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Rice and Remittances: The Impact of Labour Migration on Rice Intensification in Southern Laos

Vongpaphane Manivong[1], Rob Cramb[2], and Jonathan Newby[2]

[1]Agriculture and Forestry Policy Research Centre,
National Agriculture and Forestry Research Institute, Laos

[2]School of Agricultural and Food Science,
The University of Queensland, Australia

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[1]Agriculture and Forestry Policy Research Centre,
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[2]School of Agricultural and Food Science,
The University of Queensland, Australia

Abstract

Despite being a low-income, agriculture-based country with a subsistence-orientation, Laos is in the early stages of a major economic transformation whereby rural households have been experiencing rapid change in their farming and livelihood systems. Some households have engaged in what the World Bank classifies as market-oriented farming while other households have adopted labour-oriented or migration-oriented livelihood strategies. This paper explores how rural households in six villages in the lowlands of Champasak Province in southern Laos make a living. These villages vary in their access to irrigation and to markets. Nevertheless, in all villages, long-term migration of younger household members to neighbouring Thailand has come to play a large role in household livelihood strategies. In some cases this is necessary to meet the household's consumption requirements; in others, it is part of a diversified strategy in which rice farming still plays a significant role, whether for subsistence or the market. The paper examines some of the issues involved in pursuing intensive, market-oriented rice farming in a context of an emerging on-farm labour shortage combined with an increasing flow of remittances from migrant family members.

Keywords: migration, remittances, rice intensification, livelihood strategy, rural poverty, Laos

Introduction

Laos (Lao PDR) is one of the Least Developed Countries with a Gross Domestic Product (GDP) per capita in 2007 of USD701 and a ranking of 130 out of 177 in the International Human Development Index (MPI and UNDP 2009). Laos is a land-locked and largely rural country where over 70% of the population lives in rural areas and largely depends on subsistence agriculture (NSC 2005). Despite being an agriculture-based country with a subsistence-orientation, Laos is in the early stages of economic transformation in which its agricultural sector has been undergoing a major transition in recent years. Some households are moving into what the World Bank (2007) classifies as 'market-oriented farming' while other households have adopted 'labour-oriented' or 'migration-oriented' livelihood strategies.

Though the national economy has been growing in recent years and the incidence of poverty has been reduced from 46% in 1993 to 27% in 2008, regional inequalities have increased (MPI and UNDP 2009). Many areas have chronic rice deficits even though rice self-sufficiency has been achieved at the national level (WFP 2007). To address the problem of rice insufficiency the Government of Laos (GoL) is focusing on increasing the productivity of rice-based farming systems in the lowlands through the use of high-yielding varieties, improved management practices, and where possible the mechanization of rice production. The main emphasis is on irrigated districts but increased yield targets have also been set for rainfed lowland areas.

However, increasing numbers of farm workers from southern Laos have migrated to work in Thailand in recent years. Economic growth and industrialisation in Thailand have increased employment opportunities, attracting labour from rural areas as well as the neighbouring countries of Myanmar, Laos, and Cambodia (Thongyou and Ayuwat 2005), while skilled Thai workers have migrated temporarily to work in higher-paid employment in other countries, especially in the Middle East (Rigg and Salamanca 2011). The influx of migrant labour from Laos to Thailand has resulted from lower relative wage rates in Laos (Deelen and Vasuprasat 2010). Labour migrants draw on their social networks of relatives, friends, and other villagers with experience of working in Thailand to find jobs, accelerating the flow of workers to Thailand (Thongyou and Ayuwat 2005). The key issue, then, is whether the intensification of rice production, as envisaged by the GoL, can provide the returns to labour to compete with the alternative employment opportunities in Thailand.

This paper explores the determinants and impacts of labour- and migration-oriented livelihood strategies in Champasak Province, a major rice-growing province in southern Laos that is also well-known as a source of migrant labour to neighbouring Thailand (Fig. 1). The paper addresses two key research questions: Is labour migration a 'pathway out of poverty' for rural households in the study area or just a survival strategy? What are the implications for the GoL's rice intensification strategy in this region?

Labour Migration and Rural Livelihoods

Migration has long been one of the livelihood strategies available to rural households. It is often combined with other strategies, thus contributing to livelihood diversification and risk mitigation. Ellis (2000) classified labour migration into four types. 'Seasonal migration' refers to temporary migration occurring in response to the agricultural calendar or seasons, with individuals normally moving out during the lean period and returning during the peak period. 'Circular migration' refers also to temporary migration but occurring in response to the demand for labour and not necessarily associated with agricultural seasons. 'Permanent migration' (rural-urban migration) is when household members move to work in urban areas for a long period of time and transfer money back home (remittances). 'International migration' involves household members migrating either temporarily or permanently to work in foreign countries.

There are many reasons behind the movement of rural labour. Ellis (2000) highlighted that migration occurs due to 'pull' or 'push' factors or a combination of both. The differences in income are the major pull factors while the risks associated with seasonality, market failures, resource scarcity, and disasters are the key push factors. The relative importance of these two factors varies between regions and individual households. The World Bank (2007) argued that labour migration occurs mainly in response to 'income gaps between the origin and the destination', that is, a pull factor. Similarly, Rigg (2007) suggests the main cause of labour migration in Southeast Asia is the opportunity of higher income or higher wage rates and the ability to transfer money home.

Labour migration has affected rural livelihoods and the agricultural sector in various ways. A crucial issue is the linkage between migration and agricultural intensification. Out-migration causes a shortage of labour in the agricultural sector when rural people, especially young workers, go to work in non-farm activities in other areas of the country or even in other countries (Rigg 2007). Migration may thus limit agricultural intensification, which normally requires increased labour input per hectare. According to Rigg (2005a), many villages in Southeast Asian countries such as Thailand, Indonesia, the Philippines, and Malaysia have become 'de-agrarianised' in that most people who live in the village earn their livelihoods through non-agricultural employment in towns.

On the other hand, the remittances from migrant family members can help reduce the capital constraints of poor households. Migration may therefore encourage agricultural intensification if remittances can be used to hire labour or purchase agricultural inputs such as seeds, fertilisers, livestock, and labour-saving equipment (McDowell and de Haan 1997). Rigg (2007) found that households who receive remittances are able to invest more in agricultural production or even engage in new investment activities, especially when migrant family members return home with skills and money. However, one of the key issues is whether remittances are available for agricultural investment or are needed for buying food and other consumption needs to meet the shortfall in the household's income and food supply.

In countries experiencing labour mobility, the labour shortage in agricultural production can sometimes be filled with labour from more remote areas within the country where wage rates are lower. The labour shortage can also lead to absorbing labour from other countries. For example, Malaysia obtains workers from neighbouring countries such as Indonesia, Thailand, and Bangladesh while, as noted already, Thailand obtains cheap labour from Laos, Cambodia, and Myanmar (Rigg 2006). It may be that outmigration from more productive areas of Laos, namely the irrigated and partly-irrigated lowlands of southern Laos, may draw in labour from poorer areas, such as the rainfed lowlands or remote uplands.

Over time, labour migration leads to change in the demographic structure such that old people are left with responsibility for farming activities. This has already occurred in East Asia – more than half the agricultural labour force in South Korea was aged over 50 in 1990 and over 65 in Japan in 2000 (Rigg 2006). In Southeast Asia this pattern is appearing in countries like Thailand. Those remaining farmers have to adjust their farming patterns by hiring additional labour, or applying labour-saving production technology, especially farm machinery. Another scenario is that they may simply produce less or even leave their land unproductive. Rigg (2006) cites Bangladesh as an example of farmers' adaptation to the labour shortage where the availability of remittances from rural-urban (including international) labour migration has created the capability to use more farm machinery and increase agricultural productivity.

This trend to mechanisation is associated with increasing average farm size. In transforming countries such as Thailand and Vietnam, smallholding rice farmers have gradually increased their farm sizes because land tenure security encourages them to expand the cropping area in response to market demand and with access to improved agricultural technologies to increase productivity (WB 2010). However, as argued by Rigg (2005b), there is also a 'delink' between rural livelihoods and poverty on the one hand and access to land on the other. In the Philippines and Thailand, households with large land areas are not always better-off than those with less land. Even some landless farmers can increase their income by engaging in non-farm activities.

The movement of people from farm to non-farm employment and from rural to urban areas is occurring in Laos, but the process has not developed as rapidly as in other transforming countries. All types of migration listed by Ellis (2000) – seasonal, circular, rural-urban, and international – are found in Laos, and sometimes the movement falls into more than one category. People sometimes go to work off-farm in other areas within the country on a seasonal basis, e.g., in large rubber plantations, and come back to their villages to help their families in agricultural activities during peak periods (Baird 2009; Kenney-Lazar 2010). Some younger household members go for longer periods to work in towns or even in Thailand, sending money home. Phouxay and Tollefsen (2010) reported that an increasing number of young rural people, with a larger proportion of women, go to work in large towns, in particular Vientiane Capital, where more jobs are available such as in garment factories or the services sector. Moreover, as noted, many young workers cross the border to work in neighbouring Thailand (Rigg 2007).

Now the larger proportion of labour migration in Laos is on a long-term basis, both rural-urban and cross-border migration, due to the long distance to the sites of employment. As a result, there is a shortage of labour in rural communities, especially during the peak seasons of planting and harvesting. This has pushed up the rural wage rate in Laos in the past decade. Labour migration, however, has also offered positive returns to the economy. A recent report by MPI and UNDP (2009) revealed that remittances from overseas Lao workers, mainly in Thailand, contributed nearly 7% of GDP in 2008. According to Rigg (2007) the main reason for labour migration in Laos, as in other Southeast Asian nations, is the opportunity of receiving higher wages and sending money back to support rural families. As discussed earlier, labour will move to other areas or even to other countries where higher wages are offered. This means that the country that is losing its agricultural labour force to non-farm employment can attract labour from lower-wage countries. This is clearly the case between Thailand and Laos.

The Study Area

The paper draws on a larger study of Champasak Province in southern Laos, where market-oriented, labour-oriented, migration-oriented, and diversified livelihood strategies are all evident (Fig. 1). Rice production is the main farming activity in the province. Rice in the lowlands is grown in both rainfed and irrigated environments. Glutinous rice is grown more than non-glutinous rice. Rice is planted primarily for household consumption, but the surplus is sold. A variety of non-rice crops are grown in small home gardens. Villages located along the Mekong River or its tributaries also grow maize, vegetables, and other crops in 'river-bank gardens'. Some farmers in irrigated areas grow non-rice crops in part of their rice fields in the dry season. Some proportion of these crops is consumed by the household while the rest is sold.

Livestock is one of the major sources of household income in the lowlands of the province. Large ruminants, especially cattle and buffaloes, also play a vital role as a store of wealth for the household. They are sold when there is a need for cash, e.g., to buy a two-wheeled tractor or in case of emergency such as production loss due to flood or drought. These large livestock used to play a key role in providing draught power for land preparation but are now increasingly being replaced by tractors. Small livestock such as pigs and poultry (and their eggs) are raised for household consumption, but sometimes for sale as well. As the province is drained by the Mekong River and its tributaries, fishing is widely practised and provides a crucial source of protein intake for the household as well as a source of income.

Rural households in Champasak Province also collect timber and non-timber forest products (NTFPs) such as bamboo shoots, mushrooms, and wild vegetables, both for direct consumption and sale. Hunting wild animals is also still practised but difficult to find now due to the decline in their numbers. Handicrafts such as baskets, mats, and woven silk and cotton textiles are well-known products in the province. Raw materials for making baskets, such as rattan and bamboo, can be collected from the forest. Sale of handicraft products provides additional cash income to many households.

While rural households in Champasak Province typically still grow rice as their main livelihood activity, their livelihoods have become increasingly diversified as the economy of the province develops and opportunities for off-farm and non-farm employment increase. Young people seek non-farm employment in towns or in neighbouring Thailand. As the Thai economy has developed, there has been increased demand for workers in agriculture, construction, transport, and other sectors. Wages in Thailand have increased compared to wages in Laos, creating a strong incentive for Lao workers to migrate.

Two districts in the province were selected as the study sites. Soukhouma represents remote and poor districts (one of 47 poor districts in Laos). Phonethong represents more accessible and better-off districts; the district is directly connected to the provincial capital, Pakse, via a bridge across the Mekong River. Both districts have border checkpoints with Thailand. Phonethong and Soukhouma Districts can be classified into three distinct agro-ecological zones (Table 1).

The research design involved selecting one village from each zone in the two districts, making a total of six study villages. The selected villages were Phaling, Oupalath, and None Phajao in Phonethong District, and Boungkeo, Khoke Nongbua, and Hieng villages in Soukhouma District. The codes representing the districts and villages which will be used throughout the paper are highlighted in Table 2. A single-visit household survey was undertaken in May 2011 in these six villages. Thirty households were selected at random from each village, making 180 respondents in total. This was followed by case studies of specific household types within the survey villages in September 2011.

Table 1. Characteristics of villages in different agro-ecological zones in study districts

Zone	Main characteristics of villages
1	▪ Located along or nearby Mekong River ▪ Have good irrigation system ▪ Grow rice and some non-rice crops in dry season ▪ Access by river and road
2	▪ Located along or nearby main road ▪ Access to water from streams for supplementary irrigation ▪ Grow rice only in wet season ▪ Grow non-rice crops/vegetables in small home gardens in dry season
3	▪ Located near forested mountains along Thai border ▪ Access by dirt road ▪ Have small streams ▪ Grow rice only in wet season ▪ Grow non-rice crops/vegetables in small home gardens in dry season ▪ Collect NFTPs ▪ District official regard villages in this zone as poorer than villages in other two zones

Table 2. Study villages by district and agro-ecological zone

	D1 = Phonethong	D2 = Soukhouma	Village types/zones
V1	Phaling	Boungkeo	Zone 1 - irrigated village
V2	Oupalath	Khoke Nongbua	Zone 2 - supplementary-irrigated village
V3	None Phajao	Hieng	Zone 3 - purely rainfed village

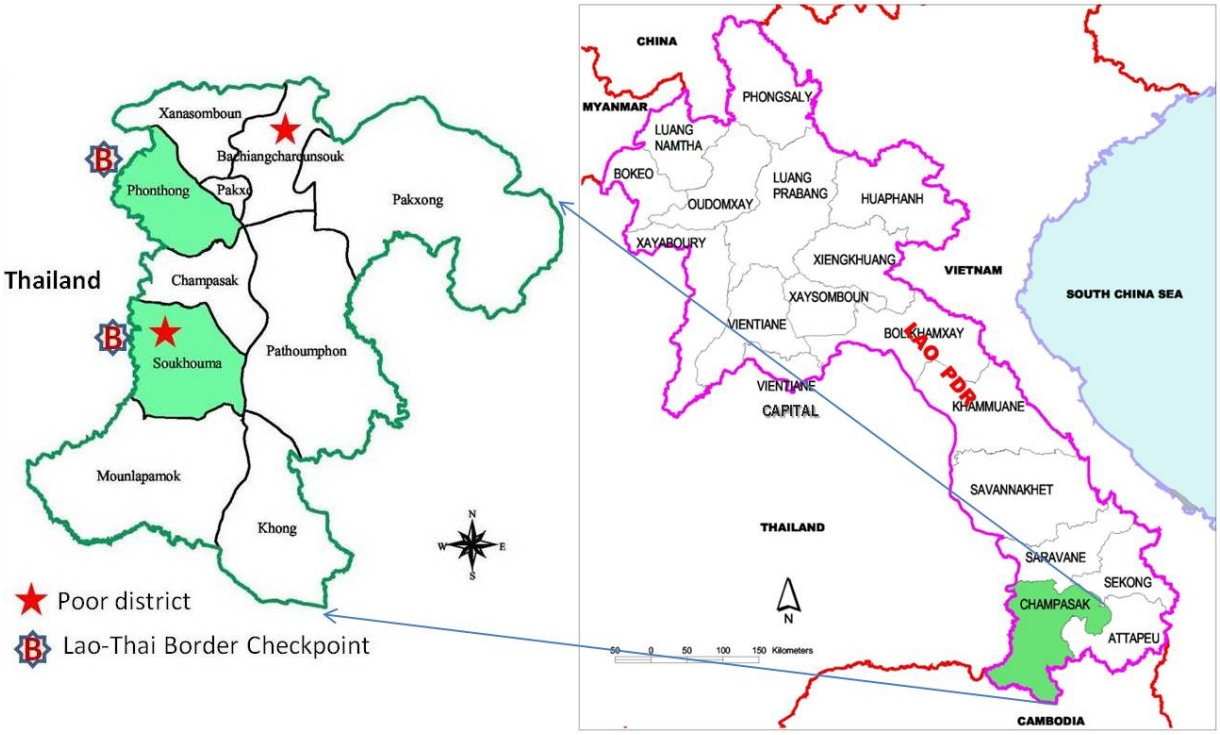

Fig. 1. Location of study districts in Champasak Province

Rice Cultivation in the Study Sites

Rural livelihoods in the survey villages involve various farming activities including crop and livestock production, but rice cultivation dominates. About 81% of the survey households owned paddy land with an average area of 2.4 ha, ranging from 0.2 to 10 ha (Table 3). Of the households with no paddy land, 94% borrowed paddy land from others to grow rice in the 2010 wet season (WS 2010) while only 6% (2 households) did not grow rice. The households that owned paddy land undertook various strategies related to rice growing in WS 2010. The majority of these households (71%) grew rice in all their own paddy land while nearly 10% grew rice in all their paddy land and borrowed additional paddy land to grow rice. About 14% grew rice in some of their paddy land and rented out some or left some unplanted. The remaining 5% rented out all their paddy land or left all their paddy land unplanted.

Table 3. Strategies for growing rice in WS 2010 for households owning paddy land (no. of households)

Strategy	D1			D2			Total (n=180)	%
	V1 (n=30)	V2 (n=30)	V3 (n=30)	V1 (n=30)	V2 (n=30)	V3 (n=30)		
1. Grew rice in all own paddy land	19	15	16	15	19	19	**103**	**71.0**
2. Grew rice in all own paddy land and borrowed additional paddy land to grow rice	3	4	3	2	1	1	**14**	**9.7**
3. Grew rice in some parts of own paddy land and left some parts unplanted	0	0	1	1	4	1	**7**	**4.8**
4. Grew rice in some parts of own paddy land and left some parts unplanted and borrowed additional paddy land to grow rice	0	0	0	1	0	0	**1**	**0.7**
5. Grew rice in some parts of own paddy land and left some parts unplanted and rented out some parts	0	0	0	1	0	0	**1**	**0.7**
6. Grew rice in some parts of own paddy land and rented out some parts	0	3	1	3	2	3	**12**	**8.3**
7. Left all own paddy land unplanted	1	0	0	0	0	2	**3**	**2.1**
8. Left all own paddy land unplanted and borrowed additional paddy land to grow rice	1	0	0	0	1	0	**2**	**1.4**
9. Rented out all own paddy land	0	1	0	0	0	0	**1**	**0.7**
10. Rented out all own paddy land and borrowed additional paddy land to grow rice	0	0	1	0	0	0	**1**	**0.7**
Total	**24**	**23**	**22**	**23**	**27**	**26**	**145**	**100.0**

Dry-season rice was also produced in the irrigated villages (V1) in each district. About 43% of the survey households in the irrigated villages had land with access to the irrigation supply (Table 4). Of these households, 62% grew rice in all their irrigated land in the 2010-2011 dry season (DS 2010-11) while 27% grew rice in part of their irrigated land and rented out part. The remaining 11% rented out or left all their irrigated land unplanted. Around 33% of the households in the irrigated villages grew rice on borrowed land in DS 2010-11. In addition, one household in a non-irrigated village borrowed land in the irrigated village to grow dry-season rice.

Table 4. Strategies for growing rice in DS2010-11 for households owning land with access to irrigation supply (no. of households)

Strategy	D1			D2			Total (n=180)	%
	V1 (n=30)	V2 (n=30)	V3 (n=30)	V1 (n=30)	V2 (n=30)	V3 (n=30)		
1. Grew rice in all own irrigated land	4	0	0	11	0	0	**15**	**57.7**
2. Grew rice in all own irrigated land and borrowed additional land to grow rice	1	0	0	0	0	0	**1**	**3.8**
3. Grew rice in part of own irrigated land and rented out some irrigated land	2	0	0	5	0	0	**7**	**26.9**
4. Rented out all own irrigated land	0	0	0	2	0	0	**2**	**7.7**
5. Left all own irrigated land unplanted	1	0	0	0	0	0	**1**	**3.8**
Total	**8**	**0**	**0**	**18**	**0**	**0**	**26**	**100.0**

The cultivated rice area in WS 2010 averaged 2.3 ha per household, but ranged from only 0.2 ha to 9.2 ha (Table 5). The WS 2010 rice yield averaged nearly 1.8 tons/ha and ranged from less than half a ton to 5.2 tons/ha. On average, about 0.8 ha of paddy land was planted with rice in DS 2010-11, but the range was 0.1 ha to 2.0 ha. The DS 2010-11 yield averaged around 3.6 tons/ha and ranged from 1.2 to 6.2 tons/ha. Nearly 70% of the households sold rice, on average about one-third of the rice harvest from either WS 2010 or DS 2010-11 or both.

While rice production is an important activity, yields remain low, meaning many households are not self-sufficient in rice. In 2010, about 27% of the households did not have enough rice for household consumption; their average deficit was 4 months, ranging from one month to the whole year. Households with whole-year rice shortage were the ones that did not grow rice in 2010. However, over half of the rice-insufficient households in 2010 sold some of their rice harvest. They sold rice to get money for urgent household needs such as paying for medical expenses, paying off their tractors, and buying fertilizers.

Table 5. Rice production data for WS 2010 and DS 2010-11

	D1			D2			Total (n=180)
	V1 (n=30)	V2 (n=30)	V3 (n=30)	V1 (n=30)	V2 (n=30)	V3 (n=30)	
Mean cultivated area WS 2010 (ha)	2.5 (n=28)	2.4 (n=29)	3.5 (n=29)	1.5 (n=29)	1.7 (n=30)	2.4 (n=28)	**2.3 (n=173)**
Mean yield WS 2010 (tons/ha)	1.7 (n=28)	1.9 (n=29)	1.1 (n=29)	2.2 (n=29)	2.1 (n=30)	1.7 (n=28)	**1.8 (n=173)**
Mean cultivated area DS 2010-11 (ha)	0.8 (n=17)			0.8 (n=26)	1.0 (n=1)		**0.8 (n=44)**
Mean yield DS 2010-11 (tons/ha)	3.8 (n=17)			3.6 (n=26)	2.0 (n=1)		**3.6 (n=44)**
Percentage of households that sold rice (%)	60.0	66.7	73.3	86.7	70.0	60.0	**69.4**
Rice sale as percentage of rice harvest (%)	36.0 (n=18)	39.2 (n=20)	31.7 (n=22)	30.2 (n=26)	34.5 (n=21)	26.6 (n=18)	**32.9 (n=125)**
Percentage of households with rice shortage in 2010 (%)	6.7	13.3	56.7	13.3	36.7	33.3	**26.7**

Labour Migration in the Study Sites

In recent years rural livelihoods in the survey villages have become increasingly diversified. Some farm households have engaged in off-farm or non-farm employment while many households also have members working in Thailand. Only 15% of the survey households utilised their household labour exclusively for their own agricultural production, mainly rice farming. The remaining 85% used some of their labour to earn additional income from either off-farm or non-farm employment in Laos or in Thailand, or some combination of these options (Table 6). Off-farm work, non-farm work, and work in Thailand are not mutually exclusive. Households may have members engaged exclusively in either off-farm employment, non-farm employment, or employment in Thailand; however, other households may have members engaged in a combination of these activities. The greatest proportion of households (36%) had members working only in non-farm activities in Laos, followed by only in Thailand (27%). Around 12% of households had members working in non-farm employment in Laos and in Thailand. Only three households had members employed in all three categories of work.

Table 6. No. of households with members employed in off-farm and non-farm work

	D1			D2			Total (n=180)	%
	V1 (n=30)	V2 (n=30)	V3 (n=30)	V1 (n=30)	V2 (n=30)	V3 (n=30)		
Only off-farm in Laos	0	0	1	2	1	1	**5**	**2.8**
Only non-farm in Laos	4	10	6	14	11	19	**64**	**35.6**
Only in Thailand	9	11	12	5	9	3	**49**	**27.2**
Off-farm and non-farm	0	1	2	1	0	3	**7**	**3.9**
Off-farm and Thailand	2	0	1	1	0	0	**4**	**2.2**
Non-farm and Thailand	4	5	3	3	6	0	**21**	**11.7**
All of the above	2	0	0	1	0	0	**3**	**1.7**
None of the above	9	3	5	3	3	4	**27**	**15.0**
Total	**30**	**30**	**30**	**30**	**30**	**30**	**180**	**100.0**

Most households in the survey villages used household labour for their own rice production; however, off-farm employment was an immediate source of cash income for a few poor households with limited paddy land. Around 11 % of households had members working off-farm (i.e., off their own farm) for cash wages for periods of the year (Table 7). For these households, the average number of household members doing off-farm work was 1.7, ranging from 1 to 4. Just over half of these households had only one member working off-farm while about a third had two members. The most common type of off-farm employment was rice planting and harvesting. Off-farm work was mainly undertaken in the wet season; only 10% undertook off-farm work in the dry season and 10% in both the wet and dry seasons. Off-farm work in the dry season was only found in the irrigated village. In the wet season, rice planting occurred in June and harvesting in November. In addition, in the irrigated villages, dry-season rice planting occurred in January and harvesting in May. Off-farm work was normally carried out in the village in which the household resided. The wage rate for rice planting and harvesting was LAK 25,000 (USD 3.12) per day. Average off-farm income for households engaging in off-farm employment was about LAK 600,000 (USD 75), but the range was from LAK 90,000 to LAK 2.8 million. For the households with members working off-farm, the contribution of the off-farm income to total income averaged 7% with a higher proportion in the remote villages of up to 19%.

While a small number of households were involved in off-farm employment, non-farm employment was one of the main livelihood activities for many of the households surveyed. Around 53% of the households had one or more members working in non-farm activities in Laos for periods of the year (Table 7). For these households, the average number of household members engaging in non-farm work was 1.4, but ranged from 1 to 6. Around 70% of these households had only one member working in non-farm employment and 23% had two members. Non-farm work included construction work (30%); government services (28%) such as teachers, district agricultural staff (DAFO), nurses, soldiers, and policemen; rural services

(14%) such as land preparation by tractor, sawing wood, rice threshing by tractor, and motorbike repair; retail shops and services (9%) including food shops and salons; and small trading (9%) such as buying and selling vegetables, NTFPs, and scrap metal. Non-farm work was primarily in the village of residence (48%), in a nearby village (12%), or in the district town (7%). People also went to work in other districts in Champasak Province (11%) and even in other provinces (7%). Around 54 % of the households engaged in non-farm employment worked for the whole year while about 44% worked only in the dry season, and 2% worked only in the wet season. The average income from non-farm work within Laos was LAK 8.3 million (USD 1,038), ranging up to LAK 96 million. The contribution of the non-farm income to total income averaged around 30%.

Table 7. Features of off-farm and non-farm employment within Laos and labour migration to Thailand

	D1			D2			Total (n=180)
	V1 (n=30)	V2 (n=30)	V3 (n=30)	V1 (n=30)	V2 (n=30)	V3 (n=30)	
% of households with members working off-farm	13.3	3.3	13.3	16.7	3.3	13.3	**10.6**
Mean income from off-farm work (million LAK*)	0.4 (n=4)	0.8 (n=1)	0.6 (n=4)	0.4 (n=5)	0.1 (n=1)	1.2 (n=4)	**0.6 (n=19)**
Off-farm income as % of total income**	1.3 (n=4)	1.7 (n=1)	8.6 (n=4)	2.6 (n=5)	1.1 (n=1)	19.2 (n=4)	**7.0 (n=19)**
% of households with members working non-farm	33.3	53.3	36.7	63.3	56.7	73.3	**52.8**
Mean income from non-farm work (million LAK)	4.6 (n=10)	7.8 (n=16)	3.5 (n=11)	7.5 (n=19)	13.7 (n=17)	9.4 (n=22)	**8.3 (n=95)**
Non-farm income as % of total income	19.5 (n=10)	29.0 (n=16)	33.2 (n=11)	24.5 (n=19)	33.2 (n=17)	33.3 (n=22)	**29.6 (n=95)**
% of households with workers in Thailand	56.7	53.3	53.3	33.3	50.0	10.0	**42.8**
Mean income earned from remittances (million LAK)	9.5 (n=16)	15.1 (n=14)	3.6 (n=16)	10.1 (n=10)	5.8 (n=13)	8.0 (n=2)	**8.6 (n=71)**
Remittances as % of total income	22.0 (n=16)	36.8 (n=14)	26.4 (n=16)	39.0 (n=10)	28.5 (n=13)	41.4 (n=2)	**30.0 (n=71)**

*Note: * 1 USD = 8,000 LAK in May 2011*

*** Total income includes the income from rice, even if not sold*

Another common livelihood strategy in the survey villages is to seek work in Thailand. Around 43% of the survey households had one or more members working in Thailand (Table 7). Labour migration was found in all the survey villages, even in more accessible and irrigated villages with more potential to employ family labour on-farm. The incidence of migrants from the poor

and remote villages was no higher than for the better-off villages. In fact, one village in the remote category (V3 in D2) had the lowest proportion of households with members working in Thailand. This was because people in this village have other sources of income from the forest – collecting NTFPs and hunting wild animals – as well as operating trading businesses in the border market.

On average households had just over 2 people working in Thailand, but the range was from 1 to 6. Around 39% of these households had only one member working in Thailand while 31% had two members and 16% had three members. The average age of household members working in Thailand was 24, ranging from 15 to 41. Of those households with members working in Thailand, about 27% had only men and the same proportion had only women, while 46% had both men and women in Thailand. Work in Thailand involved both farm and non-farm work, including construction (36%), retail (22%), working in rubber and sugarcane plantations (18%), factory work (12%), housework (7%), and others (6%). Monthly wage rates differed between types of work, but averaged THB 5,000-6,000 for farm labour, housework, construction work, working in shops, or factory work.[1] Working in rubber plantations (tapping) could earn up to THB 10,000 per month. Most migrant workers (84%) remained in Thailand for the whole year, returning for only a short period, particularly during the Lao New Year festival, while around 16% went only in the dry season. Around 92% of the households with members working in Thailand received remittances from their family members in 2010, on average about LAK 8.6 million (USD 1,075), but the remittances ranged from LAK 134,000 up to LAK 55.6 million. Remittances contributed about 30% to total income of these households.

Though Lao labour migrants worked in various types of work, there was little evidence of transfer of skills back to Laos; only 10% of the households with members working in Thailand reported that they used the knowledge and skills gained. Of those households, 50% used their acquired skills for building houses, while the rest used them for cooking food, making dresses, welding iron, and flower decoration. However, the main reason given by the households that did not use knowledge and skills gained from working in Thailand was that the migrant family members had not yet returned (90%). In other cases it was reported that they did not acquire sufficient skills (4%) or that they did not have funds to use them (6%).

Discussion

The process of agrarian transition in the study area and the wider Mekong region has led to the emergence of a diversity of household types (Socio-Economic Research Group 2012), as shown in Table 8. While 17% of households, mainly in the rainfed villages, still focused mainly on the production of rice for subsistence, a similar proportion (16%) produced surplus rice for the market and can be considered 'market-oriented' households. Half of these were found in the irrigated village (V1) in the more developed district (D1). Another 14% of households were classified as 'labour-oriented', heavily dependent on off-farm and non-farm employment, and 11% as 'migration-oriented', dependent on household members working in Thailand. These

[1] 1 USD = 30 THB in May 2011.

household types were more common in the rainfed and remote villages. However, the most common type of households were the diversified ones (43%), combining subsistence- or market-oriented farming primarily with migration. While such diversified households typically still grow rice and rear livestock, they differ from other households in using family labour for activities other than their own agricultural production. This can be on a seasonal basis or permanently. These households were common in all the study villages.

Table 8. Emerging household types based on dominant livelihood activities (no. of households)

Household types	D1			D2			Total (n=180)	%
	V1 (n=30)	V2 (n=30)	V3 (n=30)	V1 (n=30)	V2 (n=30)	V3 (n=30)		
Subsistence-oriented	1	5	8	3	4	10	**31**	**17.2**
Market-oriented	14	4	3	4	3	0	**28**	**15.6**
Labour-oriented	1	4	3	3	4	10	**25**	**13.9**
Migration-oriented	1	5	4	4	4	1	**19**	**10.6**
Diversified	13	12	12	16	15	9	**77**	**42.8**
Total	**30**	**30**	**30**	**30**	**30**	**30**	**180**	**100.0**

Labour migration to work in Thailand was a major phenomenon in all the study villages and has become an important source of livelihood for the majority of households. It might be expected that migration would be more common in those villages with fewer agricultural resources but, in fact, the most remote rainfed village had the lowest incidence of migration because of profitable forest-based sources of livelihood. Households in different circumstances pursued migration for dissimilar reasons. Some households migrated by 'choice', taking up opportunities for higher and more diversified income, while others migrated from 'necessity', being obligated to work as labourers to survive. Remittances from Thailand contributed substantially to household income by providing scarce cash resources. For households with rice deficits, remittances helped meet daily food requirements and other household necessities. For households producing surplus rice, remittances can contribute to working capital and investment in farm assets.

Rice was a marginal economic activity in the study villages and labour had moved away seeking higher returns, which was the main motivation for the migration phenomenon. This limited availability of labour for agricultural activities was reflected in the increased farm wage. Even where water and capital were available, labour often remained a binding constraint – especially in the dry season when many workers typically moved into the non-farm employment or migrated to work in Thailand. The critical issue is how farmers can overcome their labour shortage in the face of this strong off-farm demand. In the short run, they may be able to

attract labour from nearby villages by offering a higher wage rate, financed by remittances, but in the long run other villages will face a shortage of labour too as a consequence of out-migration.

Technological innovations may help to overcome some labour constraints, but they often require additional capital. The issue is whether the investment in agricultural technology is likely to occur when rice production remains marginal and subsistence-oriented. There may be more incentive for the adoption of low-cost labour-saving technologies in rice farming (e.g., direct seeding) rather than more intensive technologies (e.g., fertiliser). However, only 2% of the households had used the direct-seeding technique. The increase in two-wheeled tractors provides evidence of labour-saving investment by some households. However, larger investment (e.g., rice planting and harvesting machinery) is less likely because it is too costly for most individuals. It is more likely that contract services will emerge, enabling market-oriented farming households hire machinery services on an hourly basis rather than make a large capital investment. Mechanical harvesters had appeared in the two survey districts and one harvester provided service in DS 2010-11 in one of the survey villages.

The small number of households involved in local farm labouring suggests that the adoption of labour-saving technologies will not harm many households. However, if these households cannot make a transition to other activities they may experience a loss of income. Other than transplanting and harvesting, there are few other off-farm opportunities in surrounding areas in Champasak Province. However, as some households become more diversified, more off-farm employment may become available for labour-dependent households.

Conclusion

Labour migration to Thailand is likely to continue to be a common livelihood strategy for farming households in Champasak, whether they are diversified households or migration-oriented households. Whether by choice or necessity, migration is supporting some household members independently of farm resources, while the flow of remittances is augmenting household consumption and, for some households, their capacity for investment. The increase in employment opportunities in Thailand has resulted in less family labour and higher wage rates, particularly in areas closer to Thailand. Hence, farming systems will need to adapt to labour constraints and the associated higher wage rates. Attempts to intensify rice production (and other components of the farming system) by increasing per-hectare yields need to take into account the implications for labour use and the returns to labour. The opportunity cost of using family labour for agricultural activities is increasing and labour has become the binding constraint. Hence returns to labour should be the central to the evaluation and adoption of new agricultural technologies and practices.

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