
	Rest																								
1230																									
	Ritual related			x	x	x	x	x	x																
	Swidden					x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				
	Paddy	x	x							x	x	x	x	x	x	x	x	x				x	x	x	
	Gathering	x	x	x	x	x	x	x	x	x	x	x	x	x			x	x	x	x	x	x	x		
	Handicraft, etc	x	x	x	x	x	x	x	x	x	x	x					x	x	x	x	x	x			
1700																									
	Fetch water																								
	Feed animals																								
	Cook																								
	Clean house																								
2100																									
	Relax w/family																								
	Sleep																								

Figure 8 – Annual calendar for Men, Phonsa-at, Zone 2

Calendar of Main Activities for Men in Ban Phonsa-at, Ethnic Brou (Makong)																										
Time	System	MONTHS																								
	Georgian	dec	jan		feb		mar		apr		may		jun		jul		aug		sep		oct		nov			
	Lunations	1	2		3		4		5		6		7		8		9		10		11		12		13	
	Phase	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	
0500																										
	Raise bovines											x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Hunt, fish	x	x															x	x	x	x	x	x	x	x	
0700																										
	Ritual related			x	x	x																				
	Swidden						x	x	x	x	x										x	x				
	Paddy	x	x										x	x	x	x	x						x	x	x	
	Gathering					x	x	x	x	x	x						x	x	x	x	x	x	x	x	x	
	Handicraft						x	x												x	x	x	x	x		
	Hire out labor, etc.			x	x				x	x	x	x								x	x	x	x	x		
1130																										
	Eat lunch																									
	Rest																									
1230																										
	Ritual related			x	x	x																				
	Swidden						x	x	x	x	x										x	x				
	Paddy	x	x										x	x	x	x	x						x	x	x	
	Gathering					x	x	x	x	x	x						x	x	x	x	x	x	x	x	x	
	Handicraft						x	x												x	x	x	x	x		
	Hire out labor, etc.			x	x				x	x	x	x								x	x	x	x	x		
1700																										
	Raise bovines												x	x	x	x	x	x	x	x	x	x	x	x	x	
	Hunt, gather	x	x										x	x	x	x										

Figure 9 – Annual Calendar for Women, Keng Chone, Zone 2

Calendar of Main Activities for Women in Ban Keng Chone, Ethnic Phou Thai																										
Time	System	MONTHS																								
	Georgian	dec	jan		feb		mar		apr		may		jun		jul		aug		sep		oct		nov			
	Lunations	1	2		3		4		5		6		7		8		9		10		11		12		13	
	Phase	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	
0400	Steam rice																									
	Clean house																									
	Fetch water																									
	Feed animals																									
	Cook																									
0700																										
	Eat breakfast																									
	Gardening	x	x	x	x	x	x																			
	Swidden							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				
	Paddy											x	x	x	x	x	x					x	x	x	x	
	Gathering	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Ritual			x	x	x	x			x		x														
	Handicrafts	x	x	x	x	x	x	x	x								x	x	x	x						
1130																										
	Cook																									
	Fetch water																									
	Eat lunch																									
1300																										
	Gardening	x	x	x	x																					
	Swidden							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				
	Paddy											x	x	x	x	x	x					x	x	x	x	
	Gathering	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Ritual			x	x	x	x			x		x														
	Handicrafts	x	x	x	x	x	x	x	x								x	x	x	x						
1700																										
	Fetch water																									
	Feed animals																									
	Cook																									
1900																										
	Eat dinner																									
	Rest																									
2000																										
	Sleep																									

Figure 10 – Annual Calendar for Men, Keng Chone, Zone 2

Calendar of Main Activities for Men in Ban Keng Chone, Ethnic Phou Thai																											
Time	System	MONTHS																									
	Georgian	dec	jan		feb		mar		apr		may		jun		jul		aug		sep		oct		nov				
	Lunations	1	2		3		4		5		6		7		8		9		10		11		12		13		
	Phase	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h
0500																											
	Raise bovines											x	x	x	x	x	x	x	x	x	x						
	Gathering	x	x	x	x																		x	x	x		
0700																											
	Eat breakfast																										
	Garden	x	x			x																x	x				
	Swidden							x	x	x	x										x	x					
	Paddy									x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Gathering	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Cut wood, repair house			x	x												x	x	x	x							
	Ritual			x	x		x	x	x			x				x		x									
1200																											
	Eat lunch																										
	Rest																										
1330																											
	Garden	x	x			x																x	x				
	Swidden							x	x	x	x										x	x					
	Paddy									x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Gathering	x	x	x	x	x	x	x	x	x	x	x								x	x	x	x	x	x	x	x
	Cut wood, repair house			x	x												x	x	x	x							
	Ritual			x	x		x	x	x			x				x		x									
	Raise bovines														x	x	x	x	x	x	x	x	x				
1900																											
	Eat dinner																										
	Gathering											x	x	x	x	x	x						x	x	x	x	
2100																											
	Sleep																										

Figure 11 – Annual Calendar for Women, Pha Khong, Zone 2

Calendar of Main Activities for Women in Ban Pha Khong, Ethnic Lao (Kaleung)																										
Time	System	MONTHS																								
	Georgian	dec	jan		feb		mar		apr		may		jun		jul		aug		sep		oct		nov			
	Lunations	1	2		3		4		5		6		7		8		9		10		11		12		13	
	Phase	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	
0430																										
	Steam rice																									
	Fetch water																									
	Feed animals																									
	Cook																									
0700																										
	Eat breakfast																									
	KitchenGarden	x	x	x	x																					
	Swidden									x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		
	Paddy													x	x	x	x									
	Handicrafts	x	x	x	x	x	x	x	x	x							x	x	x	x	x					
	Gathering	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Ritual related			x	x	x		x	x	X																
1200																										
	Cook																									
	Eat																									
	Rest																									
	Swidden									x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		
	Paddy													x	x	x	x									
	Handicrafts	x	x	x	x	x	x	x	x	x							x	x	x	x	x					
	Gathering	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Ritual related			x	x	x		x	x	x																
	KitchenGarden	x	x	x	x																					
	Steam rice																									
	Fetch water																									
	Wash clothes																									
	Cook																									
	Feed animals																									
1830																										
	Eat dinner																									
	Relax with family																									
	Sleep																									

Figure 12 – Annual Calendar for Men, Pha Khong, Zone 2

Calendar of Main Activities for Men in Ban Pha Khong, Ethnic Lao (Kaleung)																										
Time	System	MONTHS																								
	Georgian	dec	jan		feb		mar		apr		may		jun		jul		aug		sep		oct		nov			
	Lunations	1	2		3		4		5		6		7		8		9		10		11	12	13			
	Phase	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	
0500																										
	Fish, Gather											x	x	x	x	x	x									
	Raise bovines													x	x	x	x	x	x							
	KitchenGarden	x	x																							
0700																										
	Eat breakfast																									
	Ritual related				x	x	x	x	x	x					x	x	x	x								
	Swidden							x	x	x	x										x	x				
	Paddy												x	x	x	x	x	x	x	x	x	x	x	x	x	
	Handicrafts	x	x	x	x	x	x	x	x	x	x					x	x	x	x							
	Gathering	x	x	x	x	x	x	x	x	x	x							x	x	x	x	x	x	x	x	
	Repair/build house			x	x			x	x																	
1200																										
	Eat lunch																									
	Rest																									
	Ritual related				x	x	x	x	x	x					x	x	x	x								
	Swidden							x	x	x	x										x	x				
	Paddy												x	x	x	x	x	x	x	x	x	x	x	x	x	
	Handicrafts	x	x	x	x	x	x	x	x	x	x					x	x	x	x							
	Gathering	x	x	x	x	x	x	x	x	x	x							x	x	x	x	x	x	x	x	
	Repair/build house			x	x			x	x																	
	Raise bovines												x	x	x	x	x	x	x	x						
1830																										
	Eat dinner																									
	Relax																									
2000																										
	Hunt, fish																									
2200																										
	Sleep																									

Figure 13 – Annual Calendar for Men and Women, Done Khiau, Zone 3

Calendar of Main Activities for Men & Women in Ban Done Khiau, Ethnic Lao																											
Time	System	MONTHS																									
	Georgian	dec	jan		feb		mar		apr		may		jun		jul		aug		sep		oct		nov				
	Lunations	1		2		3		4		5		6		7		8		9		10		11		12		13	
	Phase	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h		
FISHING SEASON																											
0500																											
	Steam rice (man / woman)										x	x	x	x	x	x	x	x	x								
	Go fishing (Hu & Wi together)										x	x	x	x	x	x	x	x									
0900																											
	Sell fish (man / woman)										x	x	x	x	x	x	x	x									
	Eat breakfast																										
	Go fishing (Hu & Wi)										x	x	x	x	x	x	x	x									
1200																											
	Eat lunch																										
	Rest																										
1430																											
	Go fishing (Hu&Wi)										x	x	x	x	x	x	x	x									
	Sell fish (either Hu or Wi)										x	x	x	x	x	x	x	x									
1830																											
	Rest																										
	Eat dinner																										
	Watch TV																										
2100																											
	Sleep																										
REST OF YEAR																											
0500	Fetch water (man / woman)	x	x	x	x	x	x	x	x	x	x								x	x	x	x	x	x	x		
	Steam rice (man / woman)	x	x	x	x	x	x	x	x	x	x								x	x	x	x	x	x	x		
	Cook (man / women)	x	x	x	x	x	x	x	x	x	x								x	x	x	x	x	x	x		
	Eat breakfast																										
0730	Riverbank Garden (Hu&Wi)	x	x	x	x	x	x	x	x	x	x								x	x	x	x	x	x	x		
1200	Rest																										
	Cook (Hu/Wi)																										
	Eat Lunch)																										
1330	Riverbank Garden (Hu&Wi)	x	x	x	x	x	x	x	x	x	x								x	x	x	x	x	x	x		
1700	Rest																										
	Fetch water (Hu/Wi)																										
	Cook (Hu/Wi)																										
	Eat dinner																										
	Relax watch TV																										
2100	Sleep																										

Figure 14- Annual Calendar for Women, Na Noy, Zone 3

Calendar of Main Activities for Women in Ban Na Noy, Ethnic Phou Thay																											
Time	System	MONTHS																									
	Georgian	dec	jan		feb		mar		apr		may		jun		jul		aug		sep		oct		nov				
	Lunations	1	2		3		4		5		6		7		8		9		10		11		12		13		
	Phase	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h
0430																											
	Steam rice																										
	Fetch water																										
	Feed animals																										
	Cook																										
0700																											
	Eat breakfast																										
	KitchenGarden	x	x	x	x																						
	Swid-Garden							x	x	x	x	x	x					x	x	x	x	x	x				
	Paddy													x	x	x	x	x	x	x	x	x	x	x	x	x	
	Handicrafts	x	x	x	x	x	x	x	x	x	x	x	x					x	x	x	x	x					
	Gathering	x	x	x	x	x	x	x	x	x	x	x	x					x	x	x	x	x	x	x	x	x	
	Cook																										
1200																											
	Eat lunch																										
	Rest																										
	Bathe																										
1300																											
	KitchenGarden	x	x	x	x																						
	Swid-Garden							x	x	x	x	x	x					x	x	x	x	x	x				
	Paddy													x	x	x	x	x	x	x	x	x	x	x	x	x	
	Handicrafts	x	x	x	x	x	x	x	x	x	x	x	x					x	x	x	x	x					
	Gathering	x	x	x	x	x	x	x	x	x	x	x	x					x	x	x	x	x	x	x	x	x	
1700																											
	Fetch water																										
	Wash clothes																										
	Clean house																										
	Feed animals																										
	Cook																										
	Bathe																										
1830																											
	Est dinner																										
	Relax w/family																										
2000																											
	Sleep																										

Figure 15 – Annual Calendar for Men, Na Noy, Zone 3

Calendar of Main Activities for Men in Ban Na Noy, Ethnic Phou Thai																											
Time	System	MONTHS																									
	Georgian	dec	jan		feb		mar		apr		may		jun		jul		aug		sep		oct		nov				
	Lunations	1	2		3		4		5		6		7		8		9		10		11		12		13		
	Phase	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h
0500																											
	Hunt, fish									x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Help feed animals	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
0700																											
	Eat breakfast																										
	KitchenGarden	x	x																								
	Swid-Garden							x	x	x	x									x	x	x	x				
	Paddy											x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Handicrafts	x	x	x	x	x	x	x	x	x	x																
	Gathering	x	x	x	x	x	x	x	x	x	x							x	x	x	x	x	x				
	Saw wood			x	x	x	x	x	x	x	x							x	x	x	x	x	x				
1200																											
	Eat lunch																										
	Rest																										
1300																											
	KitchenGarden	x	x																								
	Swid-Garden							x	x	x	x									x	x	x	x				
	Paddy											x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Handicrafts	x	x	x	x	x	x	x	x	x	x																
	Saw wood			x	x	x	x	x	x	x	x							x	x	x	x	x	x				
	Raise bovines													x	x	x	x	x	x	x	x						
1800																											
	Eat dinner																										
	Hunt, fish									x	x	x	x	x	x	x											
2100																											
	Sleep																										

Figure 16 – Annual Calendar for Women, Pong Kiu, Zone 3

Calendar of Main Activities for Women in Ban Pong Kiu, Ethnic Brou																										
Time	System	MONTHS																								
	Georgian	dec	jan		feb		mar		apr		may		jun		jul		aug		sep		oct		nov			
	Lunations	1	2		3		4		5		6		7		8		9		10		11		12		13	
	Phase	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	
0500																										
	Steam rice																									
	Fetch water																									
	Cook																									
	Feed animals																									
	Eat breakfast																									
0800																										
	Ritual related			x	x	x				x																
	Garden	x	x	x	x					x	x	x	x					x	x	x	x					
	Paddy													x	x	x	x					x	x	x	x	
	Gathering	x	x	x	x	x	x	x	x	x	x	x						x	x	x	x	x	x	x	x	
	Handicrafts					x	x	x	x																	
	Other					x	x							x	x	x	x									
1200																										
	Cook																									
	Eat																									
1300																										
	Garden	x	x	x	x					x	x	x	x					x	x	x	x					
	Paddy													x	x	x	x					x	x	x	x	
	Gathering	x	x	x	x	x	x	x	x	x	x	x						x	x	x	x	x	x	x	x	
	Handicrafts					x	x	x	x																	
	Other					x	x							x	x	x	x									
1700																										
	Fetch water																									
	Steam rice																									
	Cook																									
	Eat dinner																									
	Clean house																									
	Rest, watch TV																									
2100																										
	Sleep																									

Figure 17 – Annual Calendar for Men, Pong Kiu, Zone 3

Calendar of Main Activities for Men in Ban Pong Kiu, Ethnic Brou																											
Time	System	MONTHS																									
	Georgian	dec	jan		feb		mar		apr		may		jun		jul		aug		sep		oct		nov				
	Lunations	1	2		3		4		5		6		7		8		9		10		11		12		13		
	Phase	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h	k	h
0500																											
	Raise bovines											x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Hunt, fish	x	x	x	x																						
0800																											
	Ritual related		x	x	x	x	x	x																			
	Garden	x	x							x	x	x	x														
	Paddy											x	x	x	x	x	x	x					x	x	x	x	
	Gathering			x	x	x	x	x	x	x	x	x	x					x	x	x	x	x	x	x	x		
	Handicrafts			x	x	x	x	x	x	x	x	x	x					x	x	x	x	x	x	x			
	Repair house			x	x													x	x	x	x	x	x				
1200																											
	Eat lunch																										
1300																											
	Garden	x	x							x	x	x	x														
	Paddy											x	x	x	x	x	x	x					x	x	x	x	
	Gathering			x	x	x	x	x	x	x	x	x	x					x	x	x	x	x	x	x	x		
	Handicrafts			x	x	x	x	x	x	x	x	x	x					x	x	x	x	x	x				
	Raise bovines												x	x	x	x	x	x	x	x	x	x	x				
1830																											
	Eat dinner																										
	Rest																										
	Fish, hunt frogs											x	x	x	x	x	x	x									
2100																											
	Sleep																										

Appendix 3 – Background of The Study Area

Khammouane province encompasses 16,316 square kilometers of land in approximately the center of Laos. In mid 2000, the population was estimated at 310,800 persons, up from 303,200 in the previous year (NSC 2001). The population density at that time was 19 people per square km. According to the 1995 census, 13.4 per cent of this population resides in urban areas and 86.6 percent are rural. 44 percent of the population are below the age of 15. The average household size is 5.5 (rural 5.4, urban 5.8).

The overall ratio of men to women is 94.4 per cent, and 16.1 per cent of the households are headed by women. It was also found during the census that 61.2 percent of boys age 6 and above were in school, compared to 50.8 per cent of the girls. The average life expectancy for men is 54, while for women it is 56.5. The mortality rate for children under 5 is 137 per 1000. The natural population growth rate for the province was estimated at 1.6 per cent following the 1995 census.

Table 28 - Population by District

District	% population	Ratio M:F	Density
Thakhek	25.1	94.3	75
Nong Bok	14.4	95.5	122
Hin Boun	18.6	96.1	17
Xe Bangfay	7.3	91.9	21
Mahaxay	8.4	93.7	10
Gnommarath	7.9	91.3	15
Boualapha	7.0	93.2	6
Xaybouathong	5.5	95.7	-
Nakai	5.7	94.9	4

Although there are a number of ethnic groups found in Khammouane Province, the majority of the population can be broken down into three groupings: Lao, Phou Thay, and Brou, which comprise 60, 22, and 15 per cent of the population respectively (an additional 3 per cent are others).⁴ [Lao and Phou Thay belong to the Lao-Tai Ethnolinguistic group, Brou belongs to the Mon-Khmer family.] The bulk of Lao population inhabits districts nearest the Mekong, especially Hinboun, Thakhek, Xé Bangfay and Nongbok. Elsewhere the population is more balanced between Phou Thay and Brou, with only scattered villages of Yooy and Kaleung, groups closely related to Lao and here included in the Lao category.

⁴ Most of the groups fall into either the Lao-Tai or Mon-Khmer families. There is only one village of Hmong, and these are a group of former refugees who were repatriated from Thailand.

Overall the official literacy rate for the province (age 15+) was calculated at 56, men 70.7, women 43.1. The rates from the 1995 census for the three main ethnic groups were as follows:

Table 29 - Literacy Rates by Ethnic Group

Ethnic Category	Male	Female	Total
Lao	76.4	49.3	62.0
Phou Thay	73.3	45.3	58.3
Brou	47.9	17.2	31.5
Other	55.6	31.2	43.0

However, in the year 2000, UNESCO carried out a tested literacy survey of Laos. There the secured functional literacy rate for Khammouane was 32.8 (male 40.6, female 25.5) compared to 30.8 for the country as a whole (male 37.4, female 24.5). In the same study, the secured rate for people in the Mon-Khmer family was tested at 22.7 (male 28.6, female 17.2); and for the Lao-Tai it was 40.3 (male 47.6, female 33.5). Thus the rates for Khammouane are lower than the national average for their respective ethnolinguistic families.

Table 30 - Secured Functional Literacy Rates

	M	F	All
Lao PDR	37.4	24.5	30.8
Lao-Tai	47.6	33.5	40.3
Mon-Khmer	28.6	17.2	22.7
Khammouane	40.6	25.5	32.8

With respect to labor, the 1995 census clearly stratifies the situation in Khammouane, in terms of both gender and ethnicity engaged in the main economic activity of the household. In all cases the percentage of women is notably higher. Most of the main economic activities are, of course, agricultural.

Table 31 – Labor by Ethnic Group

Ethnic Group	Population over age 10 engaged in economic activities		
	Working	Unemployed	Total
Lao	70.9	1.7	72.6
-male	69.7	1.7	71.4
-female	72.0	1.8	73.8
Phou Thay	73.5	1.3	74.8
-male	70.8	1.2	72.0

-female	75.9	1.3	77.2
Brou	84.3	1.7	86.0
-male	82.7	1.5	84.2
-female	85.8	1.8	87.6
Other <5%	75.2	2.0	77.2
-male	74.7	2.1	76.8
-female	75.8	1.9	77.7

History

The area now designated as Khammouane Province was subject to major upheavals and population shifts. Between 1826 and 1860, the territory was under the political domination of Siamese who were anticipating an invasion of Siam by the Vietnamese emperor through Khammouane Province, where the distance between Vietnam and Siam was shortest, and which at that time included the territory of what is now Khamkeut District in Borikhamxay Province to the north. Fearful that the emperor would make use of the local populations in Khammouane in the attack, Siam instituted a policy of depopulation of Khammouane, wherever possible sweeping the local peoples across the Mekong into the newly acquired Northeast portion of Siam, that part of Laos which was to become known as Isan or Northeast Thailand. Descendants of these peoples are found today in Nakhon Phanom and Sakol Nakhon provinces in Thailand where they still retain their original ethnic identities.

The lowland areas of Mahaxay (which then included the modern-day districts of Gnommarath, Boulapha, Xé Bangfay, and Xaybouathong), along with Thakhek (which included what is now Nong Bok) and Hinboun, were hardest hit by the Siamese policy. Thus it was not until the period following 1860 that a re-peopling of the province began, and this process is not well understood. The French colonists arrived in the late 19th century and remained until the arrival of the Japanese during WWII. In 1945 the French returned briefly and reestablished the education system, including a government Lycée in Thakhek as well as a Catholic school. And although the French abandoned the colonial project in Laos in 1954, these educational facilities remained in place, staffed by French teachers, until 1975.

During the Second Indochina War, the Middle and Inner regions of Khammouane shown in the schema below were heavily affected. American bombing was especially severe along the Ho Chi Minh trail in Boulapha District which began at the Mu Gia Pass (where Route 12 crosses into Vietnam). But much of the province was in a state of upheaval until the change of government in 1975. Thus today, in Mahaxay District, there are a large number of ethnically mixed villages formed by returning soldiers, soldiers and their families from other parts of the country who never returned home, and government village consolidation policies that began in 1976.

From a development perspective, more intensive socioeconomic and socio-cultural study of the province began in 1995, but in the initial stages this was confined primarily to Nakai District in association with the proposed Nam Theun 2 hydroelectric project. Nakai District is comprised of a relatively flat plateau located above the Ak Escarpment and an adjacent rainforest area to the east which increases in altitude until it reaches the crest of the Annamite mountain chain (known as the Sai Phou Louang in Laos) which separates Laos from Vietnam. Studies of the lowland areas did not begin until quite recently, again in relation to the Nam Theun 2 project. These include one study of forest use by villages in the buffer zone (abutting on the Nakai-Nam Theun conservation area) in Gnommarath and Boualapha, and several socioeconomic studies in villages along the middle and lower Xé Bangfay River that emphasize fishing.

Some limited ethnographic information is available for the Brou, Lao and Phou Thay ethnic groups has been reviewed as background to the project.⁵

Ethnicity in Khammouane Province

There are several major categories of ethnic groups found in Khammouane Province, from two ethnolinguistic families, Lao-Tai, and Mon-Khmer.

Table 32 – Ethnic Groups in Khammouane

Lao-Tai	<ul style="list-style-type: none"> - Lao, Yooy, Kaleung - Phou Thay, Thay Vang, Katak, Piou, Nyo - Sek - (miscellaneous Tai groups recently arrived from Borikhamxay)
Mon-Khmer	<p>Katuic Groups:</p> <ul style="list-style-type: none"> - Brou (So) Makong, Tri, Chalouy, Chaly <p>Vietic groups:</p> <ul style="list-style-type: none"> - Urban Vietnamese in Thakhek, Viet Kieu (rural Vietnamese in villages near the district seat of Gnommarath), - Ngouan (in the district seat of Boualapha), - Cheut (hunter-gatherers in Boualapha District), - Mlengbrou (hunter-gatherers originally from the Nam One basin in Nakai, now residing next to the Yooy village of Ban Sang), - Thémarou, Phong, Kri (in NNT)

⁵ For Example: Kirsch, Anthony Thomas. 1967a. Phu Thai Religious Syncretism: A Case Study of Thai Religion and Society, Department of Social Relations, Harvard University: Ph.D. Dissertation. ; Doré, Amphay. 1987. Contribution ethno-historiques a la connaissance de la culture Louang-Phrabangaise, Université Paris V, René Descartes: Mémoire présenté pour le Doctorat d'Etat-es-Lettres et Science Humaines. ; Vargyas, Gabor. 2000a. *A la Recherche des Brou Perdu: Population Montagnard du Centre Indochinois*: Les Cahiers de Peninsule no 5. Paris: Etudes Orientales / Olizane.

(Maps of the ethnic composition of all villages in the districts of Gnommarath, Boualapha, and Mahaxay are found in the first Nam Theun 2 survey materials (Chamberlain, 1996).

There are in fact a few Hmong villages now found scattered throughout. These emanate from a large UNHCR sponsored resettlement project for Hmong repatriated from refugee camps in Thailand in the early 1990s. The original resettlement village is located south of Thakhek on Route 13. It is not known at present how many new Hmong villages have split off from this original village and are now found in other districts.