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**Shifting Cultivation, Livelihoods and Change:
A study of agricultural decisions in
Xieng Ngeun District, Lao PDR.**

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Abstract

Shifting cultivation has long provided a livelihood for upland farmers in the tropics. However, recent years have seen increasing political, environmental and economic pressure on these farming systems and those who practice them. In the Lao PDR, shifting cultivation is a priority development issue; government policy is to replace it with sedentary forms of agriculture by the year 2010. Alternatives to existing practices are being researched and extended to farmers through both the public and private sector, and farmers are faced with an increasing range of choices for their livelihoods, which remain largely agriculturally-based. Their responses to these new opportunities, and their ability to take advantage of them, will be important to the sustainability of their livelihoods into the future.

Recognising that agricultural changes take place in the context of people's livelihoods, this thesis applies a livelihoods approach to the study of household agricultural decisions in the Lao PDR. It investigates farmer responses to introduced forage technologies for the intensification of livestock production in four upland villages of Xieng Ngeun District, in order to explore the relationship between livelihoods and change. Many aspects of people's livelihoods are found to shape their decisions. In particular, access to resources can be important in the ability to take advantage of opportunities. Activities such as livestock raising require an initial cash investment that may preclude poorer households from specialising in them; thus these households are less able to benefit from livestock-related technologies. Households' existing livelihood strategies and the resulting livelihood outcomes also influence their ability and desire to intensify livestock production through managed forages. The wider context within which livelihoods are constructed may both facilitate and constrain change in a particular direction.

In addition to those issues commonly identified in livelihoods frameworks, other factors also need to be considered. The importance of farmer perceptions in particular is highlighted and it is suggested that this, along with the characteristics of the technology itself in relation to people's livelihood situation, be included in the framework for application to the study of agricultural change. Finally, the thesis finds the livelihoods approach to be a useful and practical way of focusing attention on issues at the local level and placing rural people at the centre of development-related analysis.

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Glossary of Terms and Acronyms

Ban	Village
Tao	equivalent of 'Mr'; used in formal language
thamasat	traditional or 'natural' way
ACIAR	Australian Centre for International Agricultural Research
AIRP	Accelerating the Impacts of Participatory Research and Extension Project
ADB	Asian Development Bank
AFA	Asian Farmers' Association for Sustainable Rural Development
AusAID	Australian Agency for International Development
CIAT	International Center for Tropical Agriculture
CGIAR	Consultative Group on International Agricultural Research
CSU	Charles Sturt University
DAFO	District Agriculture and Forestry Office
DAFOs	Extension workers from the District Agriculture and Forestry Office
DFID	Department for International Development (British Government)
DHRRA	Development of Human Resources in Rural Asia
FAO	Food and Agriculture Organisation
FSP	Forages for Smallholders Project
FLSP	Forages and Livestock Systems Project
GDP	Gross Domestic Product
GOL	Government of Lao PDR
MAF	Ministry of Agriculture and Forestry
NAFES	National Agriculture and Forestry Extension Service
NAFRI	National Agriculture and Forestry Research Institute
NTFP	Non-Timber Forest Product
PAFO	Provincial Agriculture and Forestry Office
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme

Chapter 1 Introduction

This thesis is about shifting cultivation and livelihoods in the Lao People's Democratic Republic (Lao PDR). It addresses the issue of how agricultural change takes place, arguing that a livelihoods perspective can generate valuable insights into household agricultural decisions. Much of the literature on agricultural change has focused on the influence of specific factors or processes at the macro level, neglecting the complexity and diversity of farmers' everyday realities. The starting point for this thesis is the fact that agriculture is deeply embedded within people's livelihoods and therefore cannot, and should not, be conceptually divorced from this context. Decisions regarding change within agriculture are essentially livelihood decisions - they both depend upon, and in turn affect, the livelihoods of the decision-makers. The present study therefore applies what has become known as a 'livelihoods approach' to household agricultural decisions, asking the central question of *how* the livelihood context shapes people's decisions regarding opportunities to make changes to their farming systems. A secondary question concerning the practical application of a livelihoods approach to the study of agricultural change is also addressed.

These questions are investigated through a study of the livelihoods and agricultural decisions of shifting cultivators in four villages in the uplands of the Lao PDR. Specifically, it investigates their responses to the opportunity to incorporate managed livestock feed resources into their farming systems. Although the focus and context of this research is shifting cultivation, it could equally be applied to other types of small-scale agriculture. Shifting cultivation is, however, presently the focus of much attention in the countries where it is practised and is a major development issue in the Lao PDR, where an estimated one third or more of the population depend on it for their livelihoods.

1.1 Theoretical background

Shifting cultivation has often been viewed as a 'primitive' form of agriculture that, for one reason or another, has failed to evolve into more intensive and economically productive 'modern' agriculture (Boserup, 1965; Food and Agriculture Organisation (FAO), 1957; Rasul and Thapa, 2003). In general, cultivation for household subsistence is seen as somehow less valuable than market-oriented production, apparently because it contributes little to the national economy and to statistics such as Gross Domestic Product (GDP) (Watters, 1971). Shifting cultivation is also blamed for

much tropical deforestation and other environmental problems (Brady, 1996). For these and other reasons, shifting cultivation has generally been seen as an outmoded practice that is long overdue for replacement. Therefore, large-scale efforts have been undertaken with the aim of transforming shifting cultivation into sedentary agriculture. Often these have taken the form of restrictions on land use, thereby inducing farmers to reduce fallow periods, compromising the sustainability of their farming systems and thus their livelihoods. At the same time, outsiders are becoming increasingly active in developing and introducing alternatives to these farmers (either in support of government policies to eradicate shifting cultivation or to support farmers' livelihood needs, most likely a combination of these motives). Thus, many shifting cultivators are in a position where their traditional practices are becoming less able to provide them with a sustainable livelihood, while simultaneously they are being exposed to new opportunities to make changes.

Conventional views of shifting cultivation are related to ideas that agriculture changes in a linear, evolutionary fashion, progressing from low-input, extensive, subsistence-based agriculture to high-input, intensive, commercialised systems. Theories of agricultural change have often taken a 'top down' approach, with a focus on processes such as economic, demographic or social change and their effects on agriculture. Earlier theories, such as those outlined in Ester Boserup's (1965) *The Conditions of Agricultural Growth*, focused on identifying the 'trigger(s)' of change, in an effort to explain why and how certain processes of change took place. More recent theories have suggested a range of factors that may be involved in change, such as population, markets, infrastructure, household economics, institutions, society, culture and government policy. However, as a whole this body of theory tends to be somewhat dislocated and often reductionist in its approach to agricultural change. Prominent factors tend to be presented in isolation, with most works focusing on just one or perhaps a handful of variables. Although specific examples are often drawn upon in illustrating these theories, they generally aim to be universally applicable.

This thesis, while recognising that many meaningful contributions have been made in the theory on agricultural change (and bearing these theories in mind), consciously shifts the focus to the local level, drawing attention to individual household livelihoods as the context within which decisions are made. The livelihoods approach is a relatively recent addition to the field of development, and has been widely embraced by practitioners and academics alike. In general, it is seen as a way of putting people at the centre of development analysis and of acknowledging and valuing diversity (Ashley

and Carney, 1999:7; Chambers and Conway, 1992: 4; Department for International Development (DFID), 1999; Helmore and Singh, 2001: 3). It also provides a cohesive framework for investigating poor people's priorities and needs (Ashley and Carney, 1999: 7). It may thus be able to overcome some of the reductionism of conventional approaches and provide a more holistic and people-centred understanding of agriculture and change.

The livelihoods framework identifies several factors that affect people's livelihoods. The five main components of the framework are: livelihood assets or resources; livelihood activities and strategies; the outcomes of these activities; the institutional and organisational context; and the vulnerability context that households operate in (Ashley and Carney, 1999: 47; DFID, 1999; Ellis, 2000: 30, Scoones, 1998: 4). The framework is not intended to be a model of reality, but to provide a tool for ordering complexity and identifying the many factors that influence livelihoods (DFID, 1999). The livelihoods framework is commonly used in the planning and management of development interventions aimed at poverty reduction (Ashley and Carney, 1999: 1, 10; DFID, 1999; Ellis, 2000: 28). However, this research experiments with its use as an analytical tool for understanding household agricultural decisions.

1.2 Research context and methodology

The Lao People's Democratic Republic (Lao PDR) is an interesting country for the investigation of change within shifting cultivation-based livelihoods. As a communist country, relatively closed from 1975 to the early 1990s, it has been somewhat isolated from foreign influence. Lack of government funds has meant infrastructure has remained minimal and change has been much slower than in neighbouring countries. Shifting cultivation remains the primary system of land use in the mountainous north, where land suitable for paddy production is scarce. The government's agenda to eradicate shifting cultivation was stepped up in the 1990s with a programme of land use zoning and land allocation,¹ which has induced farmers to modify their farming systems, notably by reducing fallow periods and increasing cropping intensity. This has impacted on the productivity and sustainability of these systems, making livelihoods more vulnerable. However, market access has recently improved with the upgrading of the national highway and opportunities for change are now slowly

¹ Most farmers are yet to receive formal land title, but have been 'allocated' a limited number of plots for agricultural use (H. Sodorak, pers. comm., 9 February 2005).

becoming available. An exploratory visit to the Lao PDR prior to embarking on this thesis confirmed that shifting cultivation, an area of personal interest to the researcher, was indeed an important development issue and a topic worthy of investigation for its' very real and practical importance in the everyday lives of many rural Lao.

The research questions outlined at the start of this chapter are addressed through an investigation of farmers' responses to one opportunity – the intensification of livestock production through the cultivation of managed feed resources. This opportunity was offered by the Forages and Livestock Systems Project (FLSP), implemented at the local level by the District Agriculture and Forestry Office (DAFO) extension workers. The study was carried out using a mixture of qualitative and quantitative methods, with a focus on in-depth household interviews aimed at understanding household livelihoods and farmers' perceptions of their situation, as well as of the forage technologies on offer. Four villages were chosen in Xieng Ngeun District - one of five districts where the project was active. A total of 143 households were represented in the research, 30 of them participating in the in-depth interviews. The research included a mix of households who had never tried cultivating forages, those who were currently cultivating them, and those who had tried but stopped.

The case study was not selected to be representative of the whole of the Lao PDR. Other villages may face slightly different issues from those of the study villages, due to differences in factors such as market access, land type and availability, forest access, climate, village-level institutions, livestock-related experience and traditions and so forth. Many of the issues raised in this study, however, are expected to be relevant throughout shifting cultivation areas in the Lao PDR, particularly where livestock is seen as a promising avenue for development. On a wider level, this study illustrates the importance of understanding the livelihood situation within which potential farming system changes, including the introduction of new agricultural technologies, are offered to small-scale farmers.

1.3 *Overview of the thesis*

This chapter has introduced the question of how shifting cultivators' livelihoods shape their agricultural decisions. It has briefly introduced some of the issues associated with shifting cultivation today and situates this within ideas on why and how agriculture changes. The livelihoods approach has been suggested as a way of investigating

decisions at the household level, followed by an overview of where and how this study is undertaken.

Chapter Two provides a short overview of shifting cultivation, followed by a discussion of how it has been conceptualised in the literature, highlighting both negative and positive views of the practice and the impacts that such views have had on its practice. It then discusses some of the recent trends and changes that have taken place, assessing the current situation of shifting cultivators. Finally the prospects for the future of shifting cultivators are considered, including some of the avenues currently being pursued by research and development organisations, highlighting livestock as the option this thesis concerns.

Chapter Three turns to the wider issue of how shifting cultivation and other agricultural systems change, discussing a number of theories and the factors they identify as causing or shaping change within agriculture. The last part of the chapter focuses on technology adoption as a major path by which agricultural change takes place, considering how the wider factors of agricultural change relate particularly to technology adoption, as well as some factors that are specific to this avenue of change.

In Chapter Four the livelihoods approach is introduced as a way of bringing together many of the factors identified in the agricultural change literature, in a way that is holistic and people-focused rather than process-focused. After first outlining the features and principles of a livelihoods approach, the chapter turns to its practical application in the form of the livelihoods framework. The second part of the chapter considers how the livelihoods approach relates to the question of agricultural change and how the framework might be utilised in the study of change at the household level, finishing with two examples from the literature of how livelihood factors were found to influence differential strategies with respect to livestock.

Chapter Five gives an overview of the situation in the Lao PDR, describing the institutional context at the national level and how this has impacted on the practice of shifting cultivation. It then looks more specifically at the livelihoods of shifting cultivators and the challenges they face, along with the options for the future. The research is situated within this context and the FLSP project the research relates to is introduced.

Chapter Six provides an overview of the methodology employed for this research, covering the general approach, the sites and participants involved and how the research was carried out. An explanation of the data set referred to in Chapter Seven is also given.

Chapter Seven describes the livelihoods of farmers in the villages studied from a largely quantitative point of view. It begins with a discussion of the livelihood assets and resources people have access to, noting differences between households who have adopted forages and those who have not. It then describes how these resources are used in terms of the major livelihood activities these households are engaged in and the way these activities contribute to household livelihoods, as well as touching on some of the general problems, constraints and trends relating to these activities.

Chapter Eight is based on the qualitative data from interviews and group discussions. It focuses on farmers' perceptions of their livelihoods and of the opportunities available to them, including their perceptions of livestock and forages. The reasons for not trying forages are described, largely from the point of view of the 'non-adopters' themselves, but incorporating the views of farmers who have adopted and of extension workers as to why many farmers have not adopted.

Chapter Nine discusses these findings in the light of the research questions outlined in this chapter, drawing on material presented in Chapter Three. The discussion is structured according to the livelihoods framework, considering how each component of the framework is contributing to household agricultural decisions. It also draws attention to the importance of the technology itself and particularly to farmers' perceptions both of the technology and of their livelihoods in general, suggesting the framework be amended to include these vital components affecting household-level agricultural change.

Chapter Ten summarises the main issues presented in this thesis and considers the wider implications of the findings discussed in Chapter Nine. It concludes that the household livelihood context is extremely important to agricultural decisions at the local level and that the livelihoods framework is a useful tool for guiding and structuring the analysis of the relationship between livelihoods and agricultural change. However, it is suggested that the explicit inclusion of both technology and farmers' perceptions makes the livelihoods framework an even more useful heuristic device for understanding local level agricultural change.