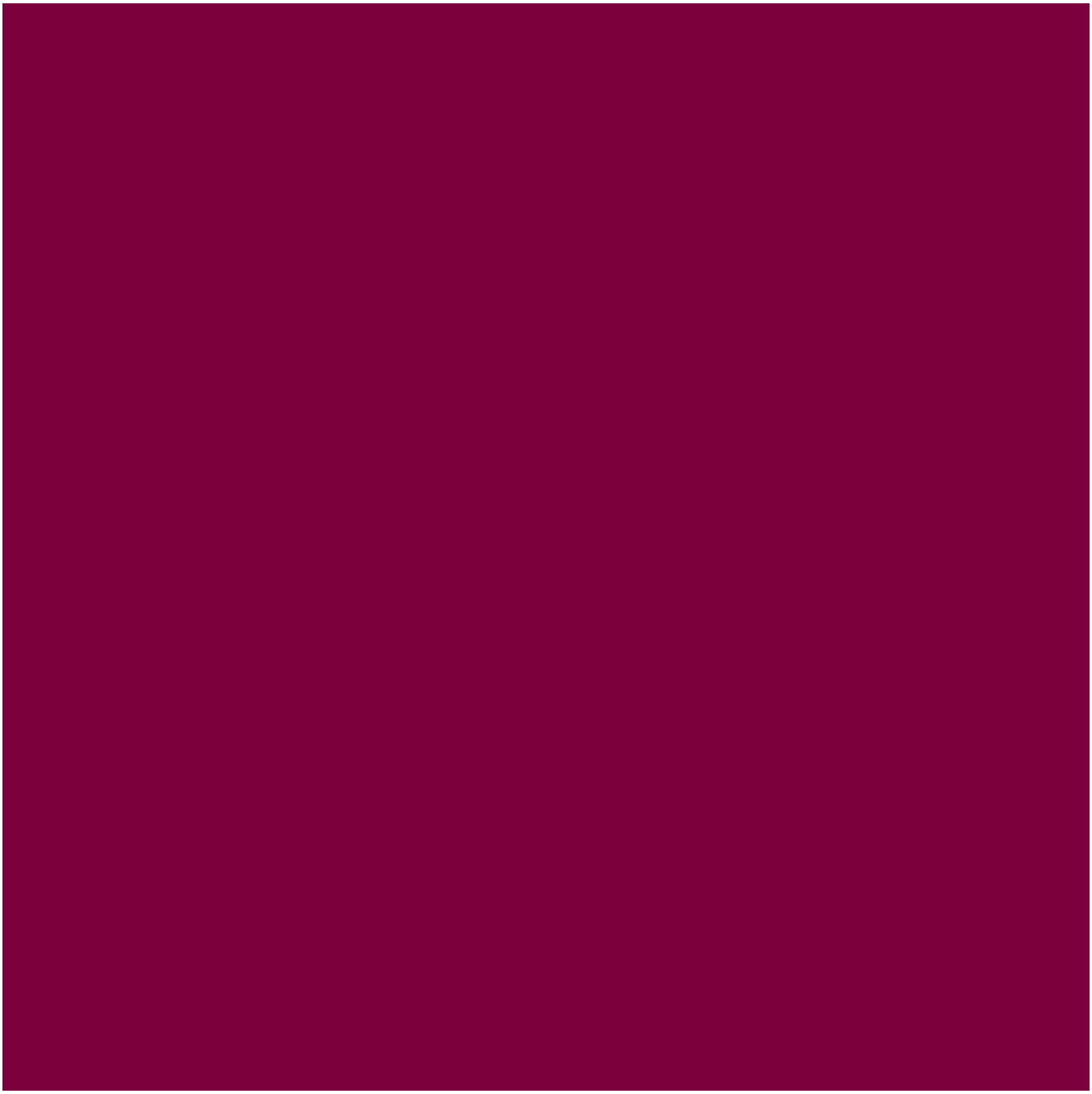
MAY 2007 • MAGNUS ANDERSSON, ANDERS ENGVALL & ARI KOKKO

Country Economic Report 2007:3

Regional Development in the Lao PDR



Foreword

This study on Laos is part of a series of annual studies, undertaken by various Swedish universities and academic research institutes in collaboration with Sida. The main purpose of these studies is to enhance our knowledge and understanding of current economic development processes and challenges in Sweden's main partner countries for development co-operation. It is also hoped that they will have a broader academic interest and that the collaboration will serve to strengthen the Swedish academic resource base in the field of development economics.

This report has been prepared by Magnus Andersson, Anders Engvall and Ari Kokko at the Stockholm School of Asian Studies at Stockholm School of Economics. It analyses the regional dynamics of economic development and poverty reduction in Lao PDR against the backdrop of domestic and international market integration, drawing on comprehensive primary data from the Lao Expenditure and Consumption Surveys. It is found that the integration of the domestic market to a great extent has been determined by investments in transport infrastructure and market institutions and that such integration yield substantial benefits in terms of increased competition and greater scope for economic development. Cross-border economic exchanges with China and Thailand, on a broad front involving a wide array of activities and goods, are a main driving force behind a dynamic economic development in the northern part of the country. In the south, cross border trade has focussed on a single commodity – coffee – and as a result the beneficial economic impact has largely been confined to this sector.

Per Ronnås
Chief Economist

Published by Sida 2007
Department for Policy and Methodology
Authors: Magnus Andersson, Anders Engvall & Ari Kokko
Printed by Edita Communication, 2007
Art. no.: SIDA37198en
ISBN 91-586-8074-8
ISSN 1404-031X
This publication can be downloaded/ordered from www.sida.se/publications

Contents

Introduction

Since the launch of market reforms during the late 1980s, Lao PDR has shown a strong record of economic growth and poverty alleviation (Andersson, Engvall and Kokko, 2006). Yet, the pace of economic development has varied significantly across different parts of the country – the rate of economic development was initially faster in the Mekong valley, but after the mid 1990s growth has been stronger in the North. The purpose of this report is to identify the patterns and analyze some of the drivers of regional development in Lao PDR. The effects of domestic and international market integration on regional development are of particular interest. This is of importance since the country's geographic character creates special challenges for the creation of an integrated national market as well as for integration with international markets.

Both international and domestic integration have long been hampered by limiting natural conditions and inadequate infrastructure. The benefits of integration with international markets have not dissipated throughout the Lao economy, as domestic market integration remains low. Lao PDR is a mountainous country with a weakly developed national transport system. The low level of domestic market integration is evident from the large variation in prices of goods and services across the country, as well as the difficulty in accessing some products in more remote areas. Yet, investments in infrastructure have improved the efficiency in transferring of products to and from local markets.

A land-locked country such as Lao PDR is dependent on neighboring countries for access to international markets. As links to the outside world have gradually developed, parts of Lao PDR have benefited from integration with regional and international markets. This is manifested in the growth of Lao exports and imports of consumer goods. Yet, it also creates a dependence on efficient transit routes through Thailand and Vietnam to reach the global markets.

Taken together, the character and development of international and domestic market integration are important factors for understanding the patterns of regional development in Lao PDR. This report contributes by providing some insights into the diverse experiences of different regions and the necessary measures needed for successful regional development in Lao PDR. The report is separated into six main sections. The first section introduces the concept of market integration and its relevance for Lao PDR, while the second section provides a description of recent regional developments in Lao PDR using recently published data from

household surveys. The third section provides a study of the domestic market system using regionally disaggregated price data for a homogenous good produced and marketed in Lao PDR: beer Lao. The fourth section provides a picture of recent developments in the northern parts of Lao PDR and the north-south economic corridor. The fifth section discusses how changes to the character of coffee markets have affected the southern parts of the country. A final section concludes and discusses policy implications.

Method and Data

The empirical parts of the present study are based on a micro-level dataset on Lao households, the Lao Expenditure and Consumption Survey from 2002/2003. This survey, known as LECS 3, provides detailed data on the expenditure and consumption patterns of rural households. It covers all provinces, with each provincial sample stratified into urban areas, rural villages with road access, and rural villages without wet season road access. The number of villages (Primary Sampling Units) in the sample is 540. Andersson et al (2005) provide a detailed overview of the methodology and sampling frame for LECS 3.

The survey provides sufficient information to measure household income and consumption, and to construct price indices that capture differences in the cost of living within and between urban and rural areas. Apart from household data, the surveys include data from village questionnaires, providing information about local market infrastructure, transport infrastructure, number of households in the village, average wage rates, and local market prices for the 197 items comprising the Consumer Price Index. The data also allow us to identify what district the village belongs to, but there is no information about the exact location of the village within the district. When using the data in the subsequent analysis, we will aggregate the villages and provinces into three geographical regions – North, Central, and South – plus Vientiane Municipality.

Background: Trends in Lao Regional Development

There is a lack of reliable indicators for studying trends and levels in provincial and regional economies in Lao PRD. However, the geographic pattern of economic growth can to some extent be studied using the national Living Standard and Expenditure Surveys conducted by the National Statistics Center. Three such household surveys have been conducted, in 1992/1993, 1997/1998, and 2002/2003, which enables some comparisons of developments during the two five year periods covered by the surveys. Although the surveys do not include data on provincial or regional GDP, they provide detailed data on consumption expenditure, which can be used to proxy regional living standards and development levels. Table 1 summarizes some data on the changes in per capita consumption across the three living standard surveys, and shows that there has been a large variation in consumption growth across regions in Lao PDR. When studying the full ten year period, it is clear that rural households have fared relatively well in the North, the South and Vientiane. Developments in the Central region have been less encouraging. Including urban households as well, the pattern is less clear and the differences between regions are smaller.

Table 1: Yearly Growth Rates of Per Capita Consumption.

	All Households		Rural Households	
	92/93-97/98	97/98-02/03	92/93-97/98	97/98-02/03
North	2.7%	1.2%	3.0%	0.9%
Central	0.9%	0.5%	0.8%	0.2%
South	1.1%	1.7%	2.3%	1.9%
Vientiane M	7.9%	-0.4%	9.0%	0.8%
Lao PDR	2.5%	0.8%	2.3%	0.7%

Source: Authors calculations based on LECS-data.

It can be noted that overall growth in consumption was stronger during the first period, from 1992/3 to 1997/8, presumably because developments in the late 1990s were disturbed by the Asian financial crisis. At a regional basis, including all households, the first period saw the strongest growth in Vientiane Municipality, which is the richest area of the country, with Central and South growing slower. Among rural households, the performance of Southern farmers was somewhat better, leaving the Central region with the weakest performance..

The development after 1997/8 was more sluggish in almost all regions. At the beginning of this period, Lao PDR experienced a bout of very high inflation as a result of the Asian crisis, resulting, in particular, in a collapse of economic growth in Vientiane municipality. Urban households in the South were the only group to experience higher growth during the second period.

Table 2: Poverty Incidence 1992–2003, by Region and Province.

Province	LECS1 1992/93	LECS2 1997/98	LECS3 2002/03	Change 92/93 to 97/98	Change 97/98 to 02/03
Northern Region	**51.6**	**47.3**	**37.9**	**-4.3**	**-9.3**
Oudomxay	45.8	66.1	45.1	20.3	-21.0
Luangnamtha	40.5	51.1	22.8	10.6	-28.3
Huaphanh	71.3	71.3	51.5	0.0	-19.8
Phongsaly	72.0	57.9	50.8	-14.1	-7.2
Luangprabang	58.5	40.8	39.5	-17.7	-1.4
Xayabury	22.4	17.7	25.0	-4.6	7.3
Bokeo	42.4	38.9	21.1	-3.4	-17.8
Central Region	**45.0**	**39.4**	**35.4**	**-5.6**	**-4.0**
Borikhamxay	16.6	27.9	28.7	11.3	0.8
Khammuane	47.1	44.5	33.7	-2.6	-10.8
Vientiane Province	30.7	27.8	19.0	-2.9	-8.8
Savannakhet	53.1	41.9	43.1	-11.2	1.2
Xiengkhuang	63.0	42.9	41.6	-20.2	-1.3
Xaysomboun SR	-	62.8	30.6	-	-32.1
Southern Region	**45.7**	**39.8**	**32.6**	**-5.9**	**-7.2**
Saravane	43.6	39.2	54.3	-4.4	15.1
Champasack	41.4	37.4	18.4	-4.0	-19.0
Sekong	67.0	49.7	41.8	-17.2	-7.9
Attapeu	60.5	48.0	44.0	-12.4	-4.0
Vientiane Municipality	**33.6**	**13.5**	**16.7**	**-20.0**	**3.2**
Lao PDR	**46.0**	**39.1**	**33.5**	**-6.9**	**-5.6**

Source: Authors calculations based on LECS-data.

Data on the incidence of poverty can be used to estimate the levels of welfare in different parts of the country (see Table 2 for poverty rates across regions and provinces). At the time of the latest nationwide house-

hold survey in 2002/3, the regional differences in poverty incidence were large. The figures indicate that Vientiane Municipality had the lowest levels of poverty, followed by the South and Central, with the North being the poorest region. Changes in poverty rates have also varied across provinces. The most remarkable observation is probably the very rapid reduction in poverty experienced in the northernmost provinces Oudomxay, Luangnamtha, Huaphan, and Bokeo. Although the overall growth performance of the South was stronger, the average impact on poverty incidence was substantially weaker than in the far North.

Taken together, these figures present a picture of highly divergent patterns of growth and poverty reduction. It is challenging to try to bring these trends together to paint a consistent picture of determinants of provincial growth in Lao PDR. Aggregate statistics alone are not sufficient to identify the causes for the divergent patterns of regional development. The remainder of this report will therefore explore a few different case studies in order to shed light on what has been driving development in the different parts of the country.

A particular focus will be put on domestic and international market integration. This choice is motivated by the view that borders are important for understanding the spread of welfare in Lao PDR; both the real border between Lao and neighboring countries, and the invisible ones separating remote areas without market access from the national economy.

Analyzing Market Integration

In an integrated market prices of homogenous goods will tend to converge, and the economic law of one price will hold: competition will drive down consumer prices to production cost plus necessary transaction costs. Transaction costs – including transport costs and costs for retrieving information about prices and market conditions – are at the center of any discussion about market integration. Geographical factors such as location, distance to markets, and transport linkages naturally have a significant impact on transaction costs. High transaction cost will lead to market fragmentation and limited competition at the local level. Policies for market integration strive to minimize transactions costs e.g. through investments in infrastructure, information diffusion, and measures to reduce man-made barriers to entry and competition.

Investments in infrastructure and transport services can raise productivity and incomes by raising the production potential of an economy or region (Aschauer, 1989; Munnel, 1992). The traditional theoretical view suggests that a transport improvement that reduces transport costs (through shorter transport times and lower vehicle operating costs) enables firms to sell their products at lower price. This stimulates greater demand, providing enhanced economies of scale and initiating a process of cost reductions and sales growth as the market area expands. In addition, the reduction in transactions costs lowers barriers to entry in sales and distribution, which tends to raise the number of market actors, raising competition and lowering mark-ups, with further reductions in consumer prices as a result. This implicitly assumes rational economic agents in a economic system where market supply and demand determine prices and a transport service sector providing efficient, effective and predictable services.

The interrelation between transport infrastructure, market integration, and economic development have been discussed for a long time. The focus in this discussion has often been on the increased efficiency in a market system that follows from lowering transport costs, together with

a higher degree of connectivity between geographically scattered local and provincial markets.

It should also be noted that market integration is particularly important in developing countries where a large share of the population is involved in agriculture. Access to well functioning markets is crucial for farmers' opportunities to increase household income by participating in the market economy by selling their output. At the same time, well functioning markets are also important for providing the incentive goods that encourage farmers to specialize and shift from a subsistence economy into a market-based economy.

Lao PDR Market Reform

Economic reforms in Lao PDR started at a major scale in November 1986, when the New Economic Mechanism (NEM) was adopted and major steps towards a transition from a centrally planned economy to a market economy were taken. Under NEM, the Lao government announced measures to promote the development of a private sector, it deregulated price and production controls, and granted managerial and financial autonomy to state-owned enterprises. Some of the reforms implemented under NEM are particularly relevant for a discussion of market integration, for example:

- Price liberalization. Complete liberalization except for some key utility prices.
- Agricultural reform. Liberalization of agricultural prices, including abolition of the state monopoly for rice marketing.
- Public enterprise reform. Increased autonomy for public enterprises and privatization of selected public enterprises.
- Trade reform. Liberalization of trade through simplification of tariff codes and elimination of most quantitative restrictions.
- Exchange rate reform. Unification of the multiple exchange rate system.
- Foreign investment policy reform aiming to attract increasing amounts of foreign direct investment.

These reforms, together with AFTA (ASEAN Free Trade Area) and WTO membership, have created a less complicated environment for export and import activities (Bourdet 2000) and improved the possibilities for Lao firms to become active participants in the world market. However, as we will show, further reforms are needed to achieve stronger integration with the international economy.

The economic reforms since the late 1980s have strengthened the economy significantly, but the Lao economy remains heavily dependent on agriculture. Despite public initiatives to promote industry, agriculture accounts for almost half of GDP (ADB 2005). The government has tried to upgrade the sector with special emphasis on production technology, infrastructure, and human resources development (ADB, 2001) but the majority of households rely on simple agricultural activities with low productivity and value added, and many parts of the country remain weakly integrated with the national market, let alone the regional or global market (NSC 2004).

There are four key elements affecting market integration in Lao PDR: *landlockedness* creating a dependency on transit routes through neighboring countries; a geographically *scattered population*; high dependence on *subsistence agriculture*; and an *insufficient transport infrastructure* impeding

integration of scattered local and provincial markets. To alleviate the negative impact of these characteristics on economic development, large investments in transport infrastructure have been carried out.

Several earlier studies have examined the links between market integration and transportation in Lao PDR. For instance, Andersson et al (2005) study the Lao rice market using provincial production data and farm gate prices collected from LECS 3, and find that farm gate prices of glutinous paddy rice follow yield patterns, with high prices in the northern parts of the country and in Vientiane Municipality. The lowest prices are found in the more productive central and southern parts of the country with access to the Mekong River, relatively developed road networks, and relatively easy access to markets in Thailand. Furthermore, the pattern of prices and yield on rice clearly indicate fragmented markets even at the provincial level. Similarly, van der Welde (2006) analyses prices of four agricultural commodities – rice, vegetables, meat, and fish – using prices from the LECS 3, and finds large spatial price variation across the country. Urban areas enjoy higher levels of market integration, giving lower transactions costs in terms of lower transportation costs and higher competition between traders, resulting in lower prices. Rural villages typically exhibit higher prices, although the price variations are large, even between villages that are located relatively close to each other. There are also differences between products for the degree of spatial price variation, presumably related to storability, transport costs, and supply conditions.

Andersson et al (2006) point to some other geographically determined differences in the consumption possibilities of rural households. The spatial distribution of fertile land is uneven, which has strong implications for households dependent on agricultural production. Access to foreign markets is also uneven, Owning a household business seems to contribute most to household consumption in the South. A higher reliance on cash crops as well as better access to the Thai market may improve opportunities for various kinds of business operations.

This report will examine three different cases of market integration in Lao PDR, highlighting some of the different processes linking internationalization and domestic market integration with regional and national development. Three levels of integration are studied: (i) national market integration for domestically produced consumer goods, (ii) integration with neighboring markets, focusing on the northern region neighboring Thailand, China and Myanmar, and (iii) integration with the world market, illustrated by the development of Lao coffee exports.

Domestic Market Integration

Lao PDR has experienced market reforms covering a wide range of areas, from the liberalization of international and domestic trade to the abolishment of a government marketing monopoly for rice – the main staple good in the country. Large investments in the national road transport system have been undertaken since the early 1980s in an effort to increase the integration of the very fragmented provincial markets.

The efficiency of the market system is important for sales of industrial goods, but also for sales of handicrafts produced by local households, and for the households' ability to access consumer products at local markets (Sadoulet & de Janvry 1995). Access to infrastructure in the form of transportation and markets is therefore a crucial part in the process where households start to interact with emerging local and regional markets, exchanging handicrafts and agricultural goods for manufactured products (IFAD 2001). This process is of special relevance in countries where large parts of the population are involved in self-sufficiency agriculture and where the individual household's production capacity determines the level of consumption (Ali & Pernia 2003; Deaton 1997). Efficient distribution systems with low transaction costs are expected to transfer goods produced elsewhere to the local consumer at a competitive price, at the same time as local producers can get a competitive price for their commodities (Carter & Ferrin 1995; Pelton et al 2002). Geographical factors such as location, distance to markets, and road accessibility naturally have a significant impact on the costs of intermediate and final goods (Christaller 1933; Hoover 1948; Berry 1967; Gramlich 1994). This means that transaction costs – including transport costs and costs for retrieving information about prices and market conditions – can have a direct effect on households' opportunities to increase their income by participating in the market economy (Arrow 1969; Wen 1997; Gannon & Liu 1997; Banister & Berechman 2001).

This section studies the relationship between access to market infrastructure and spatial price variations of beer in Lao PDR. Data on pricing patterns and consumption of domestically manufactured retail products in local village markets in Lao PDR are collected from LECS 3.

Transferring retail products through a complex market system does not only require a transport network but also individual traders who are willing to accept the risks associated with trading on distant markets. A complex network of retail markets is emerging in Lao PDR,

despite high transport costs and substantial uncertainty due to the low quality of existing transport infrastructure and the shortage of transport services. These emerging retail markets supply a wide variety of products to rural areas (LECS 3 2003). The relationship between markets can be studied through a mapping of price patterns. If the market system is integrated and works well, prices on individual markets should tend to converge, and differ mainly because of transport costs (including other costs of trading). In weakly integrated market, the dispersion of prices can be expected to be larger because of differences in local market characteristics, for example the nature of competition at the local level, population size, and income levels of the households in the area covered by the market (Christaller 1933; Badiane & Shively 1998). It markets are well integrated, these differences will tend to disappear as a result of arbitrage.

To examine the integration of the domestic market in Lao PRD, we will examine the spatial variation in beer prices. More specifically, we examine the local prices per 640 ml bottle of Beer Lao, which, at the time, was a homogenous product manufactured on in one location in Lao PDR.[1] The rationale behind using a manufactured retail product as the study object is that the production of the good is not dependent on the local context where is it consumed. The pricing of locally produced agricultural goods sold in local markets is dependent on various local factors such as fertility of land, climate, access to irrigation, usage of pesticides and fertilizers, and the quality of products (Deaton 1988). Focusing on a homogenous manufactured retail product manufactured allows us to abstract from many of these local determinants and concentrate on the impact of transport costs and market conditions.

The following paragraps present the data and descriptive statistics used in the analysis. The analysis of prices distinguishes between several geographical areas. As discussed earlier, we look separately at four regions – South, Central, North, and Vientiane Municipality. In addition, we separate between urban and rural prices, and take into account village characteristics such as road access, quality of road access, markets, and transport services as possible determinants of price differences. Thereafter, the analytical methodology is presented, and determinants of market access, price levels, and price variations are analyzed. The final section covers the main findings and implications.

Market Access, Road Access and Price Levels

Mapping the variation of prices between village markets based on survey data can provide an overview of the integration/fragmentation of the domestic market. The interaction between markets and the distribution of goods for sale in local markets are dependent on both physical transportation networks and transport service providers. Here we present descriptive data on village access to markets and characteristics of road access at the national and regional level.

[1] At the time, only one type of bottled Beer Lao was marketed in Lao PDR. More recently, Beer Lao has focused on diversification: in addition to the lager beer referred to in our analysis, the company now markets a dark beer as well as light (low alcohol) beer.

National level analysis

Table 3: Market Access Characteristics.

Region	Village Markets, Share of Villages	
	Daily	Daily or occasional
Vientiane	27.2	29.2
Central	7.3	9.6
North	8.4	12.8
South	7.4	10.2
Lao PDR	**9.5**	**12.7**

Source: Authors Calculations Based on LECS-data.

Market access is one of the factors influencing price levels. Only 9.5% of the villages at the national level in the sample from LECS 3 report having a regular daily market in the village. The figure rises to 12.7% if occasional markets are included. Villages located in Vientiane Municipality are well covered by markets, which can be explained by the area's urban structure. The other regions report significantly lower coverage of daily markets. When expanding the definition of market access to also account for occasional markets, there is a slightly higher coverage across the board. Occasional markets seem to have a larger importance in the North than in other parts of the country.

The variability in the quality of the road infrastructure, over time and space, is an importand determinant of spatial price differences. Poor quality and seasonal differences in road access have direct effects on transport costs and time required to reach the villages, and will therefore raise prices of retail products. The road conditions in Lao PDR differ according to seasonal changes in weather, as seen in Table 4. Road access during the dry season is considerably higher in all regions. At the national level, 61% of the villages in the studied sample have all season access to a road. Another 14% of villages have dry season access only. Unsurprisingly, road access is best in Vientiane Municipality and the Central region, and weakest in the North.

Table 4: Road Access Characteristics.

Region	Road Access, Share of Villages	
	Dry season	All Seasons
Vientiane	100	100
Central	88.2	70.2
North	54.7	43.8
South	77.8	61.1
Lao PDR	**74.5**	**61.1**

Source: Authors calculations based on LECS-data.

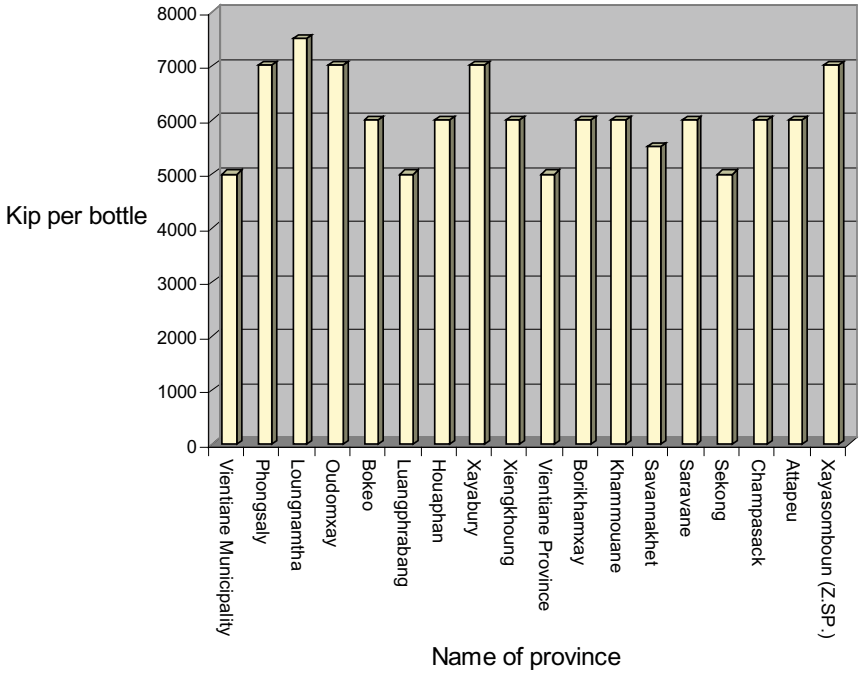
The regional differences between villages regarding access to roads are significantly higher than the regional differences between villages regarding access to markets. Access to markets can still be considered a rare facility in large parts of Lao PDR. Yet, it is important to note that the absence of a market does not mean a fully self-sufficient livelihood, as very basic retail products are marketed by small individual village shops. The market can be seen as an agglomeration of suppliers that provides a larger variety of marketed products. The larger number of suppliers is

also likely to provide competition and lower prices, since it tends to reduce the market power (and profit margins) of the individual suppliers or traders.

To examine spatial price variations, we study the price of a domestically manufactured retail product, namely a 640 ml glass bottle of Beer Lao. This product is only produced at one location in Vientiane Municipality and transported and sold to all parts of Lao PDR. The market for beer in Lao PDR at the time of the LECS surveys could be characterized as a monopoly market with only one marketed beer brand. The company had specially assigned dealers in 15 provinces that provided distribution to the whole country.

The first step in the analysis is to compare the price per bottle of Beer Lao in the provincial capitals, as presented in Figure 1. The lowest prices are found in Vientiane Municipality, Luangphrabang, Phongphong (which is the provincial capital of Vientiane Province) and Sekong in the South, which all exhibit a price per bottle of approximately 5000 Kip.

Figure 1 Price of Beer in Provincial Capitals, Kip per Bottle.



Source: Authors calculations based on LECS-data.

This finding gives as indication of the relatively small importance of transport costs. Luangphrabang is located 397 km from Vientiane Municipality (see Table 5), but the price is the same as the retail price in the two closest located markets, Vientiane Municipality and Phongphong in Vientiane Province. Despite the distance, Luangphrapang dealers are able to serve their markets with the same price as the dealers located next to the production site in Vientiane, presumably because of the heavy competition in that location. This suggests that physical transportation costs make up a relatively small share of the beer price in Luangphrabang and Sekong. Loung Namtha's provincial capital Namtha exhibits the highest price per bottle at Kip 7500 with Oudomxay, Xayabury, and Phongsaly, all located in the North, recording about Kip 7000 per bottle.

Table 5: Distance from Vientiane to Provincial Capitals

Provincial capital	Province	Distance from Vientiane Municipality in km
Sisattanak	Vientiane Municipality	0
Phongsaly	Phongsaly	747
Namtha	Loungnamtha	644
Xay	Oudomxay	n.a
Houayxay	Bokeo	811
Luangphrabang	Luangphrabang	397
Xamneua	Houaphan	629
Xayabury	Xayabury	508
Pek	Xiengkhoung	435
Phongphong	Vientiane Province	n.a
Pakxanh	Borikhamxay	154
Thakhek	Khammouane	354
Khantabouly	Savannakhet	487
Saravane	Saravane	649
Lamarm	Sekong	n.a
Pakse	Champasack	685
Xaysetha	Attapeu	847
Xayasomboun	Xayasomboun (Z.SP.)	n.a

Source: National Geographic Department 2005 and LECS 3.

Countries like Lao PDR with large differences in quality of road infrastructure and markets access exhibit a large variation in prices. As shown in Figure 1, there is a 50% difference in the average price per bottle between the provincial capitals of Xayabury and Luangaphrabang, which are located only 111 km apart: this large price gap probably reflects high transactions costs due to difficult transport conditions.

One interesting conclusion from the price comparison between provincial capitals is that the distance between producer and consumer is not a good predictor of the price of consumer goods. In addition, already this very rough price comparison suggests that it is necessary to account for differences in transport costs emanating from uneven road quality, as well as differences related to the degree of competition (or the number of traders) in each location.

The next step is a regional descriptive analysis using means and standard errors of the price data based on differences in village characteristics: we distinguish between urban villages, rural villages with access to roads, and rural village without access to roads. Looking first at the pattern at the national level, the results are as expected (see Table 6), with the lowest prices in urban villages and the highest prices in rural villages without road access.

Turning to the regional level, the lowest average prices (Kip 5348 per bottle) and the lowest standard error are found in urban villages in Vientiane. Urban villages in the North record higher prices than urban villages in the South, which presumably reflects differences in transportation distance from Vientiane. Road access also has a strong impact on both the mean and the standard deviation of prices. Rural villages with access to roads (in particular, those with wet season road access) have lower average prices than rural villages without road access. The standard deviation of prices is also lower, suggesting that there are relatively few villages where traders are able to use their market power to raise prices: the access to road transportation means

Table 6: Price and Standard Error of one 640 ml bottle Beer Lao.

Vientiane				
Urban village	Mean (in Kip)	5348	Max. (in Kip)	6500
	Std. Error	79.9	Min. (in Kip)	5000
Rural village with access to road	Mean	5654	Max.	7000
	Std. Error	173.48	Min.	5000
				n= 46 villages
Central				
Urban village	Mean	6138	Max.	8000
	Std. Error	140.1	Min.	5000
Rural village with access to road	Mean	6905	Max.	10000
	Std. Error	117.6	Min.	5000
Rural village without access to road	Mean	8103	Max.	12000
	Std. Error	286.6	Min.	6000
				n= 159 villages
North				
Urban village	Mean	6696	Max.	8000
	Std. Error	177.1	Min.	5000
Rural village with access to road	Mean	7714	Max.	12500
	Std. Error	166.0	Min.	5000
Rural village without access to road	Mean	7810	Max.	10000
	Std. Error	254.1	Min.	6000
				n= 111 villages
South				
Urban village	Mean	6233	Max.	8000
	Std. Error	200.4	Min.	5000
Rural village with access to road	Mean	7309	Max.	13000
	Std. Error	169.7	Min.	5000
Rural village without access to road	Mean	8000	Max.	12000
	Std. Error	315.3	Min.	6000
				n= 81 villages
Lao PDR				
Urban village	Mean	6020	Max.	8000
	Std. Error	86.14	Min.	5000
Rural village with access to road	Mean	7155	Max.	13000
	Std. Error	86.49	Min.	5000
Rural village without access to road	Mean	7986	Max.	12000
	Std. Error	164.51	Min.	6000
				n= 397 villages

Source: Authors calculations based on LECS-data.

that the market is contestable, i.e. that a competitor may enter if the profit margin begins to grow. In rural villages without road access, the entry barriers are higher, which presumably gives more market power to traders and contributes to wider dispersion in prices, depending on demand and other market conditions.

Comparing rural villages without road access, it can be seen that the highest average prices as well as the highest standard deviations are recorded in the Central and Southern parts of the country. This indicates either that the transportation costs to these villages are higher and vary more than in the North, or that competition is lower than in the North, or a combination of the two.

Table 7: Price and Standard Error of one 640 ml bottle Beer Lao and access to markets

Lao PDR				
Urban village	With market or occasional	Mean (in Kip)	5990	
		Std. Error	86.7	n=96
	Without market or occasional	Mean	6750	
		Std. Error	478.7	n=4
Rural village with access to road	With market or occasional	Mean	7143	
		Std. Error	87.2	n=212
	Without market or occasional	Mean	7313	
		Std. Error	442.2	n=16
Rural village without access to road	With market or occasional	Mean		
		Std. Error		
	Without market or occasional	Mean	7985	
		Std. Error	164	n=69

Total number of villages are 397

Source: Authors calculations based on LECS-data.

Table 7 illustrates the importance of competition by comparing prices in villages with and without markets. The presence of a market, where several sellers are likely to compete for customers, clearly reduces both the average price and the standard deviation of prices. It was already noted that weaker competition could account for the higher prices in rural villages without road access. This is confirmed in Table 7, which shows that none of the sampe villages without road access has a market.

Market size can also be assumed to influence the price pattern. Large villages should exhibit lower prices, since they should attract a larger number of sellers. Table 8 shows the national price variation depending on the type and size of the village. We distinguish between large villages, with more than 50 households, and small villages, with fewer than 50 housh-olds. The expected pattern, with a lower price in large villages, holds for urban and rural villages with road access, but not for rural villages without road access. This is very interesting, and suggests that the entry barriers for traders acting in villages without road access are quite high. The fact that larger villages without road access record higher prices indicates that they do not attract more sellers: instead, it is likely that the incumbent seller just meets more demand which allows him or her to raise prices. In these cases, improved road access would not only result in lower prices because of the reduction in transport costs, but also because of the reduction in entry barriers and the marker power of traders.

Discussion

The free flow of products between markets is of great importance for the functioning of any economy. An integration of markets, supported by improvements in market infrastructure and transportation systems, can reduce transaction costs and allow trade between locations, with gains from comparative advantages and specialization. The descriptive analysis of beer prices indicates that transport costs in Lao PDR are not only determined by distance. Road access and the presence of markets are important determinants of prices at the village level.

The high average prices and large price variations between villages without access to a road are likely to reflect a high variation in transportation costs and competition. The prices are high not only because it is expensive to transport Beer Lao to villages lacking road access, but also

Table 8: Price and Standard Error of one 640 ml bottle Beer Lao in small and large villages.

Lao PDR				
Urban village	Large village	Mean (in Kip)	5979	
		Std. Error	86.00	n=96
	Small village	Mean	7000	
		Std. Error	408.25	n=4
Rural village with access to road	Large village	Mean	7069	
		Std. Error	92.42	n=190
	Small village	Mean	7584	
		Std. Error	226.25	n=38
Rural village without access to road	Large village	Mean	8083	
		Std. Error	208	n=48
	Small village	Mean	7762	
		Std. Error	257	n=21
Total number of villages are 397				

Note: Definition of a Small village is a village with less than 50 households and Large village more than 50 households.

Source: Authors calculations based on LECS-data.

because there is not likely to be much competition between traders. Given the high entry barriers (in terms of transport costs) the markets are too small to support several traders, and the incumbents can therefore charge high profit margins. This suggests that the benefits of improvements in transport infrastructre can be very substantial, extending far beyond the cost savings related to transport costs. By making the local markets constestable, transport investments can contribute to a reduction in the cost of imported products.

At the same time, it is important to note that the increased efficiency related to the inflow of goods to villages benefitting from improved transport infrastructure reflects only part of the overall increase in welfare. Stronger links to the national (and perhaps even the international) economy will not only affect the expenditures but also the earnings of local households. It is likely that the prices of the goods produced by local households may increase, since less is lost in transport costs and profit margins charged by traders with market power.

International Integration: The Northern Economic Corridor[2]

Different parts of Lao PDR have shown divergent patterns of growth. During the first period of economic reforms, the Mekong valley and the southern parts of the country grew faster, while the north and upland areas have been doing comparatively better during recent years (Engvall, Magnoli and Richter, 2005). Many different factors have been put forward to explain the patterns of regional growth and stagnation. Yet, at the moment there is no clear consensus on the relative importance of these different factors.

This section seeks to describe the patterns of economic development in Northern Lao PDR and in particular the areas along the Northern Economic Corridor in order to analyze domestic and international drivers of economic development.

Past Trends in Northern Lao Development

As noted earlier, there is a lack of reliable provincial GDP estimates. LECS household data can give us some indications of levels and trends of provincial per capita consumption, and these patterns were discussed in connection with Tables 1 and 2. Table 1 displayed the highly divergent patterns of growth across regions, while Table 2 showed similar divergence for poverty incidence. This divergence is notable also at lower levels of disaggregation, within provinces. For instance, the socioeconomic status and living standards of villagers living along the Northern Economic Corridor appear to be diverse. Analysis of the latest poverty data from the Lao Expenditure and Consumption Survey 2002/03 (LECS3) shows a poverty incidence in the Northern provinces of nearly 40%, while the estimated poverty incidence for the whole country is 33%. Limiting the analysis to rural households shows the same pattern, with higher poverty in the North (see Table 1). However, the rural poverty incidence in the two northern provinces Bokeo and Louang Namtha fell much faster than the Lao average between 1997/98 (LECS2) and 2002/03 (LECS3).

Subsistence agriculture predominates in the region. Diversification of income remains limited. Remote villages receive few basic services and are dependent on agriculture and forest extraction. Public service provi-

[2] This section benefited from a fieldtrip supported by Asian Development Bank Institute. We extend our appreciation to Manabu Fujimura, Aoyama Gakuin University and Christopher Edmonds, East-West Center for making participation in this fieldtrip possible.

sion in towns is better, and the economic basis of these larger communities include commerce, transport, light manufacturing, mining, and public sector employment.

There is a long history of traditional trade in the borderlands between Thailand, Southern China, Myanmar and Lao PDR, to a large extent based on crossborder ethnic groups (Walker, 1999). Recently, trade has increased as a result of road development and increased focus on trade facilitation.

Drivers of Development

To study potential sources of economic growth in the northern region, the following sections will discuss three main drivers of development: the infrastructure investments related to the Northern economic corridor, the emergence of commercial agriculture for cross border markets, and the growth of small scale industry.

The Northern Economic Corridor

The Northern Economic Corridor (NEC) connects Chiang Rai Province of Thailand, Bokeo and Louang Namtha Provinces of Lao PDR and Yunnan Province of China. Given the good road network from Bangkok to Chiang Rai, and from Mohan to Kunming in China, improving the Houayxai-Boten road link in Lao PDR would create reliable transport route from Bangkok to Kunming. While the physical location of the project is within Lao PDR, its impact extends to Thailand and China due to the expected higher volume of trade between the two countries through Lao PDR once the new road is completed (ADBI, 2006). The project improves the existing national route 3. The earlier road was entirely unpaved and allowed only a single lane of traffic to pass at some points. Consequently, economic activity along the road was essentially limited to subsistence agriculture, minor trade by traveling merchants, and logging. In addition to the physical upgrading of the road, the project includes two other components: area development and capacity building. The area development component mainly consists of feeder roads, community development efforts, provision of water and social schemes.

Map 1: North-South Economic Corridor.

Source: Asian Development Bank 2002.

Most goods imported to northern Lao originate in China or Thailand, with more limited imports from Vietnam. Thailand provides the region with vehicles, spare parts, and most of its processed foods and many light household consumables (e.g., pharmaceuticals, clothing, and toiletries). China appears to supply the northern provinces with heavy machinery (e.g., farm equipment), electronics, as well as some clothing, light household items, and some foods. Similarly, many of the enterprises based in the area have foreign investors and in some cases foreign managers. Economic activity tends to involve trade and commerce with Chinese or Thai firms.

The improved transport link through the Northern Economic Corridor will directly affect both trade and tourism. Goods traded between Thailand and China have mainly been transported by sea, but the share transported via the Mekong River has increased significantly since 1995 (ADBI, 2006).

The key economic attribute of the Northern Economic Corridor is its strategic location between China and Thailand. Given the relatively developed and industrialized nature of the economies of these two countries, the improved road holds promise of generating significant increases in flows of commodities, goods, and passengers between China, Lao PDR, and Thailand. Towns and villages along the road also stand to benefit from all-weather road access as well as the spillovers from the increased commerce along the road. Improved access to public services and distant labor markets holds promise of improving the welfare and incomes of households along the road. The road may also enable the area to attract investment in small scale manufacturing or processing facilities in the area. For example, Jialing Motors, the largest Chinese producer of small motorcycles and scooters established an assembly plant in Houayxai in 2004.

In terms of expected increases in the volume of trade as a result of the improved overland linkage, proximate beneficiaries would include Chiang Rai Province of Thailand, Bokeo and Louang Lamtha Provinces in Lao PDR, and Xishuangbanna and Simao districts of Yunnan Province. The improved overland route can also be expected to increase supply capacity for raw materials (i.e., timber, rubber, and coal) produced along the route. Temperate crop producers (especially fruits and vegetables) in China and tropic crop producers (e.g. fruits) in Thailand are expected to benefit from improved access to large urban markets in Thailand and China, respectively. Lastly, more distant manufacturing centers in coastal China and metropolitan Bangkok in Thailand would benefit from increased trade along the route (ADBI, 2006).

International visitor arrivals to Lao PDR have increased rapidly in recent years. The number of foreign visitors increased by nearly 50 percent between 1998 and 2002, despite a downturn in 2001. The majority of foreign tourists in Lao PDR visit Vientiane or Luang Prabang, and a small share venture to other northern provinces. Improved infrastructure could increase the flow of visitors to more remote areas. Tourism in Northern Lao PDR is based on an eco-tourism market and generally caters to younger adventurous travelers. The difficulty of traveling to and in Northern Lao PDR appears to be a significant constraint on growth of tourism. Improved road access is likely to enhance the number of tourists visiting Northern Lao PDR. The area has significant attractions in natural and cultural sights.

Improved access to markets once the road is complete will create new income prospects for households in the project area in a number of ways.

Lower transaction costs may facilitate a transformation of agricultural activity away from subsistence production towards commercial agriculture. Households that derive a substantial portion of their income from agricultural or small-scale forest extraction activities will be able to command higher net prices for their output.

Improved access to towns and villages enables more efficient public service provision. It will be easier to establish public health and social service infrastructure and to staff public facilities (i.e., recruitment of teachers and medical personnel), and could help to improve quality and cost-effectiveness. Improved infrastructure may reduce vulnerability to extreme external shocks by mitigating the effects of natural disasters and food shortages.

In addition to these positive outcomes, there are potential undesirable impacts of the Northern Economic Corridor. A number of economic, environmental, and social changes could result from the road that would adversely affect the welfare of households in the project area. There might be a diversion of trade and other economic activities due to the development of the Northern Economic Corridor. These might be felt in other parts of Lao PDR, and in particular Odoumxai which has been a key point for trade and investments coming from China to Lao PDR. There might be significant costs incurred both in the form of lost income from trade and by lowering the returns on existing investments. The construction of the road might also have negative effects on producers of goods in other parts Lao PDR, as the provinces adjacent to the road might find it cheaper to source goods from China and Thailand rather than other parts of Lao PDR. Undoubtedly, the project will change the relative costs of imported goods versus goods from other parts of Lao PDR for consumers and enterprises in the northern parts of the country.

Since the project will provide an improved overland land link between Thailand and China, project effects (both benefits and costs) will be incurred not only by Lao PDR, but also by the other two countries.

Commercial Agriculture

Most of the Northern region is classified as mountainous and non-arable or poorly suited to agricultural use. Soil depths vary depending on location, slope, and the extent to which they have been subjected to forces of erosion. Upland soils that have been deforested are easily eroded. Increased population and government land allocation have limited available swidden land, reducing fallow periods, resulting in accelerated soil erosion. A number of villages along the road report that their swidden lands are no longer productive enough to bother planting, as evident from fallow agricultural lands on hillsides. In some of these villages, former swidden land has been converted to rubber plantation or given over to village conservation land. The suitability of land for cultivation of rubber trees and other industrial crops whose commercial viability will be enhanced by the road project is strongly influenced by the type of soil and land topography.

Recent attempts to introduce cash crops to replace opium and swidden cultivation in the highland communities focus on providing advice on agricultural sustainability and assisting livelihood security. The major drivers of this process are government programs and donor agency supported initiatives. Foreign donor agencies together with the government promote improved fallow systems and terracing for rice production. In lowland areas, market forces drive demand, production and the process of diversifying the income earning activities. Non-timber forest

products such as bamboo, rattan, fruit, broom grass, and medicinal or fragrant plants make up a significant portion of the subsistence needs and income sources for villagers in both northern region.

Rubber and sugar have emerged as the two most important cash crops in northern Laos. Cultivation of sugar cane started in the 1990s with a small number of households. Underdeveloped infrastructure created problems with transporting the final crop to markets and led to financial losses for many farming households. Now sugar is produced on contract basis by villages and sold to Chinese traders. The Chinese investors provide sugar seedlings, fencing wire and fertilizer. Fencing is important because early attempts of sugar cultivation failed partly because cattle ate the sugar cane before harvest. Usually sugar contracts specify 30 per cent of net sales income (after deducting costs for inputs) to the Chinese investor and 70 per cent to the grower.

Rubber plantation follows a similar pattern, with contract farming for Chinese investors. The investment of planting rubber trees requires at least 8 years until the first rubber can be harvested. Rubber trees in Northern Lao can be a hazardous investment as the trees can not withstand frost. Northern Lao PDR has experienced frost with intervals of approximately 10 years, which can cause large losses for the farmers cultivating rubber.

Already today, it can be seen that Northern Lao has experienced an upsurge in agricultural development with the introduction of new crops (e.g., sugar cane and rubber trees) due to improvements in the road links to Yunnan Province in China. Watermelon farming has also seen a rapid expansion, with Chinese agricultural companies and individual growers from Southern China searching for cheap and fertile land. Other export crops include corn, rice, and capsicum. Table 9 gives a snapshot of the rapid export growth in northern Lao already during the period 2001–2003.

Table 9 Value of Agricultural Products Exported through Muang Sing District (Millon KIP).

Product	Destination	2001-2002	2002-2003
Rice	China	3870	3000
Corn	China	3750	13000
Garlic	China	240	150
Sugarcane	China	1120	2844
Buffalo and cows	Thailand	176	173
Firewood	China	16	
Watermelon	China	1280	
Cardamom	China	105	
Bark	China	112	
Grass	Thailand	450	
Capsicum	China		600
Total		**11119**	**19767**

Source: (Lyttleton et al 2004).

Changes in farm cropping patterns from ones based on rice for home consumption to production of higher value crops for outside markets (e.g., vegetables or fruits) will enable households to earn more, even though it may expose them to greater income insecurity in the short term. From the perspective of consumers, the road project is likely to reduce the costs of most goods brought in from outside and could increase competition between traders. Prospects for non-agricultural income are also likely to

improve. Off-farm employment opportunities in the service sector, such as restaurants and transport services, will be enhanced by the greater accessibility of the area and the resulting increases in non-agricultural economic activity in the area.

Economic growth could raise the value of land in the project area by making the cultivation of certain crops more profitable and raising the demand for land for non-agricultural use. In the face of an immature land titling regime and unclear land tenure rights, rising land values threaten to cause displacement of poor households and may lead to a loss of household access to forest areas that have traditionally been a common property. The loss of access to public forest land, in turn, could reduce the income prospects of poor households that depend upon the collection of materials from the forest for a sizeable portion of their subsistence or income. By simultaneously raising income generating prospects in other activities, the road may lead to increased income inequality, as households with relatively higher endowments of financial or human capital benefit from the new opportunities.

Small Scale Industrial Development

There are few large enterprises in Northern Lao PDR, and these account for less than 5% of the total number of large firms in the country. Major industries include rock crushing factories, motorcycle assembly and sawmills. Mining is the biggest industry in Bokeo province in terms of the number of workers. There are also a small number of light manufacturing facilities in the area and recent industrial developments include Chinese-owned motorcycle and cigarette lighter factories, and battery production in Oudomxai.

However, the Northern provinces have a disproportionately large part of the country's small enterprises (Table 10). It is evident that the enterprise structure in the North differs from that in other parts of Lao PDR, with a larger concentration of smaller enterprises. This may be an outcome of the fragmentation of markets in the northern region due to problems with road infrastructure, but it may also reflect the possibilities provided by border trade with China and Thailand.

Discussion

Northern Lao PDR has experienced positive economic development in recent years, with no factor single-handedly driving the development. A number of contributing factors have been highlighted above. The overall picture suggests that increased access to outside markets has been important, enabling access to services and more advanced inputs, at the same time as the increased flow of skills and knowledge has spurred a diversification of economic activities into commercialization of agriculture, small scale manufacturing, and growing tourism and trade.

The gains from the developments in Northern Lao PDR will also accrue to other regions, both in the country and in neighboring countries. Notably, the improvements in infrastructure and roads will to a large extent benefit the Thai and Chinese (ADBI, 2006). This follows from the fact that the road that will improve the transport link between these two larger economies and the majority of traffic on the road is expected to involve traffic between China and Thailand. Still, there are significant positive effects for Lao PDR from increased tourism and induced investments and businesses along the Northern Economic Corridor, and these effects may already account for the rapid reduction in poverty incidence in the North since 1997/8.

Table 10: Industrial Establishments by Size and Province.

	Large						Medium						Small					
Province	**1995**	**2000**	**2001**	**2002**	**2003**	**2004**	**1995**	**2000**	**2001**	**2002**	**2003**	**2004**	**1995**	**2000**	**2001**	**2002**	**2003**	**2004**
Northern Region	**6**	**1**	**5**	**3**	**4**	**10**	**69**	**100**	**109**	**97**	**99**	**121**	**3653**	**6962**	**9648**	**8188**	**8262**	**7990**
Oudomxay	-	-	-	-	-	1	19	12	7	12	12	11	890	1431	1324	1546	1519	1346
Luangnamtha	3		3	2	2	3	5	13	9	11	11	26	324	400	423	485	830	1200
Huaphanh	-	-	-	-	-	1	3	4	4	6	6	6	22	381	400	427	437	427
Phongsaly	-	-	-	-	-	-	1	-	-	-	1	1	7	1228	2543	1565	1420	1420
Luangprabang	1	1	1	-	-	-	22	25	29	46	54	59	1335	1916	3259	2290	1980	1220
Xayabury	2	-	1	1	2	1	16	36	37	15	8	9	634	1118	1213	1351	1510	1800
Bokeo	-	-	-	-	-	4	3	10	23	7	7	9	441	488	486	524	566	577
Central Region	**22**	**32**	**36**	**38**	**36**	**42**	**123**	**183**	**184**	**238**	**227**	**329**	**4296**	**9218**	**10712**	**9823**	**10139**	**10660**
Borikhamxay	2	5	5	7	5	7	11	29	34	34	39	48	930	1479	1520	1610	1623	1767
Khammuane	4	17	19	18	21	23	15	23	25	26	32	74	490	1753	1809	1860	1787	1696
Vientiane Province	1	1	2	2	2	3	39	59	65	79	81	99	1159	2417	2675	2718	2850	2598
Savannakhet	15	9	10	11	8	9	51	60	47	80	57	82	1219	2395	2199	2396	2589	2890
Xiengkhuang	-	-	-	-	-	-	7	8	11	16	13	15	498	961	898	1070	1093	1520
Xaysomboun SR	-	-	-	-	-	-	-	4	2	3	5	11	-	213	1611	169	197	189
Southern Region	**4**	**4**	**13**	**13**	**14**	**25**	**82**	**96**	**60**	**88**	**60**	**82**	**1786**	**3257**	**4574**	**4205**	**4603**	**5156**
Saravane	-	1	1	1	1	7	6	11	16	16	8	36	627	1213	1401	1467	1302	1312
Champasack	4	3	12	12	13	13	64	61	35	55	37	37	877	1537	2549	1989	2711	3094
Sekong	-	-	-	-	-	-	4	15	4	10	8	8	155	298	385	403	350	350
Attapeu	-	-	-	-	-	5	8	9	5	7	7	1	127	209	239	346	240	400
Vientiane M	**57**	**58**	**62**	**58**	**65**	**130**	**89**	**133**	**157**	**181**	**228**	**190**	**639**	**1525**	**1750**	**1810**	**1870**	**1465**
Total	**89**	**95**	**116**	**112**	**119**	**207**	**363**	**512**	**510**	**604**	**614**	**722**	**10374**	**20962**	**26684**	**24026**	**24874**	**25271**

Note: Establishment size is defined as follows: small <10; medium 10–99; large >99.

Source: Ministry of Industry and Handicraft.

Changing Markets for Lao Coffee

Coffee has traditionally been an important commodity for some developing countries and a substantial source of income for parts of the rural population in these countries. However, in many countries the welfare benefits have been limited, since the mechanisms for redistributing the profits from coffee trade have been relatively weak (Talbot 1997). The world market for coffee is characterized by fluctuating prices and relatively stable demand. Producers in Lao PDR have a very small share of the total output of coffee and compete with a few multinational corporations for market shares. Coffee producers in Lao PDR have only recently been exposed to the price fluctuations on the world market. There are still underexploited opportunities for developing Lao coffee production and increasing the value added in the sector.

This section is devoted to an analysis of the economic impact of coffee in southern Lao PDR, and in particular how trends in the world market and changing local firm strategies affect the coffee growing areas.

Value Chain Analysis

Value chain analyses capture how value is added throughout the production chain from raw material inputs through to the final consumption of the product. Value chain upgrading, by which economic benefits are increased through improved quality, branding and increased market shares, are of special interest. In particular, value chain analysis focuses on identifying the key actors playing a critical role in the coordination of value added activities and the distribution of returns (Kaplinsky & Morris, 2000). The value chain is an important instrument for identifying the distribution of returns arising from design, production, marketing, coordination, recycling, and after sales service.

More intangible and skill intensive activities, such as marketing and management tend to give higher returns than primary commodity production. As a consequence, the actors in a value chain hold different opportunities depending on their position in the value chain and their bargaining power (Kaplinsky & Morris 2000). Actors with power to shape the value chain can improve their value added. These actors are often found at either end of the chain. In *producer-driven chains,* we find that large producers, often multinational firms, shape activities and coordinate the entire chain. On the other hand, there are also *buyer-driven chains* where power is held by large buyers, such as large trading houses or retailers.

There is a variety of profit maximizing strategies which individual firms can use to obtain a more favorable position within the chain (Gibbon 2000). There are four basic ways in which firms can pursue an upgrading of their role:

- Process upgrading: concerning the efficiency of the in-house production by identification of less efficient parts of the internal processes or/ and better connectivity in inter-firm relations.
- Product upgrading: developing new, improving and differentiating products faster than competing firms.
- Functional upgrading: change or improvement of the marketing mix within the firm by outsourcing activities and taking responsibility for activities that hold high value added.
- Chain upgrading: moving to a new value chain by changing direction of production or markets. This can be done by production on a new product or finding new markets/buyer.

The World Market for Coffee

A major characteristic of the world coffee market is that it has short-run inelasticy in both supply and demand and low barriers to entry. This creates vulnerability to production shocks and generates cyclical world prices.

Coffee is grown in about 50 countries mainly located in Central and South America, Africa, and Asia. The largest coffee producing country in the world is Brazil accounting roughly a third of the total world production, followed by Vietnam with 15 percent and Colombia accounting for 10 percent.

Most commercially produced coffee is either of the Arabica or Robusta types. Arabica is grown at altitudes over 1000 meter and possesses the highest quality, whereas Robusta can be grown on lower altitudes, has higher yields and is more resistant to diseases. There are some additional factors determining the quality of coffee: climate and altitude, soil, roasting, and the means of coffee preparation. It is the sum of these factors that decide the final quality of coffee.

Structural changes in the world coffee market have had implication on the value chain of coffee. Fitter and Kaplinsky (2001) identify a paradigm shift where a transfer of power has occurred, largely in line with the overall tendency of concentration in other agro-food industries, from national and international marketing boards to multinational firms.

Earlier, national coffee boards in producer countries controlled the sales of coffee through export monopolies. National producers of coffee were not included in the process of roasting, as at this time consumer preferences normally favored blends of different national varieties. This resulted in a need for a second processing round including roasting, milling, packing, and marketing of the brands in close proximity of end consumers. With the collapse of the regulated market, the coffee value chain experienced a shift in power from producer domination to buyer domination. International traders and firms in agro-processing captured larger parts of the coffee value chain, and the flows of coffee that formerly were traded on arms-length markets became internalized within the multinational firms. This brought about the following changes to world coffee markets:

- An advance of cheap coffee in soluble (instant) form in new emerging markets.
- New channels for higher quality and an expansion of niche markets.

- Development of roasting rendering a possibility to make high quality coffee from Robusta beans.
- Development of higher efficiency in distributional systems, giving lower working stocks at roasting, leading to a concentration of traders active in the supply chain of coffee.
- Flexible processing of roasting providing ability to shift between coffee types in order to adapt to changes in prices and quality available on the world market.

Source: (Lewin, Giovannucci & Varangis 2004).

The deregulation of the coffee market paved the way for firms to internalize the value chain. To a large extent producers have lost bargaining power and retail prices of coffee reflect prices of marketing and packing rather than the price of the actual raw material (Fitter & Kaplinsky 2001). The deregulation also provides opportunities for local producers to seek direct contact with end-market retailers. The breakdown of the regulated world market together with emerging consumer preferences concerning taste and origin have enabled upgrading strategies. Opportunities have emerged for producers to capture markets shares on increasingly differentiated *niche markets* for coffee.

Niche markets are relatively small, but it is estimated that some 6–8 per cent of coffee is traded outside the traditional chains. With differentiated coffee brands, it is possible to seek higher value based on preferences for geographic origin, organic aspects, fair trade branding, or corporate standards (Lewin, Giovannucci & Varangis 2004). In the light of these changes it is interesting to assess how a small emerging coffee producing country like Lao PDR has adapted to the new environment.

The Value Chain of Lao Coffee

Coffee was first introduced to Lao by the colonial French in the early 1900s. Coffee has been grown in different areas of the country, but the Bolaven Plateau in the south has the most suitable conditions. The coffee growing tradition was generally weak until the 1980s, when the government encouraged low land farmers to start coffee production on the Bolaven Plateau. New land was cleared and used for coffee production.

The international coffee board at the time excluded socialist countries and Lao mainly used coffee as a way to repay debt to the Soviet Union and Vietnam. The export price was negotiated and did not correspond to the world market price. Quality was neglected due to the emphasis on quantity. Coffee production was mainly carried out by small farmers with the government acting as a coordinator for the collection and export of the coffee.

In the mid-1990s, the government began to encourage private sector investment in Lao coffee production. Coffee was promoted as an export commodity to diversify exports. Many private investors entered coffee trading during the mid-1990s when the world market prices reached record levels. Larger farms were developed with government assistance.

The southern commercial town Pakse is the centre of Lao coffee exports. Located on the river Mekong, as well as on National Road 13 and the second bridge over the Mekong River, is it a gateway to Thailand and world markets through Bangkok Port or Laem Chabang Port. Poor infrastructure in the southeastern corner of the country is one reason for the dominant orientation towards Thailand rather than to the closer located Vietnamese ports (Sisouphanthong 2000).

The majority of the coffee exporters in Lao PDR are located in Pakse whereas wholesalers are located in Pakxong, closer to the farms. The following paragraphs outline the value chain for coffee from southern Lao PDR, based on information from a typical export company located in Pakse.

Foreign Customers

Though small, Lao coffee enjoys a very good reputation in the world market and is famous for its high quality. The main market for the firm is Europe, with Germany as the most important country. Other destinations are Poland, France, Belgium and the Netherlands. Other exports were made not directly but through a middleman in Bangkok. No advertisement was made from the coffee exporter's side to reach new customers, and usually customers from Europe visited Pakse and established business contact face to face. The use of modern communications technology was limited, but company did recognize the importance of email to facilitate marketing. Customer contacts were made via phone and fax, and orders from international customers were received by fax.

Table 11 shows the price of unroasted coffee for export made without involvement of a middleman in Bangkok.

Table 11: Market Price Unroasted Coffee, US$ per ton.

Type	2001	2002, April
Arabica	970	1050
Robusta	380	530

Source: Interview with Agricultural Product Development Co. Ltd.

However, with the involvement of a middleman in the supply chain, the price of Robusta beans rose to US$ 700 per ton (2002 April). In addition, a middleman means the loss of the reduced tariffs covered by GSP, adding US$ 75 per ton in tariffs (export to EU and Poland) rather than US$ 45 per ton under the GSP tariff (Interview with Agricultural Product Development Co. Ltd.). Hence, the GSP status and the absence of quotas were seen as important advantages for Lao coffee exports, which explains an orientation towards the European customer base.

Suppliers

When the coffee exporter received their orders from customers they contacted wholesalers. The wholesaler contacted the coffee collector and got lots of 3–7 tons of coffee after harvest. The coffee was exported in jute bags of 60 kilograms each, which is the standard packaging for exported coffee. The wholesaler's main task was to clear the necessary paperwork. In order to export coffee, the provincial government in Pakse had to issue a certificate of origin, without which one could not take advantage of favorable tariffs for goods exported from less developed countries. This certificate was issued by the Ministry of Commerce and Tourism, Trade and Service, Champasack Province, who also decided the means of transport and route of the goods. A second required document that stated the phytosanitary status of the coffee was obtained from the Ministry of Agriculture. This document was the certificate of quality, stating the humidity content. The wholesaler could not start to export without the government's permission, even though he might have the financial capacity to expand his business to

cover the exports, since he needed to use the exporter's contacts in order to obtain the needed certificates.

The agent and the coffee collector

The Bolavens Plateau is located in a remote area where the roads are unpaved and sometimes inaccessible during the rainy season. Most coffee was collected by a pick-up agent who got money from the coffee collector and paid the farmer in cash when he picked up the coffee. The pick-up agent buyed the coffee shortly after harvest in 20 liter metal buckets. The coffee collector needed the local knowledge from the pick-up agent in order to cover the whole coffee producing areas. Some wholesalers and exporters had their own pick-up agents, but this was not very common. Small farmers lacked the means of transport and depend on the pick-up agent. The low standard of the rural road network made the pick up process a time-consuming task. Local knowledge was an important component, and the coffee collector used the village headman in order to establish contacts with the coffee farmers and to secure the demanded quantity.

The small-scale structure of the farms, where average yield was about 500–1,000 kilo, made it difficult to get economies of scale in production or in transportation. The minimum export order was 18 tons, equivalent to 1 TEU, which involved many producers and demands time-consuming transport on the unpaved rural roads in order to collect the coffee beans.

Farmers

The coffee production at the Bolavens Plateau before 2004 could be divided into three categories; coffee plantations with an area of 4–10 hectares; small farmers with a cultivated area of 1–3 hectares who combined coffee cultivation with other crops, and finally the small farmer who had a variable area for coffee production as a source of supplementary income when coffee prices were high. The typical coffee plantation was 1–3 hectares with an average yield per hectare of about 0.75 tons. As described above, the farmer did not access any market, but relied on a pick up agent.

Logistic service provider

Due to the complicated border procedure and Lao customs regulations at the international border crossing point at Chong Mek-Wang Tao, the exporter needed a logistic service provider in order to send the coffee to the customer. However, as Lao trucks are not allowed to go further than Ubon Ratchathani province in Thailand, the Lao logistic service providers were dependent on Thai counterparts. As Lao firms are not able to use their own means of transport to reach Thai ports, Thai logistic providers have a distinct competitive advantage. There is no Lao service provider who has the capacity to independently serve the whole transport chain. This means that the degree of corporate interoperability is dependent on the Thai market for transport services.

Development of Lao Coffee Exports

In 2002 the world market for coffee fell dramatically, causing hardship for all participants in the value chain of coffee. The impact on Lao coffee producers was shaped by two prior changes. The development of the local private sector and the structural changes of the world coffee market described above both created new opportunities. These new opportunities stem from the changes in consumer preferences towards high quality

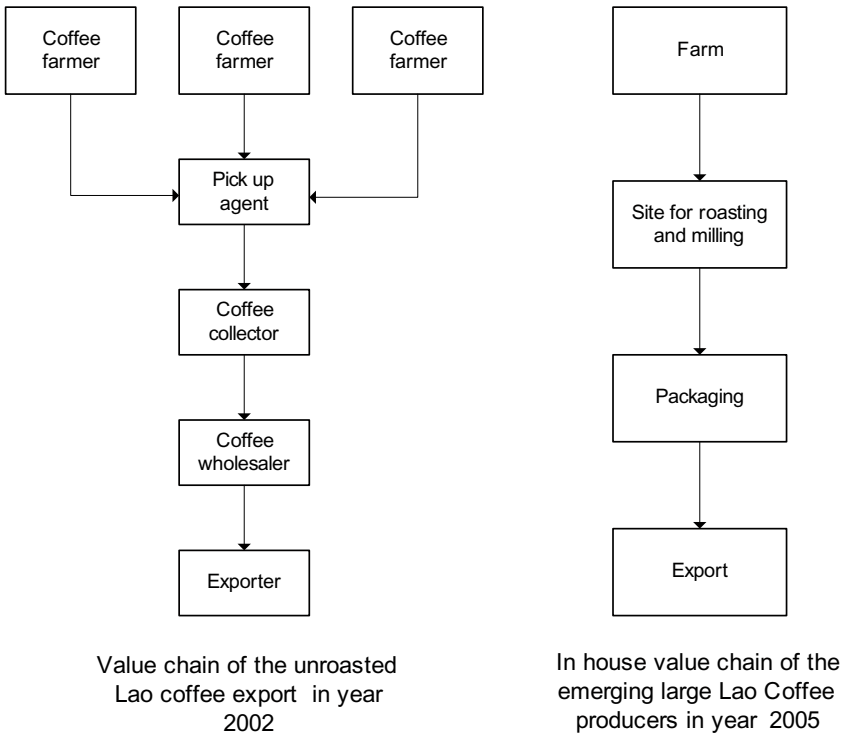
coffee from exotic origins, as well as demand for low quality beans as an input to instant coffee production.

Earlier, the domestic value chain involved little value added apart from the raw material, as the focus was on exporting green unroasted beans. The competitive advantage stemmed from quotas and customs free access to the European market and other important markets for Lao coffee, such as Poland.

In 2005, two large private firms became involved in an emerging process of upgrading the coffee value chain. The most prominent feature was the consolidation of the value chain and a concentration of operations towards larger firms. Earlier, transactions costs occurred each time the coffee changed value chain participant. This transfer from farmers to pick-up agents and wholesalers to exporters caused extra monetary costs, and low efficiency as the goods had to be transported to each new owner. This produced a number of complex transfers, without adding significant value to the product.

The scattered location of the production units together with poor rural infrastructure served as major constraints for sufficient quality control, limiting the possibilities to add value to the product, since export markets demanded high quality and reliable deliveries. *Figure 2* illustrates the shift from a value chain without value-added services to an in-house value chain where one firm has ownership of the coffee until the export of the final product under one brand.

Figure 2: Development of the Value chain of Lao Coffee.



Source: Based on field studies 2002 and 2005

Large scale producers are relatively new in the industry. Small-scale and medium-scale producers have until now dominated the industry. The new large producers of coffee measure over 100 hectares. The observed development with larger farms and firms that control the major part of

the value chain may indicate a paradigm shift in Lao PDR coffee production, and is a phenomenon that has had an evident impact on the marketing of Lao coffee on the global market. Both of the two new, large firms operate their own coffee producing farms, which means that they control the production process and are able to guarantee and control quality, which is a crucial aspect for all goods exported to the world market. Furthermore, the ownership of the production sites makes it possible to eliminate the pick up agents. With both growing and picking internalized, there are much greater opportunities of obtaining economies of scale, and in the end an agricultural modernization. The operators of the large coffee growing farms are also affiliated with the Coffee Export Association and are therefore able meet foreign buyers or coffee experts who visit Lao PDR. Marketing activities together with an increased emphasis on quality control have been the main strategic objectives of the large firms.

Traditionally coffee exports from coffee producing countries have meant exports of green cherries, as roasting and milling have needed a proximity to the final markets, a need based on both consumer preferences but also technical limitations: final consumption (i.e. coffee drinking) should be made within a short time-span from roasting and milling. Technical progress has changed this, and it is now possible to roast and mill also in the producing county. The two newly established coffee producers/firms sell their coffee both roasted and milled, under their own brands. Thus, they have captured parts of the value chain that were traditionally located outside Lao PDR.

The upgrading of the production process has focused on improving the quality and introducing value-added activities such as roasting, milling, and packaging. Better connectivity with small- and medium sized producers have also provided the large firms with larger quantities of coffee, allowing higher levels of utilization of the processing facilities. The largest farm now grows coffee on 200 hectares, and uses expertise, labor, and equipment from Vietnam. The farm imports Catimor seeds from Vietnam and employs approximately 150 farmers (of which 20 are Vietnamese). The plantation uses chemical fertilizer and pesticides, and water management is handled by sprinklers. Although rainfall is sufficient, water is applied during the period preceding the flowering in order to increase the yield, which at these large farms ranges between 2 – 3 tons per hectare. The largest plantation has made investments in drying machines that can dry-process 40 tons per hour, an on-site roasting machine, and facilities to dry and store large quantities of coffee. The strict quality control employed by the large firms has trickled down to small and medium-scale firms as well, since the large farms differentiate their procurement prices depending on quality when they purchase coffee from smaller producers.

The product upgrading of Lao coffee has so far mainly been done by a few larger firms. The branding is an especially important for adding value. The brand name *Lao coffee*, and its reputation on the world market, is a very clear strategy to capitalize on niche markets. New brands and differentiated roasts have been introduced for the domestic urban markets. A wide rang of new tastes and packages are now becoming available at local markets and supermarkets in Pakse, Savannahkhet and Vientiane. The most sophisticated brands provide tri-lingual packages with Lao, English and French text. Lao cultural heritage sites and symbols are used in the promotion of the products in order to provide a feeling of originality.

This branding with geography as a competitive advantage is arguably a necessary strategy to penetrate a market in which consumer preferences concerning roasting and milling traditionally have been very strong and much more important than the type or origin of the coffee beans. The emerging importance of niche markets for coffee is an opportunity that producers are exploring through investments in quality control and through attempts to capture a larger part of the value chain, in order to increase revenue and provide growth opportunities for the local economy.

The Economic Impact of Coffee

Despite accounting for just two percent of the cultivated area, coffee accounted for more than 14 percent of the total export value of Lao PDR in 1998 (Sisouphanthong 2000). Cultivation is geographically concentrated to the Bolaven Plateau with Pakxong District being the main center. Coffee is a dominant cash-crop as it occupies two-thirds of the area used for cash crop cultivation (Sisouphanthong 2000). The Plateau has an altitude of 500 to 1200 meters and extends into four provinces; Champasack, Salavan, Sekong and Attapeu. The inhabitants of the area are mainly Lao Tueng with a majority of Laven people. Robusta dominates production, since the plant can be harvested for more years, and is considered a safer investment among the farmers than Arabica. Arabica offers a higher price as well as a rising demand on the international market (see Table 12). The local market price of coffee is considerably lower than the worldmarket price, providing incentives for local traders to engage in trade with the world market for coffee.

Table 12: Local and World Market Prices of Coffee (unroasted), 2001.

Type	Local price (kip per kilo)	World market price (kip per kilo)	Price Difference (%)
Arabica	7000	10500	33.3
Robusta	3000	5300	43.4

Source: Compiled from Industry Sources and Field Research.

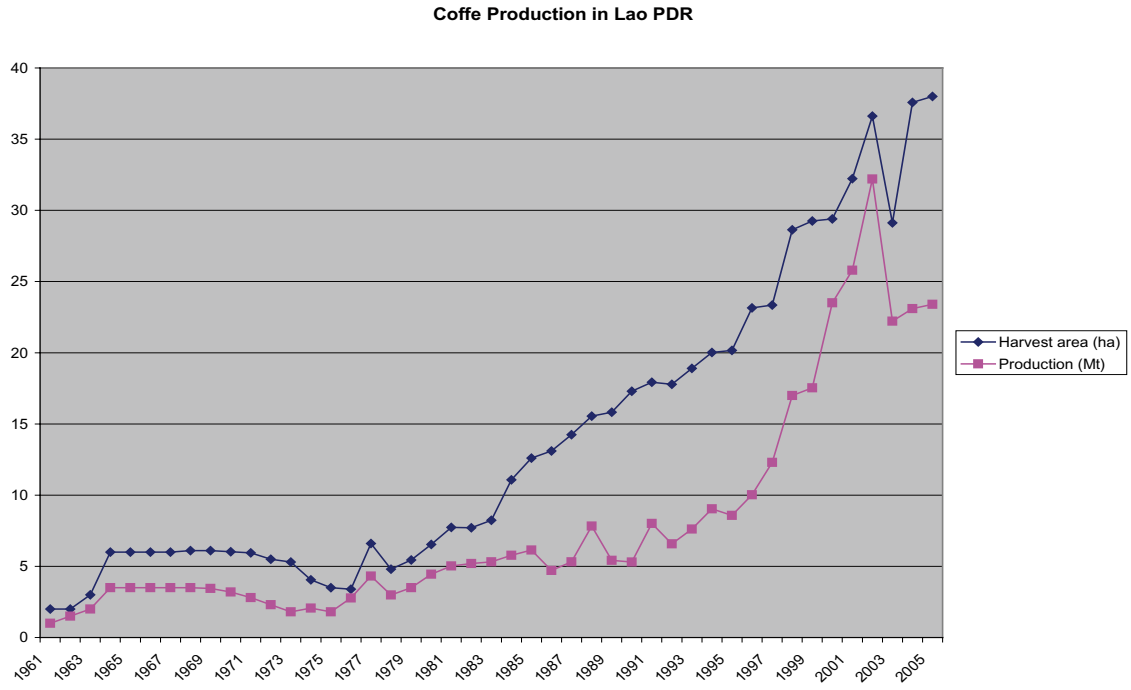
Together with wood products, garments, electricity, and motorcycles, coffee is one of the main export products of Lao PDR. Both the production and exports of coffee have increased substantially since the early 1990s, as shown in Figures 3 and 4. In terms of aggregate production volume, there has been a five-fold increase since 1990, whereas exports have nearly tripled.

The largest importers of Lao coffee are Germany (23 percent), France (21 percent) and Japan (11 percent) (International Trade Centre, 1999a: 23). Lao coffee exports to USA, the largest world importer of coffee, are insignificant. The export of Lao coffee is encouraged by the Coffee Exporters' Association. The role of CEA is to support the export system and to identify potential foreign markets.

Discussion

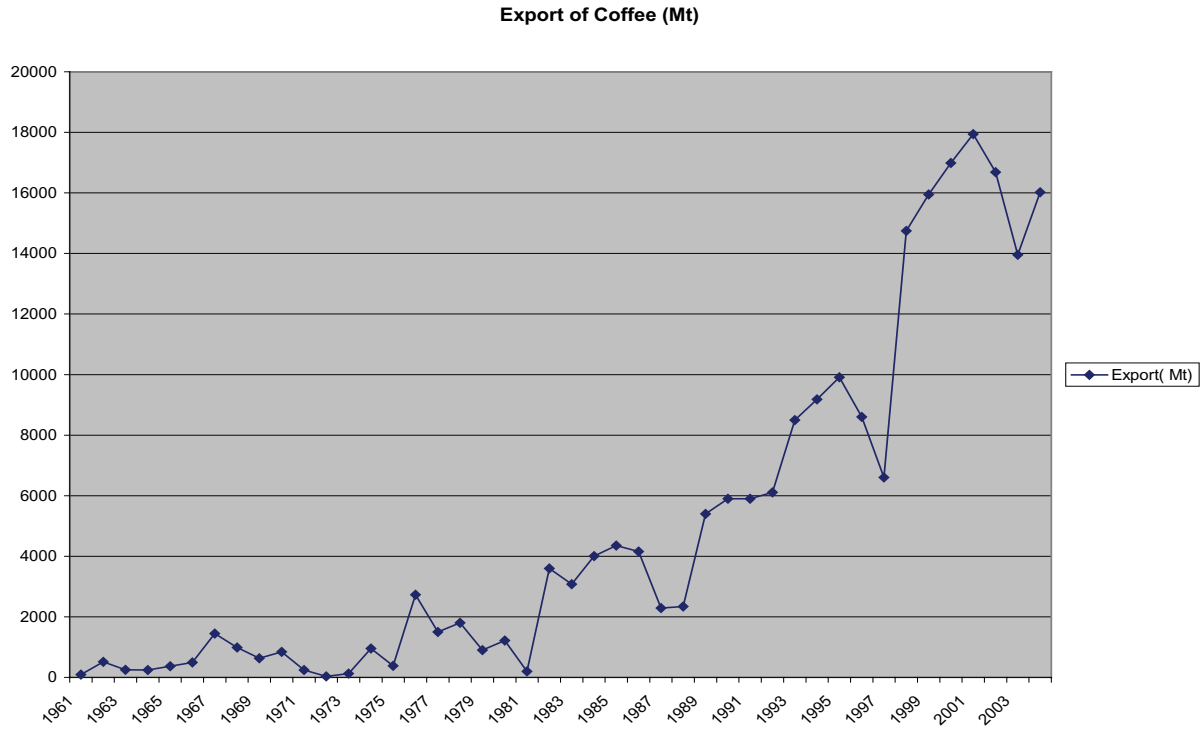
In the case of Lao coffee, there has been a shift from a complicated value chain, incurring high transactions costs and limiting value added, to a structure where Lao producers create a larger share of the value added. Following liberalization of markets, new actors have established direct control over coffee production and coffee sales, and marketing has

Figure 3: Total Coffee Production in Lao PDR.



Source: FAO STAT Agricultural Data.

Figure 4: Total Export of Coffee from Lao PDR.



Source: FAO STAT Agricultural Data.

increasingly focused on niche markets. Lao PDR is still a small country in coffee production, but the recent experiences have been encouraging and Lao PDR has the potential for further growth, with expertise as well as traditional markets.

Increased economic integration between the members of the Greater Mekong Subregion has offered the Lao private sector better opportunities for market expansion through stronger linkages to the global transportation networks, primarily through ports and airports in Thailand. The observed upgrading in the coffee value chain in Lao PDR can serve as a good example of how further integration with the closest neighbors can facilitate the linkages to the world economy. In order to truly participate in building an international brand name, firms need to communicate across space with a minimum of friction, or else products cannot become competitive.

Conclusions and Policy Implications

This report has aimed to explain the pattern of regional development in Lao PDR. This concluding section summarizes the results, key policy implications, and limitations of the analysis.

The overall growth rate in consumption in Lao PDR was remarkably strong during the first half of the 1990s, up until the outbreak of the Asian crisis in 1997. However, growth was uneven. The strongest growth occurred in the urban center of Vientiane Municipality, which is the richest area of the country, with slower growth in particular in the Central region. The developments after 1997/8 shows a different pattern. At the beginning of this period Lao PDR experienced a period of very high inflation as a result of the Asian crisis, which had particularly devastating effects on urban residents in Vientiane Municipality. One reason is presumably that that the degree of self-sufficiency was lower and the degree of market orientation was higher than in other parts of the country, which were not as strongly affected by events on the market. In fact, households in both the North and South did relatively well during the 1997/8–2002/3 period. The development in some of the northernmost provinces was particularly remarkable, with very substantial reductions in poverty incidence., This notable performance might have an explanation in the change of the economic surroundings of Lao PDR, particular with the rise of China as a regional and global growth centre. While the overall growth performance of the South was even better than that of the North, it is noteworthy that the impact on poverty was weaker than in the northernmost provinces.

The starting point for our analysis has been the assumption that the differences in regional development in Lao PDR have been driven by differences in the nature of market integration. The integration of the domestic market has to a great extent been determined by investments in transport infrastructure and market institutions, as illustrated in our discussion about the differences in the price of Beer Lao across the country. The integration with foreign markets has taken two different forms, discussed in two separate case studies. In the Norther region of Lao PDR, internationalization and integration with China and Thailand has occurred as a result of improvements in transport infrastructure, and affected a variety of different industries and activities. In the Southern region, internationalization has been centered around coffee exports, with Lao producers gradually upgrading their capacity and value added.

The case of Beer Lao studied how transport infrastructure and the development of local market institutions affect domestic market integration, as proxied by the price of Beer Lao. The assumption underlying the study is that locations with lower prices are better integrated with the domestic market: high prices can only be upheld in locations that are isolated from the domestic market because of high transport costs or because of the presence of local monopolies. Looking at the spatial variation of prices across the country, we found that urban areas and villages with road access record the lowest prices, presumably because transport costs were relatively low. Villages with markets also have lower prices than villages without markets, because of competition between sellers and traders. Moreover, larger villages record lower prices, which is probably also a result of heavier competition among traders: large villages can support a larger number of sellers than small villages. Villages without road access generally have higher price levels, both because the direct transport costs are higher, and because traders have higher market power than in locations with road access.

A conclusion from these findings is that improvements in transport infrastructure can be expected to yield substantial benefits, both directly, through a reduction in the cost of transportation, and indirectly, through the effects on competition: villages with road access are contestable markets, in the sense that high prices will attract new sellers that put downward pressure on prices. Both of these effects will benefit local communities. Apart from giving them access to goods at lower prices, market integration will also improve their chances of selling their own produce at more favorable prices.

The case of Northern economic development shows how integration with neighboring countries may generate substantial benefits at the regional level. The most notable feature of the internationalization of the Northern provinces is that many different types of activities have been affected by contacts with the markets in Thailand and China. The broad base for this type of internationalization is important, since it ensures that the effects are widely dispersed throughout the economy: many households are able to benefit from the increase in demand and business opportunities. This "low-level" integration could account for the stronger performance of the northernmost provinces in terms of poverty alleviation in recent years.

The case of coffee shows that there are also opportunities for Lao producers to participate in the world market, and that there is scope for raising the value added of the activities in the country. However, looking at individual sectors like coffee, it is harder to see how benefits are diffused. There are few direct beneficiaries of the improvements in the coffee market, and it is not clear how profits will be diffused in local communities. The successful coffee exporters will create some employment opportunities, and the increases in incomes enjoyed by coffee growers may be important, but will remain small in relation to the size of the regional economy. One potential channel for stronger effects is the improvement in market infrastructure that comes about as a result of the successful performance of the coffee industry. In the long run, it is possible that other sectors may be able to benefit from the physical infrastructure as well as the knowledge and skills created in the coffee industry. However, in the short run, there may be rapid growth in aggregate incomes without substantial reduction in poverty incidence.

The findings from the three cases suggest some possible policy conclusions. Firstly, it seems that the different types of market integration have

distinctly different distributional consequences. In particular, the type of internationalization experiences in Northern Lao PDR seems to generate more widely dispersed gains than the kind of internationalization seen in the Southern parts of the country. This difference could to some extent account for the larger variation in per capita consumption in the Southern provinces. The villages and households that have been able to take part in the expansion of the coffee industry may have seen substantial gains, whereas other villages and households have remained stagnant. From a poverty perspective, it seems clear that the Northern type of internationalization and integration may be more valuable. This does not preclude efforts to upgrade the value added in the export commodities of Lao PDR, but it does suggests a stronger emphasis on integration with the neighboring countries than with abstract world markets.

Secondly, it seems that the different types of integration and internationalization are driven by different types of investments. In the case of domestic market integration and the internationalization in the Northern provinces, progress is largely generated by investments in transport infrastructure (or "hard" infrastructure). In the case of coffee exports, the advances have instead been related to improvements in knowledge and skills (or "soft" infrastructure). At the present level of development, it possible that growth will be more poverty oriented if investments are focused on hard infrastructure and basic education rather than soft infrastructure, such as brand names and business and marketing skills. However, it should be noted that these two types of investments are not mutually exclusive. To the extent that opportunities for upgrading and higher value added activities can be identified, there is reason to consider focused investments in these areas. Meanwhile, investments in transport infrastructure and domestic market institutions are needed to create the base for subsequent upgrading and internationalization.

The diverse patterns of regional development in Lao PDR are a challenge for the Lao government. Policy makers need to take the different patterns of growth into consideration when formulating new policies. Integration of domestic markets and better linkages to markets in neighboring countries are dependent on a private sector with ability to take advantage of trade opportunities.

The Lao coffee case illustrates how success can be achieved by raising the value added in the exported product. Social infrastructure, such as a predicable regulatory framework for business activities where access to detailed and reliable information is available for all actors is a crucial factor for successful development of a private sector. Entrepreneurial skills can be developed through training and education but a private sector is also dependent on clear government policies. Lack of transparency and limited reach of information to provincial authorities may hinder private sector development in more remote areas and thus contribute to the fragmented economic growth. Here transport and communication infrastructure plays a crucial role in reducing the isolation of remote located provinces.

The government has since the introduction of the New Economic Mechanism invested substantially in the development of an efficient market economy. The first stepd to establish an efficient regulatory framework were taken during the early phase of the transition towards a market-oriented economy. However, it was hard for the older generation of policy makers and legal drafters to predict the increasing role of the private sector and to introduce strong policies to promote the further development of private business. The present business environment

favors short term business arrangements such as trade in unprocessed commodities, because these activities are easier to adapt to changes in the regulatory environment and do not depend to any great extent on capital investments that require long pay-back periods, Private investors in sectors demanding larger and more long-term investments face problems regarding uncertainty and problems in calculating expected rates of return. Entrepreneurs planning to establish a business in Lao PDR are required to go through a long regulatory process leaving much room for official discretion, which encourages firms to act in the informal market rather than going through the official system (Doing Business, 2004). This complicated framework associated with establishing private businesses draws extensive resources from both the government and the private sector, and obstructs the overall development of the country. A simple harmonized framework providing a less complicated process for enterprise registration would be an important measure facilitating private sector development and it would give better opportunities to replicate the successful up-grading of the coffee industry.

Provision of education in the fields of business and marketing should be promoted in all parts of the country in order to stimulate local private incentives and broaden the scope for gains from interaction with local and regional markets. The activities taking place in Pakse regarding the coffee industry illustrate how skills in marketing in combination with local traditions for coffee production can raise value added and revenue in the value chain of coffee. Economic integration with neighboring economies gives an important role to local entrepreneurs who trade across the national border. Successful exchange with the more developed neighboring economics requires not only products with sufficient quality but also information about prices and transactions costs in different markets. Increased border trade in market segments that are no longer viable for producers in the neighboring countries can provide substantial income opportunities for Lao households living close to the borders. Here government policies can play an important role in facilitating access to border markets. A serious problem for the achievement of relatively stable and reasonably distributed economic growth is the fragmented nature of provincial markets.

Weak domestic market integration creates high reliance on a well functioning decentralized government bureaucracy capable of serving provincial demands. Most of the interactions between authorities and the private sector are done at provincial levels. Provincial governments, rather than the central administration, are responsible for processing firm registrations and investment licenses, for firm level inspection and for allocating land-use rights. The efficiency and quality of provincial government services differ between provinces, with provinces closer to trade routes showing better understanding for the private sector's needs than more remote provinces. Policies aiming to provide a consolidated and reliable system for controlling the enforcement of business laws at the provincial level would create a more transparent and predictable business environment. Moreover, infrastructure development makes is easier for firms to choose the location for their activities. Increased economic integration between provinces (or even between neighboring countries) provide an environment where institutional competition could have very positive effects – competition from other potential business locations may force provincial authorities to develop capacities in order to promote and facilitate private business activities.

References

Asian Development Bank Institute. (2006). *Report on Northern Economic Corridor Fieldtrip, August-September 2005*. Tokyo: Asian Development Bank Institute.

Asian Development Bank (2002)**,** *Asian Development Bank Review November-December 2002*, Manila: Asian Development Bank.

Ali, I. and E.M. Pernia. (2003). "Infrastructure and Poverty Reduction: What is the Connection?" ERD Policy Brief No 13. Manila: Asian Development Bank.

Andersson, M., A. Engvall and A. Kokko (2005). "Determinants of Poverty in Lao PDR." *Sida Country Economic Report*. Stockholm: Sida.

Andersson, M., A. Engvall and A. Kokko (2005). "Linkages between Rice Prices and Market Access", mimeo, Bangkok: SSAS, Thammasat University.

Aschauer, D. (1989). "Is Public Expenditure Productive?", *Journal of Monetary Economics*, Vol. 23 (2), 177–200.

Arrow, K. J. (1969). "The Organization of Economic Activity: Issues Pertinent to the Choice of the Market versus Nonmarket Allocation," in *The Analysis and Evaluation of Public Expenditure: The PPB System*, Vol. 1. US Joint Economic Committee, 91 Congress, 1st Session. Washington DC: US Government Printing Office:59–73.

Asian Development Bank (2003 and 2005) Key Indicators of Developing Asian and Pacific Countries. Manila: The Asian Development Bank.

Asian Development Bank, (2001) Preinvestment Study for Greater Mekong Subregion – East –West Economic Corridor vol 1. Integrated report. Manila: The Asian Development Bank.

Banister, D. and Y. Berechman. (2001). "Transport investment and the promotion of economic growth." *Journal of Transport Geography* 9: 209–218.

Berry, B. J. L. (1967). *Geography of Market Centers and Retail Distribution.* Engelwood Cliffs, New Jersey: Prentice-Hall.

Bourdet, Y. (2000) *The Economics of Transition in Laos – From Socialism to ASEAN Integration.* Cheltenham: Edgar Elgar Publishing

Christaller, W. (1966). *Central Places in Southern Germany.* Translated by C. W. Baskin, London: Prentice-Hall.

Deaton, A. (1997). *The Analysis of Household Surveys: A Microeconomic Approach to Development Policy.* Baltimore: John Hopkins University Press.

Fitter, R. and R,. Kaplinsky (2001) "Who Gains From Product Rent as the Coffee Market Becomes More Differentiated?" A Value Chain Analysis. *IDS Bulletin Paper*

Gannon, C. and Z. Liu. (1997). "Poverty and Transport." *TWU discussion papers*, TWU-30. Washington, DC: World Bank.

Gereffi, G. (1999) "International Trade and Industrial Upgrading in the Apparel Commodity Chain." *Journal of International Economics* 48:1.

Gibbon, P. (2001) "Agro commodity chains: an introduction. The Value of Value Chains". IDS Bulletin Vol 32 No 3 July 2001. Edited by Gary Gereffi and Raphael Kaplinsky

Gramlich, E. M. (1994). "Infrastructure Investments: A Review Essay." *Journal of Economic Literature* 32:1176–1196.

Hoover, E. M. (1948). *The Location of Economic Activity*. New York: McGraw-Hill.

International Fund for Agricultural Development (IFAD). (2001). *Rural Poverty Report 2001*. Rome: International Fund for Agricultural Development.

International Trade Centre UNCTAD/WTO. (1999*), Lao PDR Market opportunities and a quantitative assessment of trade potential at the specific product level*: Geneva ITC UNCTAD/WTO.

International Trade Centre UNCTAD/WTO. (1999b), V*iet Nam Market opportunities and a quantitative assessment of trade potential at the specific product level*: Geneva ITC UNCTAD/WTO.

Kaplinsky, R. (2004), "Competition and the Global Coffee and Cocao value Chains." *Paper presented for United Nation Conference for Trade and Development (UNCTAD).*

Kaplinsky, R. & M. Morris (2000). *A handbook for value chain analysis.* Prepared for the IDRC.

Lewin, B., D. Giovannucci and P. Varangis (2004). "Coffee Markets New Paradigms in Global Supply and Demand". Agricultural and Rural Development Discussion Paper 3. World Bank.

Lyttleton, C., P. Cohen, H. Rattanavong, B. Thongkhamhane and S. Sisaengrat (2004). *Watermelon, bars and trucks: dangerous intersections in Northwest Lao PDR*, Macquarie University.

Munnell, A. (1992). "Infrastructure investment and productivity growth", *Journal of Economic Perspectives*, Vol.6.

Pelton, L. E., D. Strutton and J.R. Lumpkin (2002). *Marketing Channels – a relationship management approach*. New York: McGraw-Hill/Irwin.

Sadoulet, E. and A. de Janvry. (1995). *Quantitative Development Policy Analysis*. Baltimore: John Hopkins University Press.

Steering Committee for the Agricultural Census, Agricultural Census Office (2000) *Lao Agricultural Census, 1998/1999*. Vientiane.

Sisouphanthong B. and C. Taillard (2000). *Atlas of Laos – Spatial Structure of the Economic and Social Development of the Lao People's Democratic Republic*. Silkworm Books.

Talbot, J. M. (1997). "Where Does Your Coffee Dollar Go?: The Division of Income and Surplus Along the Coffee Commodity Chain." *Studies in Comparative International Development*, Vol 32(1): 56–91.

van der Weide, R. (2006). *The Variation in Prices for Various Commodities in Lao PDR*. Draft Report. The World Bank.

Walker, A. (1999). *The Legend of the Golden Boat: Regulation, Trade and Traders in the Borderlands of of Laos, Thailand, China, and Burma*. University of Hawaii Press.

Wen, M. (1997). "Infrastructure and Evolution in Division of Labor." *Review of Development Economics* 1:191-206.

World Bank. (2004). *Doing Business,* Washington DC: The World Bank.

Appendix

Administrative map of Lao PDR

Country Economic Reports

Vietnam 1997: Managing the Transition to Free Trade: Vietnamese Trade Policy for the 21st Century	1997:4
Ethiopia 1996: Government legitimacy, Aid and SustainableDevelopment	1997:5
Vietnam 1997:2 Small, Medium, or Large?	1997:6
Tanzania 1997 The Urge to Merge: The Revival of East African Cooperation	1997:7
Laos 1997: The Poor and the Rich	1997:8
Zimbabwe: Structural Adjustment and Productivity: A Study of the Manufacturing and Agricultural Sectors	1998:1
Uganda: Towards Results-Oriented Economic Management?	1998:2
Ethiopia: Regional and Business Sector Challenges	1998:3
Kenya: From Chaos to Prosperity?	1998:4
Angola: More Oil and Financial Problems	1998:5
Guinea-Bissau: Going into High Gear	1998:6
Cape Verde: The Economics of Mudança	1998:7
Vietnam and the Asian Crisis:	1998:8
Causes, consequences and cures Cambodia: The Challenge of Productive	1998:9
Employment Creation Sri Lanka: Institutions, Economic Policies and Economic Growth	1999:1
Tanzania: Cost-Sharing in Development Projects Principles, Practice and Problem	1999:2
Mozambique in a Post-Washington Consensus Perspective	1999:3
Moçambique: Numa Perspectiva do Consenso Pós-Washington	1999:3
Kenya:Economic Reorms with Labour Market	1999:4
Rigidities; The Kenya Experience Uganda: Uganda at the End of the 1990s: A Medium-Term Assessment	1999:5
Zimbabwe:Employment, Labour Market Reform and Trade Liberalisation Zimbabwe 1990–1997	1999:6
Mozambique: Dutch Disease in Mozambique?	2000:1
Rwanda: rwanda Looking Ahead: Reconciliation, reform and Regional Stability	2000:2

Sri Lanka: Dispersed Industrial Pattern for Reducing Poverty and Regional Inequality in Sri Lanka	2000:3
Tanzania: Tanzania 1999: Obstacles to Private Sector Growth	2000:4
Eritrea: Eritrea 1999: A bleeding country that never kneels down	2000:5
Moçambique: Doença Holandesa Moçambique?	2000:6
Laos: Emerging Rice Market in Laos?	2000:7
Cape Verde: Putting New Life Into Reform Policy, And Then…	2000:8
Cabo Verde: Dando Vida Nova Política de Reformas, e depois...	2000:9
Zimbabwe: Maize Markets in Zimbabwe	2000:10
Cambodia 1999–2000 Land, Labour and rural Livelihood in Focus	2001:1
Poverty in Mozambique	2001:2
Tanzania 2000 Growth, Multilateral Debt Relief and Program Aid	2001:3
Pobreza em Moçambique	2001:4
The Kenyan Interim Poverty Reduction Stragety: A Policy Framework for Growth and Poverty Reduction?	2001:5
Step by Step: Economic Reform and Renovation in Vietnam before the 9th Party Congress	2001:6
The West Bank and Gaza Strip A case of unfulfilled potential	2001:7
Angola 2000: Coming out of the Woods?	2001:8
The Poverty Reduction Strategy Process in Mozambique	2001:9
O Processo de Estratégia de Redução do Pobreza, PRSP, em Moçssmbique	2001:10
Towards Peac, Growth and Poverty Reduction in Rwanda	2001:11
Burkina Faso, Out of the Poverty Trap?	2001:12
Mali, Coping with Adversity	2001:13
Kenya and the East African Community: A report for Sida	2002:1
Malawi: Economic Growth Public Sector Reform and Poverty	2002:2

Cape Verde: From Aid Dependency To Self-Sustanining Growth?	2002:3
Tanzania 2001 New Strategies for Poverty Reduction and Debt Relief	2002:4
Impacts of Trade Liberalisation in Zambia	2002:5
Aid an Growth in Rwanda	2004:1
A Tale of Three Countries – Structure, Reform and Performance in Mali, Burkina Faso and Benin	2004:2
External Shocks, Exchange Rate Regime and Growth in Burkina faso and Mali	2004:3
Ethiopia: Economic Performance and the Role of the Private Sector	2004:4
Angola: Reaping the benefits of peace?	2004:5
Public Finance Management Reform in Malawi	2005:1
Cambodia – Ready for an Economic Take-off?	2005:2
Poverty and Development in Timor-Leste	2005:3
Taxation in Tanzania – Revenue performance and incidence	2005:4
Regional Development and Government Support to SMEs in Vietnam	2005:5
Limites et défis de l'intégration régionale en Afrique de l'Ouest	2005:6
Angola: Getting off the hook	2005:7
An Integrated Ecnomic Analysis of Pro-poor Growth in Kenya	2005:8
Growth and Poverty Reduction: Evaluating Rwanda's First PRS	2005:9
Determinants of Poverty in LAO PDR	2005:10
The Impact of HIV/AIDS on the Economy, Livelihoods and Poverty of Malawi	2006:1
Employment and Growth in Cambodia – An Integrated Economic Analysis	2006:2
Challenges for Pro-Poor Growth in Uganda	2006:3
Economic Development in Timor-Leste 2000–2005	2006:4
Migration and Pro-Poor Growth in Albania – An Integrated Economic Analysis	2006:5

Angola: Surfing the Oil Market	2006:6
Genre et économie au Burkina Faso – Vers l'égalité des chances?	2006:7
Understanding Rural Poverty in Cambodia	2007:1
Making Pro-poor Growth in Tajikistan Sustainable - An Integrated Economic Analysis Approach	2007:2
Regional Development in the Lao PDR	2007:3

Halving poverty by 2015 is one of the greatest challenges of our time, requiring cooperation and sustainability. The partner countries are responsible for their own development. Sida provides resources and develops knowledge and expertise, making the world a richer place.

SWEDISH INTERNATIONAL
DEVELOPMENT COOPERATION AGENCY

SE-105 25 Stockholm Sweden
Phone: +46 (0)8 698 50 00
Fax: +46 (0)8 20 88 64
sida@sida.se, www.sida.se