Development Analysis Network

Off-farm and Non-farm Employment in South-east Asian Transitional Economies and Thailand

Cambodia Development Resource Institute

Cambodian Institute for Cooperation and Peace

Central Institute for Economic Management (Vietnam)

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National Economic Research Institute (Lao PDR)

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WITH FUNDING FROM THE INTERNATIONAL DEVELOPMENT RESEARCH CENTRE AND THE ROCKEFELLER FOUNDATION

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Contents

Foreword

Written by leading researchers from seven research institutes, this publication examines the present status and growth of off-farm and non-farm activities in Southeast Asia and the potential for these activities to provide employment in rural areas. Each country study includes an examination of the size and diversity of off-farm and non-farm activities, their market linkages, and includes policy recommendations based largely on country-specific field studies of small and medium off-farm and non-farm activities. The specific concern in the SEATE countries was the inability to reduce underemployment in their agrarian sectors and create jobs for the growing rural labour force.

The findings of these studies suggest that the proportions of workers engaged in traditional agriculture in all four countries are very high. It is revealed, however, that rural populations are increasing and that traditional agriculture may not be able to provide sufficient employment for this ever-growing workforce. The findings also reveal that where there is investment, it tends to be area specific, most notably in urban areas. There are additional problems being faced in rural areas across the region and these tend to include low rural human resource capacities and often, poor infrastructure. It is in the light of these factors that job-creation in off-farm and non-farm activities assume critical importance.

While the most compelling reasons for promoting off-farm and non-farm activities may be rural employment generation and poverty reduction, there are other potential benefits to be gained. These include the potential for off-farm and non-farm employment to diversify skills and technologies into rural areas and to develop human and physical resources in the countryside. This assumes critical importance for countries like Cambodia and Laos. Finally, the advantage of developing off-farm and non-farm capacity is that the cost is reasonably low. Many of the skills already exist as they are based on traditions that often go back hundreds of years and markets for many of the products already exist. Most importantly, it has been found that many of the activities are not a radical departure from traditional rural lifestyles and play a critical role in supplementing farm income.

The findings of this third phase of DAN research were disseminated in a conference held in Hanoi, Vietnam in December 2002 and attended by about 80 participants. Since then the papers have been edited and with this volume, have now been published.

The Development Analysis Network (DAN) is a network of research institutions in Thailand and the Southeast Asian Transitional Economies (SEATEs) of Cambodia, Laos and Vietnam. The institutions participating in DAN include the Cambodia Development Resource Institute and the Cambodian Institute for Cooperation and Peace in Phnom Penh, the National Economic Research Institute and the National Statistical Centre in Vientiane, the Central Institute for Economic Management and the Institute of Economics in Hanoi, and the Thailand Development Research Institute in Bangkok. The Cambodia Development Resource Institute acts as the networks coordinator. The DAN is in its fourth year of collaboration and has already published two other joint studies: the *Impact of the Asian Financial Crisis on the Southeast Asian Transitional Economies* (1999) and *Labour Markets in Transitional Economies in Southeast Asia and Thailand* (2001).

We sincerely hope that this publication will provide insights on the potential of off-farm and non-farm activities and provide useful information to policy makers and academics alike.

Eva Mysliwiec

Director

Cambodia Development Resource Institute

February 2003

Abbreviations

ACLEDA	Association of Cambodian Local Economic Development Agencies
ADB	Asian Development Bank
AFTA	ASEAN Free Trade Area
ASEAN	Association of Southeast Asian Nations
BDS	Business Development Services
CARERE	Cambodia Area Rehabilitation and Regeneration
CDRI	Cambodia Development Resource Institute
CIEM	Central Institute for Economic Management
DAN	Development Analysis Network
EDC	Entrepreneurship Development of Cambodia
ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
GDP	gross domestic product
GNP	gross national product
GPP	gross provincial product
GTZ,	Deutsche Gesellschaft fuer Technische Zusammenarbeit
ILO	International Labour Organisation
KOC	Kingdom of Cambodia
Lao PDR	Lao People's Democratic Republic
LECS	Labour Expenditure and Consumption Surveys
LFS	labour force survey
MPDF	The Mekong Project Development Facility
NEM	'New Economic Mechanism'
NERI	National Economic Research Institute
NESDB	National Economic and Social Development Board
NIS	National Institute of Statistics
NSC	National Statistical Centre
NGO	non-governmental organisation
PRASAC	Support Programme for the Agriculture Sector in Cambodia
PRSP	poverty reduction strategy paper
SEATE	South East Asian Transitional Economy
SEDP	Socio-economic Development Plan
SES	socio-economic survey
SME	small and medium size enterprise
SOE	state-owned enterprise
TDRI	Thailand Development Research Institute
UNDP	United Nations Development Programme
UNESCO	United Nations Economic Cultural and Social Organisation
UNTAC	United Nations Transitional Authority in Cambodia
WTO	World Trade Organisation

Chapter One
Off-farm and Non-farm Jobs in SEATEs and Thailand: Rationale and Synthesis of Country Studies

Sarthi Acharya[1]

This study arises from the imperative to create more and diversified jobs in the transitional economies of Southeast Asia and Thailand, with a view to alleviate poverty, unemployment and underemployment. While in Thailand poverty may not seem such a serious issue, international economic integration poses serious competition to many industries and occupations, and this is affecting employment. At the same time, the whole region faces prolonged economic slowdown. It is suggested in this report, that the employment potential of rural off-farm and non-farm activities is high and that it is possible to create many jobs with a relatively small capital deployment.

This report consists of country studies on Cambodia, Laos, Thailand and Vietnam, and examines the present status and growth potential of tiny, small and medium enterprises in manufacturing, agro-processing, cottage industries, trade, transport and other services, which are collectively referred to as the decentralised sector in development parlance.

1.1 Country Background and Genesis of the Problem

The economies of all the countries in the Southeast Asian Transitional Economies (SEATE) region and Thailand grew at an average 5–6 per cent during the late 1980s and 1990s. Thailand, the forerunner, exhibited spectacular growth in double figures for short periods, before the 1997 financial crash. The principal sources of growth in most countries were agriculture, the textile (garment) industry, light industries, agro-processing and tourism. The composition of GDP everywhere has shifted rapidly, from being predominantly agricultural to a relatively more diversified one over the last two decades. In the

[1] Sarthi Acharya was the Research Director with CDRI during 2000–2002.

1990s, the share of agriculture in GDP reduced from well over 60 per cent to 40 per cent in Cambodia for example, and 50 per cent in Laos. In Thailand, the share of agriculture in GNP fell from over 30 per cent to less than 10 per cent in about two to three decades. Currently, Thailand retains a diversified, strong technological base, and unlike the transitional economies, which are low-income countries, Thailand is a middle-income country. In Vietnam, activities have rapidly expanded outside agriculture; the share of agriculture in GDP in that country is now down to only a quarter.

So why is there a problem of unemployment and underemployment? The answer lies in the trend, which sees the composition of national income not being accompanied by a similar shift in the composition of the workforce. The proportions of workers still engaged in agriculture are very high. As seen from data pertaining to the late 1990s, this varies from over 80 per cent in Laos, about 75 per cent in Cambodia, 66 percent in Vietnam, and 50 per cent in Thailand. To differing extents, therefore, the countries have remained agrarian. There are several reasons for this. To begin with, the new activities that have emerged, at least in Cambodia and Laos in recent years, are in a relatively narrow band, including garments, natural resource-based products and some services. These all possess limited employment potential. In fact, many of the investments are of a short-term nature and may not possess very much in the form of long-term benefits, like increased permanent jobs.[2] In Thailand, and partly Vietnam, much of the activities are essentially capital intensive and not many of them are creating jobs for the ever-growing labour force. Next, most investments in all the countries are in specific locations, especially national capitals, holiday resorts and port towns. This implies that the countryside, where most of the populations are spread, have gained little from the growth process. Third, in countries other than Thailand, a lack of infrastructure has also been responsible for a narrow base of activities. Last, the problem of a low human capital base — particularly in rural areas — has been an impediment in diversifying occupations. The majority of rural workers are ill equipped to perform anything but agricultural activities, and for these workers there are few employment opportunities outside.

On the supply side, a high human fertility rate contributes to the unemployment situation. The three transitional economies experienced a very high fertility rate in the 1980s (the post-war period), and additions to the labour force in the first decade of the 21st century will likely exceed 2 percent each year. Even in Thailand, additions to the labour force are not negligible. In all the countries, the increase in the labour force is the greatest in rural areas, ironically where job creation is the least.

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[2] This is particularly the case in Cambodia, where the garment industry only employs 3 percent of the workforce, even though until recently the industry was growing in double digits. This industry has been termed as ‘foot-loose’ by many.

It is difficult to envision many of the structural shortcomings being eased in the short to medium-terms. For instance, roads, power or communications are unlikely to grow rapidly in any of the transitional economies. With its critical links to the global system, Thailand's economy may take a while to normalise given the fact that the global economy is in recession.[3] Thailand also suffers from an internal misallocation of resources — excessive investments poured into real estate and the negative effects of an overvalued exchange rate for too long.

In any of these countries, open unemployment is not high. However, as with other agrarian economies, the countryside has degrees of underemployment. A significant rise in out-migration from villages for livelihood, and significant rural poverty (recent data show levels of poverty to be nearly 40 per cent in Cambodia and Laos and still in double figures in Thailand and Vietnam) are evidence to the low rate of effective labour utilisation.

In the light of these factors, job-creation in off-farm and non-farm activities assumes crucial importance.

1.2 The Rationale for Promoting Rural Non-agricultural Activities

There is now growing agreement that neither modern large industry nor the agricultural sector alone, have been, or will be, able to serve the purpose of gainful job creation at the same pace as the rise in demand for jobs.[4] In this regard, the impressive growth of small and medium rural industries in Japan, South Korea and Taiwan[5] earlier, and more recently in China[6], has created immense interest in the possibilities of promoting non-farm and off-farm activities in many other Asian countries.[7]

There are numerous reasons and potential benefits to promoting off-farm and non-farm activities and other forms of diversified occupations on a small-scale, for both rural and urban areas. A few of these are listed below.

- The most compelling reason, of course, is job creation for the surplus labour presently earning subsistence living in agriculture.

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[3] See DAN (1999) and Mallet (2000) for the effects of the recent Asian crisis and prospects of recovery.

[4] Details on the imbalances between demand and supply of labour in each of the four countries being studied can be seen in the conference papers presented at Vientiane under the aegis of DAN, Dec. 18-20, 2000. See DAN (2001).

[5] See, Islam (1987) and Johansson and Ronnås (1996) for reviews and details.

[6] Small industries, rural industries, off-farm activities, and decentralised sector activities are interchangeably used here, to refer to those economic activities that fall outside agriculture and modern small-scale industries and are labour intensive.

[7] ILO's perspective in Asia also advocates large-scale creation of jobs through grass-roots entrepreneurship. See ILO (1999), ILO-SAAT (2000).

- An equally forceful impetus emerges from the perspective of asset and income distribution — that there are significant and rising populations composed of landless farmers and there is a pressing need to address their asset and/or entitlement needs. Any attempt to diversify occupations will most definitely help in creating both human and physical endowments among those presently engaged in unskilled vocations in subsistence agriculture.

- Third, given the diverse nature of the non-farm sector, it is unlikely that falling returns will hurt many of these activities. It is expected therefore that workers engaged in them will continue to hold sustainable jobs for the near future.

- Fourth, the inability to manage migration to big cities, or create multi-nodal urban-industrial complexes to employ rural and semi-urban populations, has resulted in excessive population concentration in the metropolitan centres. The population of capital or large cities (*e.g.* Bangkok in Thailand, Hanoi or Ho Chi Minh City in Vietnam and Phnom Penh in Cambodia) are disproportionately large compared to that of other areas. Petty activities in urban informal sectors, which are mainly in retail trade and services activities — where migrants often seek subsistence — are increasingly unable to expand further under the present economic policies. To the extent that any expansion in decentralised non-farm activities meets the objective of regionally dispersed industrialisation, it fulfils the target of balanced development that modern large-scale industries may take a rather long time to achieve.

- Last, small and medium enterprises have a tremendous capacity to diffuse skills and technologies over diverse groups of workers. Not only are technical and managerial skills dispersed over a vast geographical terrain, people also gain confidence to become entrepreneurs. There is significant evidence of small operators having grown and thrived in favourable market environments, in developing as well as developed countries.[8]

It has been noted that small and tiny industries are more gender neutral than large-scale ones. Generally, women, have less access to human and physical capital than men have in most of Asia. Since the capital base is small and less sophisticated in the decentralised sector, these activities offer more opportunities to women. In most countries, women's participation in small enterprises far exceeds their participation in large establishments.[9] In the process, women workers tend to acquire skills that enable them to bargain for an improved position in the labour market.

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[8] See Saith (2000).

[9] See Horton (1995) for some numbers in select Asian countries.

1.3 The Theoretical Foundation

Can rural non-farm activities expand and absorb labour when agriculture or other activities are not growing and/or not absorbing labour? In countries where there was rapid non-farm sector growth, *i.e.* in Japan and South Korea (among others), agricultural growth had preceded rural industrialisation or occupational diversification (Ishikawa 1967). The savings obtained from high productivity in agriculture provided for rural industrialisation (secondary and tertiary activities). The logic of rural industrialisation has been argued to be a two-way process: that savings from agriculture finance activity expansion (through inter-sectoral transfers), and that demand for non-agricultural goods by the rural affluent (*i.e.* those who have reaped high agricultural yields, and hence, marketable surpluses) create a (demand-led) momentum in the system for creating supplies. In response, rural industries develop (Mellor 1976).

In Cambodia and Laos, agriculture is still at a stage of development where it does not provide a high enough yield rate to fund rural industries, which was the East Asian scenario. The marketable surplus in agricultural production is small — partly obtained from adverse terms of trade (against agriculture), and partly by the demand for urban-made goods by the rural populace. In Vietnam and Thailand, where agricultural productivity is sufficiently high in many areas, there has been some significant diversification of activities and employment away from agriculture. In these countries alone, there is a case for promoting the non-farm activities that would be advocated by some classical theorists. Elsewhere, it would be more appropriate to strengthen the agricultural sector until the point when it yields enough productivity to finance industrialisation (Saith 1988; 2000).

This classical view, however, need not be the only view ascribed to on this subject. In fact, most policy analyses suggest that there can be multiple paths to development. It is argued that as long as the macro economic direction in a country is well defined, then let savings (wherever the source) find the optimal slot for investment, be it in agriculture or elsewhere. It is not essential that agricultural savings alone should finance industrialisation. Instead, as long as a flow of savings is ensured, whether it is from tourism, foreign aid, foreign investments, or even natural resources, these can then be reinvested into the most productive channels; this would ensure positive and sustainable growth (World Bank 1991). In fact, examples from China, Taiwan, and most of fast-growing Southeast Asia (Malaysia, Singapore, Thailand) stand witness to such flows of savings being converted into investment.

Next, the non-farm subsectors are so diverse, that to confine them to specific activities like consumer goods manufacture in response to rural or urban demand may be restrictive. In fact, in countries like Cambodia, fishing is a large natural resource-based activity, and can develop independently, or alongside

agriculture. Other possible economic activities, like handicraft industry or tourism, present a similar picture. Lastly, there are activities in agro-processing, like sugar making, cotton ginning, or jute processing, which require setting up of off-farm facilities, even when agriculture yields low productivity.

Each of these cases points towards the fact that to neglect exceptions to classical logic may not always be right. The position subscribed to in this report, therefore, is one of maintaining a high degree of flexibility with regard to strategies of growth and paths of development. If the non-farm sector is an economically viable option, it must be pursued as a meaningful strategy for job creation and economic diversification in rural areas, irrespective of the state of agriculture. This, of course, does not diminish the fact that agricultural development is paramount to achieving development targets in any country.

1.4 Definitions

None of the four countries studied here follow the internationally accepted classifications for urban or rural areas, with respect to population size, population density and occupational structure.

It is for this reason that the definition of 'rural' in each country needs explanation. The Cambodian authorities define urban areas as those districts, which house the administrative headquarters; the rest of the areas are rural. Authorities also classify Phnom Penh, Pailin, Kep and Sihanoukville municipalities (and all areas that fall within them) as urban. The Cambodia country paper is not particular in differentiating between rural and urban locales also because the country is predominantly rural. Rural non-farm activity is defined as any economically meaningful work that people undertake outside farm agriculture, irrespective of whether it is in the primary, secondary or tertiary sector.

In Laos, an area is classified as urban if it satisfies at least three of five conditions. It has a market; it has a road for access by motor vehicles; it lies in the municipal vicinity where the district or provincial authority is located; the majority of its households have access to electricity; and tap water is supplied to a majority of the households. Laos, like Cambodia, is largely a rural country. Other than perhaps the Vientiane Municipality, all other locations typically exhibit a rural character. The analysis in the Laos country paper does not particularly differentiate between rural and urban areas: instead, the rural-urban divide is provided where given, and aggregate figures are provided otherwise. The definition of rural non-farm activity in the Laos country paper is identical to the definition in the Cambodian paper.

Thailand classifies its geographic regions as the Bangkok metropolitan area, provincial town areas and village areas. There is no separate classification of

areas being either rural or urban. Industries located in the latter two are loosely referred to as rural industries, though there is a further classification made, between village industries and town industries. The classification is administrative, though in fact it is close to the demographic layout of the country. The Thailand country paper defines off-farm activities as all activities carried out by agricultural households outside their own farms. Non-farm activities refer to non-agricultural activities carried out by rural households.

Lastly, in Vietnam, smaller towns and villages are often considered rural. In fact, larger cities (typically, Ho Chi Minh, Hanoi, Da Nang, Hai Phong and other provincial capitals) are classified as urban; other areas are villages or small towns. The Vietnam country paper defines rural non-farm activities as all industries of small and medium-scale, artisan industries and handicraft works, located in rural areas. Production and other services that take place in rural areas, utilising local resources (*e.g.* labour, land and material inputs), are also non-farm activities.

The differences in the classification of rural areas, as well as definitions of industries, are evidence to the vast economic dissimilarities present in the region.

1.5 Recent History

Cambodia presents one of the more turbulent histories in the four countries under study. At the time of independence from colonial rule (in 1953), Cambodia possessed a small industrial base, with some core competence in cotton spinning and weaving, mechanical engineering, civil works and water management, in addition to a range of skills in artisan and handicraft activities. Not much, though, was seen outside the main urban areas and whatever existed was demolished in the upheaval of the 1970s. During the war, many skills were lost, and the tiny infrastructure that was created in earlier decades was destroyed along with it. Only as late as the 1990s, did some diversified economic development begin to emerge. As of today, rural non-farm activities, other than natural resource based activities like fishing, are poorly integrated into the larger markets, and do not form a continuum with urban-based activities.

Historically, Laos has an even smaller population — less than three million in the 1970s — most of which works in subsistence agriculture. The country's economic origin is similar to that of Cambodia; swidden cultivation, unstable settlements, very little urbanisation, and low occupational diversification. The off-farm and non-farm sector in Laos has been as underdeveloped as that of Cambodia, if not more so. In 1976, with the establishment of the People's Democratic Republic, the main emphasis in the country shifted towards central planning. Only in 1986, with the embracement of the New Economic

Mechanism, did the country begin to experiment with a number of alternative strategies, like poverty alleviation, revival of the family economy, and decentralised development.

Thailand has had a history that presents considerably diverse activity, unlike its two smaller neighbours, Cambodia and Laos. By the mid twentieth century, Thailand had a thriving rice export, implying that agriculture was fairly well developed. Along with agricultural growth, non-agricultural activities were also expanding. Studies pertaining to the 1970s portray a picture of relatively broad based non-farm activities in villages and towns. The rural people, particularly the poor, depended extensively on non-agricultural activities in addition to deriving livelihoods from agriculture. The Thai rural industries are not as isolated as in Cambodia, as to some extent, they are integrated into the larger markets. Data suggest that rural non-farm activities in Thailand have diversified from natural resource-based activities to agro-processing and metal-based industries since the early part of the twentieth century.

Historically, Vietnam has had a fairly well diversified rural sector in terms of technological proficiency. Its agriculture has been fairly developed for a while, even if somewhat selectively. Today, the country is the second largest rice exporter in the world. In turn, high agricultural productivity has also provided the necessary encouragement to non-agricultural activities. In fact, non-agricultural activities have been quite prominent in rural areas, to the extent that certain villages have been named after the product or process that they specialise in. Vietnam had mastered technologies in metal smelting, non-metallic minerals, welding, metal cutting, etc., since the earliest times. However, at independence (in 1954), the central planning model of economic development did not provide much place for industries other than the large, vertically integrated ones. Nevertheless, the decentralised sector continued to provide livelihood to many in rural areas. With the coming of *Doi Moi* in 1986, the private sector got the necessary boost, and with it, rural industries — after initial hesitation — began to find opportunities to grow. As with Thailand, rural industries in Vietnam have been better integrated into the larger markets than in Cambodia and Laos.

1.6 Size and Characteristics of the Off-farm and Non-farm Sector

It needs to be mentioned at the outset that there are vast differences in the availability of data across the four countries, which does restrict some comparisons.

Thailand's database is by far the most comprehensive; with quarterly surveys conducted on the labour force for over a decade now, extremely detailed analysis of economic activities and employment trends in the country are

possible. In contrast, all the transitional economies are still in the early stages of establishing a statistical base. In Cambodia and Laos, the surveys conducted, are ad hoc, carried out from time to time in accordance with the data requirements of the government and donors. Only the population census is an institutionalised activity. While Cambodia has mainly conducted labour surveys, Laos has had some establishment surveys as well. In Vietnam, the database is more advanced, with both labour surveys and living standards surveys carried out with defined periodicity.

In Cambodia, data for the late 1990s suggest that, on aggregate, jobs outside crop agriculture account for about 22 percent (about 17 percent in rural areas). There are more women than men working in agriculture, which is a reflection of the relatively low geographical and occupational mobility of female workers. The data does not reflect much occupational diversification even after accounting for subsidiary occupations, particularly in rural areas. Next, not much could be deciphered in terms of change between the middle and late 1990s, as the data were not comparable. However, whatever evidence exists, suggests that the decade of the 1990s saw little change in the occupational structure. The spread of non-farm occupations across regions suggests that there is a higher concentration of non-agricultural activities in the western, northwestern and southwestern zones, areas where agricultural activities are less pervasive, compared to the Mekong basin and the eastern and western banks of the Tonle Sap, where land has perennially been tilled for rice cultivation. This form of occupational diversification suggests a substitution between farm and non-farm activities, a typical syndrome that would exist in a natural resource-dependent economy.

Some important rural industries/non-farm activities in Cambodia are, fishing and fish processing, mining, spinning and weaving, food processing, apparel making, furniture manufacture, maintenance of motor vehicles, handicraft manufacture, electricity generation, retail trade, construction, and land/water transport. Detailed descriptions of many of these sectors suggest that most of these activities use rudimentary technologies and inefficient machinery, workers are insufficiently trained (in fact, most learn from the family) and the businesses are acutely short of working capital.

The Laotian national income data, census and other labour surveys show that after the adoption of the *New Economic Mechanism* in 1986, the share of agriculture in national income steadily declined until the late 1990s, from more than 60 percent to less than 50 percent. This, however, was not accompanied by a similar reduction in the number of workers in agriculture, which continues to be above 80 percent. With expansion in activities outside agriculture, without their absorbing labour at the same proportion as their share in national income, there are gaps emerging between labour productivity in agriculture *vis a vis* non-agricultural occupations. Calculations show that household business in non-

agricultural activities yield higher labour productivity than agriculture does.

Establishment surveys show that larger enterprises are more productive than the smaller ones. The smaller enterprises, however, employ many more workers. Wage labour is a common form of labour engagement in the larger enterprises; while, in contrast, smaller ones are owner and family operated. The diversity of industrial activity and the size of enterprises are related, with higher diversity in larger enterprises, and vice-versa.

In Laos, most households pursue a living through multiple livelihood opportunities, to some degree. This typically involves a mixture of subsistence and other income earning activities to cope with the multiple environmental and economic uncertainties. Most rural households are engaged in a variety of off-farm and non-farm jobs, combining hunting and gathering with agriculture, horticulture, animal husbandry and forestry.

The variety in the industrial base in Laos could be comparable with that in Cambodia, but being a smaller population (and market), Laos has a smaller service sector and its imports are less, each of which keeps the non-farm sector narrow. As with Cambodia, in terms of the importance of industry groups, fishing, mining, agro-based industries, handicraft, construction, transport, and retail trades are prominent.

In *Thailand*, the rural non-farm/off-farm sector provides employment to about a quarter of the total workforce in the country. This is about half of all total rural jobs (about 7 million; 1.7 million off-farm jobs and 5.3 million non-farm jobs; 2000 data). Within the sector, about 44 percent of jobs are provided by services (education, health, community services, hotels, restaurants, etc.), and 21 percent each by commerce and manufacturing. Construction, electricity, gas and water, and mining and quarrying provide the other 12 percent of jobs. Within manufacturing, about 26 percent of the jobs are in the metal and non-metal minerals sector, about 25 percent in food and beverages, about 11 percent in chemicals and chemical products, about 10 percent in textiles, and about 6 percent in transport equipment manufacture. Given this industry-mix, it is evident that industries in Thailand are far from traditional natural resource-based industries and exhibit considerable technological sophistication.

Up to a quarter of workers hold more than one job, which further shows the extent of spread of non-farm/off-farm jobs in the country. Home-based jobs remain few though, at only about 1 percent of the total jobs in the country.

In 1999, the proportion of GDP derived from agriculture in Thailand was only 8 percent, while it was about 20 percent from rural non-farm activities; the rest came from urban economic activities. These figures provide the rural-urban gap: 25 percent of agricultural workers create about 8 percent of GDP, 25 percent of rural workers (in non-agriculture) create about 20 percent of GDP,

and 50 percent of urban workers create about 73 percent of the GDP. The rural non-farm jobs are therefore more productive than agricultural activities, but currently less productive than urban jobs. These facts are reflected in earnings as well. Workers in urban areas earn more than those in non-agricultural rural jobs, and farm workers earn the least.

For Vietnam, data pertaining to 1997–98 show that about 56 percent of the total workers were engaged (as self-employed) in agriculture, 15 percent in farm as well as non-farm activities, 5 percent in non-farm activities only, 2 percent in farm, non-farm and wage activities, and the rest in wage activities and combinations of farm and wage activities. Non-farm jobs therefore are taken up by about 20 percent of the workers on either a full-time or part-time basis. A temporal comparison in rural areas shows that about 44 percent of the new jobs created between 1992–93 and 1997–98 were in non-agricultural sectors. The size of non-farm employment in Vietnam is small compared to that in Thailand, but comparisons across any of the countries cannot be certain due to different definitions used by the data. A basic assessment, though, shows a much smaller proportion of workers in agriculture in Vietnam compared to that in Cambodia or Laos.

The contribution of agriculture to total incomes in rural areas of Vietnam, in the late 1990s, was about 59 percent, implying that up to 41 percent of income in rural areas came from outside farm activity. Rural non-farm activity in the year 2000 was valued at about 40,000 billion Vietnamese dongs ($2.6 billion), and its annual growth rate was about 9 percent. These income figures bear out the significance of non-farm activities, much more than the employment data would suggest.

In Vietnam, unlike elsewhere, there are full villages engaged in non-agricultural activities. These villages are christened ‘handicraft villages’. Villagers in them have largely discontinued growing rice, and are engaged in a variety of non-farm jobs. Some typical manufactured products include, home appliances, steel rolling, wood processing and furniture making. These activities are not natural resource based, nor are they in agro-processing.

Data in this section are drawn from diverse sources, and often do not permit comparison across countries. Yet, they do suggest that in Cambodia and Laos, non-farm activities are largely of natural resources origin, while in Thailand they are mainly in the modern sectors. Vietnam also has modern industries in its rural areas.

1.7 Internal Functioning of Rural Non-farm Sector Enterprises

To understand the internal functioning of small rural non-farm enterprises, each country in this study conducted small-sample field studies. These surveys were

conducted to suit country settings, and are therefore, not necessarily entirely comparable with one another.

In Cambodia, as in Laos, most rural non-farm/off-farm enterprises are rather small, consisting of the owner and their family, with one or two workers employed in only a few cases. There are, of course, exceptions found in Cambodia, for example in brick making, and some in fish catching and processing; such exceptions were also found in Laos. Many of these activities are seasonal, providing jobs for only a few months in a year. Wages paid to workers across industries, in these two countries are at subsistence, which is a reflection of the labour market rather than worker productivity.

Enterprises in both Cambodia and Laos usually have a small capital base, rarely exceeding a few hundred US dollars. In Laos, the fixed capital per enterprise appears to be a little higher than that in Cambodia, but this could be a reflection of the choice of the sample enterprises. In fishing and fish processing — an industry that was surveyed in both the countries — the capital outlay appears to be similar. To create one job in the non-farm sector requires no more than $20–100 in fixed investment in these countries.

The production per unit of capital deployed is large. In some cases, the capital can be rotated more than once each year (*i.e.* the output/capital ratio is greater than one), making these enterprises very highly 'capital-efficient'. The value added as a proportion of production is large in each case; in some, it could exceed 90 percent. Similarly, the profit to output ratios are very high (greater than 50 percent), and so are the profit to capital ratios (greater than 100 percent). Such large ratios suggest that almost all value is added by the application of labour alone, very often personal or family labour. However, the output/labour ratios (labour productivity) are small, which is a reflection of the high labour intensity on the one hand, and small size of operations on the other.

There is an acute shortage of fixed capital. Since these enterprises are still unproven, they have no access to capital from institutional sources. Fixed capital is obtained from personal resources while working capital is obtained from, either moneylenders or traders or again by using personal resources. Entrepreneurs operate with makeshift machinery, often embedding obsolete technologies. The logic of choice of machines is the ease with which they could be repaired, rather than efficiency. In some cases, the prime movers are human labour. Consequently, in their present form, small rural enterprises are excessively dependent on personal and family resources, principally labour.

In Thailand, the field studies collected data from cottage and small enterprises, and not larger industries, to highlight the problems and issues of these types of enterprises. These enterprises include tailoring/garment, woodcraft, mat making, pottery, and food processing. Data suggests that the entrepreneurs use simple machines, at times self-made. By definition, the

technology used continues to be rudimentary, and so is the capital equipment. Data also suggest that the technology has stayed unchanged for at least two decades. Entrepreneurs have little access to institutional loans; instead, they rely on personal funds. Most workers are household members who have mainly learned the skills of doing business from their parents.

Despite this situation, these enterprises boast superior quality products — mats, carved wood, pottery, rice wine — as their designs and quality of workmanship are unique. Since much of the cost is incurred from within the household's resources and a large portion is input rather than paid out, the products enjoy a cost advantage. A few enterprises have also found synergy with some government outreach programmes.

The Thai country paper suggests a number of measures to upscale activities in the cottage industry sector. These include upgrading skills, improving the outreach of government programmes, further improving the quality of products, better market integration, and better financial access.

In a comparative perspective, it is seen in this sample that while the endowment structure and style of the Thai, Cambodian and Lao industries appear similar, the skills and market integration of the Thai industries appear to be higher than either the Cambodian or the Laotian industries.

The Vietnam case study has surveyed enterprises in the so called 'handicraft villages', where the majority of the workers have taken up non-agricultural instead of agricultural activities. The average size of enterprises here are larger than those found in the surveys conducted in other countries. The average worker strength is six or seven, with a visible presence of hired workers, and an average capital size per enterprise of $20,000. The average wage exceeds a dollar a day at about $1.40. Hired workers are both skilled and unskilled, with the skilled being paid a higher rate than the unskilled. However, facilities to formally impart skills remain few.

The technology is mixed, being mainly a combination of manual and mechanical processes in iron works, and principally manual in the other two processes studied (ceramics and furniture). Fully mechanised processes are found only in some iron works. Yet the labour intensity is not high: about $3,000 needs to be deployed to create each job. Interest rates for credit in Vietnamese banks, though, are much lower than in Cambodia or Laos, which is a reflection of a mature, diversified, formal banking system. However, as in the other countries, the main source of capital remains personal funds; bank loans are available only in about one fifth of cases. In most cases, acute shortage of finances was reported.

As with more established manufacturing firms, rural enterprises in Vietnam show balanced figures of value added. The value added to output ratio is about

41 percent in ceramics, 18 percent in furniture, and 22 percent in iron works. Similarly, the value-added to capital ratios are in the range of 40–45 percent; they do not exceed 100 percent, as seen in Cambodia and Laos. Profit on sales is about 13 percent, which is again comparable with figures on profitability in large, urban-based industries. In short, these rural industries are more akin to their urban-based counterparts, rather than having peculiar characteristics, as seen in the other countries.

It may not be completely correct to say that industries in the different countries are very varied. Nevertheless, to say that the decentralised sector is homogeneous would be equally erroneous. Instead, it might be more accurate to say that the samples in this study present a mosaic of the kinds of industries that exist in the decentralised sector in rural areas of Southeast Asia. On average, though, *all* the industries show viability and a promise of growth.

1.8 Markets and Market Linkages

In Cambodia, rural producers are generally isolated from the larger markets due to their small size and poor infrastructure. Poor transport facilities add to this seclusion. Therefore, many only produce for local markets, though some products (fish, pottery and handicrafts) have export links. A large number of intermediaries, including merchants and transporters, in addition to the final consumers, influence the product prices. A few key players in the market chain are city-based merchants and exporters.

Characteristic to small producers in developing countries, small rural producers in Cambodia suffer from lack of control over marketing and price mechanisms. Traders, intermediaries and merchants, who possess money and a monopoly position, profit a great deal. It must be recalled, though, that traders are not a homogeneous entity. There are ‘dominant’ and ‘dependent’ traders among them. The more monied in the trade chain exercise maximum control.

In *Laos*, producers face a similar kind of market as in Cambodia, with the difference that their products are not linked to larger markets to the same extent. Some products in Laos are solely for local consumption. As a country, Laos is still quite isolated, and despite the fact that it produces fish, handicraft and pottery, these items are only linked to the international markets to a miniscule extent. The trade margins obtained by the traders and merchants over the prices obtained by the producers in Laos are large, but smaller than those in Cambodia.

It is important to mention that linking up with larger markets would be advantageous to all. However, if producers are scattered across the country and if a small number of merchants control the output and factor markets, their monopoly-like position denies the local producers a legitimate share.

Markets in Thailand are more pervasive than markets in Cambodia and Laos, and they reach out into the hinterland much more than in other countries in the region. Thai market infrastructure is also better developed; additionally local purchasing capacities create markets at multiple outlets for these products.

Manufacturers in Vietnam, as elsewhere, are dependent on traders for marketing, though the extent of dependence is product-specific. For instance, traders play a larger role in ceramics and furniture manufacture than they do in iron products. In fact, linking products to larger markets for the producers is not so much of a problem in Vietnam, as its infrastructure is relatively well developed. Whether a product is consumed locally, or elsewhere, depends much more on the type of product.

Markets and linkages are serious problems in Cambodia and Laos and much less of a problem in Thailand and Vietnam. An advantage that the producers enjoy in the latter two countries is the relatively large purchasing capacity of consumers in rural areas.

1.9 Existing Public Policies

Not all countries have recognised the importance of a diversified rural sector to the extent they actively promote rural non-farm and off-farm activities. The transitional economies are still developing into a market system in which the private sector could well drive small-scale economic activities

Cambodia only completely ended a devastating, decades long civil war in 1998, and for a good part of the 1990s was focussed on instilling measures that would stabilise the economy and establish basic institutions of regulation and governance. In Laos, economic institutions have been slow to evolve, mainly because of a limited expansion in infrastructure. In both Laos and Vietnam, the previous system of centralised control continues to be highly entrenched; as a result, introduction of alternative ideas into the development process is not smooth. For instance, it is not easy to popularise the idea of strengthening rural enterprises of the $100–200 size, when policy makers are in the habit of planning individual investments worth several million dollars. In this regard, Thailand is different since it was never a centrally planned economy.

Cambodia's efforts at promoting the rural non-farm sector are restricted to having policies aimed at regulating the fisheries sector for mainly historical reasons, and creating a central facility to finance (and refinance) micro finance institutions engaged in rural lending. Implicit in the policy regime is the belief that the country would like to develop as a market-oriented economy, and any activity that survives in the market will grow. No special effort, therefore, needs to be made for the promotion of the rural non-agricultural economy. Even in fishing, critics feel that there is little effort to pull the sector away from a

centralised management structure, toward a more market-friendly and ecologically sustainable framework. In other sectors, the principal spearheads are international aid agencies (including NGOs) that have helped in technological upgrading, financial assistance and marketing for selected activities (for example, silk, pottery and handicrafts). However, since these efforts are not nationwide, the policies are accordingly localised and limited in their impact.

Laos has drawn up a broad-based strategy for development, in which rural development, infrastructure development, human resource development, and services development are explicitly mentioned. The main strategy for direct assistance to the rural non-farm economy is expected to come from rural development programmes, where plans for the promotion of family economy, direct income generation programmes, rural finance, and small and medium industry (SME) promotion have been formulated. The text of the policy does not mention individual activities by name, but it underscores the need to encourage a broad based rural economy, in which both agriculture and non-agriculture must grow. The operational elements of the plans, are little evolved however, and grossly under funded, which is the reason why the scheme is currently less than effective.

In contrast to the SEATEs, Thailand has promoted its rural non-farm sector for at least three decades. Currently, there are two broad approaches that are being enforced, creation of an environment for non-farm activities to grow (*i.e.* the macroeconomic environment), and provision of direct support for rural diversification. Some programmes that find specific mention are, rural enterprise development, micro credit and savings schemes, SME schemes, and promotion of high potential business (*e.g.* tourism and agribusiness). Among the more popular approaches to rural enterprise promotion is the development of 'one village one product' (the *Tambon*).

The different promotional measures for rural non-farm enterprise promotion are,

1) Establishment of one-stop services;
2) Networking of SMEs to raise their bargaining capacity;
3) Technology transfers, effected through conditions attached to foreign investments;
4) Technological support through national technology institutions;
5) Marketing support;
6) Provision of finances; and
7) Tax concessions.

The policy framework in Thailand is more developed than in Cambodia and Laos, in both formulation and implementation. Nevertheless, it has its detractors; they find that the policies are not all encompassing and that they are, to an extent duplicative. This criticism comes in the wake of the financial crisis, which sent a large number of workers back to rural areas, posing a huge burden on the rural economic system.

The Vietnamese Communist Party's Ninth National Congress emphasised the importance of accelerating the development of non-farm activities in villages, and made a special mention of the need to promote growth of handicraft villages. The government has amended a number of laws including, for example, the business law, cooperatives law, land law, law of promotion of domestic investments, and the labour code with a view to seeking improved private sector partnership.

In recent years, the banking sector has expanded at a rapid pace; as a result, it is able to provide a range of services in lending and mobilising resources. Infrastructure has also expanded: there are more roads now, rural electrification has expanded, and communication services (including telecommunication) have improved. The decentralised sector is being encouraged through a variety of measures like marketing support, financial support, tax relief, and export promotion.

Notwithstanding the developments, the policy has a long way to go, as the skill levels of rural workers is low, and installed technology is of an older vintage.

1.10 Conclusion

The broad results of the primary and secondary data analysis of this study, suggest that countries that have achieved high levels of growth in agriculture and infrastructure have achieved considerable occupational diversification, while those that have been able to achieve only modest progress in agriculture, have limited diversification restricted to the natural resource-based sectors. Does this mean that the best strategy for job creation in rural areas should begin with agricultural and infrastructure development?

This research report maintains a non-conformist position. While agricultural intensification and infrastructure development are central to any development strategy, the gains from their development would be best utilised if an active policy of non-farm sector growth is simultaneously pursued. Next, it needs to be noted that the countries, which are more backward in this sample, have also experienced a different history. Furthermore, they have always possessed a different demographic structure. Each of these facts negates a cross-country comparison. Last, part of the reason for placing faith in a proactive policy for

non-farm sectors stems from the fact that low performance (in different countries) is also accompanied by half-hearted policies; conversely, policies that have been well meaning and genuinely implemented, have a positive impact.

What then are the lessons learnt? There is no denying that rural non-farm sectors employ millions across these countries, and create millions of dollars worth of goods and services; and that this share is rising at varying rates in different countries. Therefore, the commitment to provide proactive support — technology transfer, marketing, and finances at normal interest rates — should not be a matter for debate. The other aspect is infrastructure creation in rural and suburban areas. In this regard, maximum effort should be made to create growth centres in rural areas. Finally, agriculture, as the basic source of growth should be top on the priority of investments. Certainly, to suggest that both agriculture and non-agriculture must grow, is easier said than done, keeping in view the size of the problem and the limited savings that these countries have been able to mobilise, other than perhaps Thailand. However, since at least Cambodia and Laos remain highly aid-dependent (15–20 percent of GDP), a focus of most of the aid towards infrastructure and agriculture could reap huge potential benefits.

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Chapter Two
Off-farm and Non-farm Activities and Employment in Cambodia[1]

Sarthi Acharya, Kim Sedara,
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2.1 Introduction

At the time when the Cambodian economy opened-up in the early 1990s, Cambodians were principally engaged in subsistence agriculture and its allied activities which included forestry and fishing. The majority of the workforce still works in rice fields in the wet season and they engage in fishing or timber collection in the dry season. As a very large proportion of the population is concentrated in areas around the Tonle Sap and the Mekong river basins, most people have access to fish resources. In the uplands, people have historically relied on forest resources in addition to wet season cultivation, though forest resources are important for communities elsewhere in the country as well.

After the restoration of peace in 1992–93, the economy grew rapidly in double digits between 1992–97, and reasonably well between 1998 and 2001, with the average growth rate exceeding 5–6 percent *per annum* for the decade ending in 2001. There has been some significant diversification in the production base, with over 200 garment factories set up through the 1990s. Some noteworthy investments in hotels, construction activities and the communications sector have also been recorded. Cambodia has successfully joined ASEAN, and is well on its way to join the WTO by 2005. Tourists visiting Cambodia have increased in number each year, despite the recent slowdown in the international economy. Major cities have become bigger, and their infrastructure facilities have been developed. The three centres that have expanded the most are Phnom Penh, Sihanoukville and Siem Reap.

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[1] The authors acknowledge their gratitude to all the respondents who found time to patiently answer all the questions posed to them. They also thank the government and NGO officials who granted interviews and gave information to the research team. So Sovannarith, Pon Dorina and Tuy Chak Riya provided leadership in the fieldwork — some very special thanks are due to them. Finally, the authors are grateful to Eva Mysliwiec and Dararith Kim Yeat for providing logistic support and flexibility in conducting the study.

A major problem that nevertheless continues to plague the economy is the rather narrow occupational base. Despite the rapid growth mentioned above, jobs created outside subsistence agriculture have remained few. The country's total labour force in 2001 has been estimated at 5.63 million. Out of these, 4.35 million (77.26 percent) are engaged in agriculture. The size of the formal sector labour force (*i.e.* where wages are regulated) is only about 5 percent of the total workforce, or about 0.28 million. This picture has been virtually unchanged through the 1990s. Of about 200,000 joining the labour force each year, only about 15,000 get formal sector jobs; the rest have to accommodate themselves in the informal sectors, essentially subsistence agriculture. It is not surprising that an annual growth in the national income of over 6 percent per year (1993–99 average) reduced poverty by a mere 3 percent through this whole period.[2] The task of extending decent working conditions to the existing and emerging workforce is certainly a significant challenge.

Cambodia presently faces several problems that inhibit it from addressing rural poverty and unemployment. First, new economic activities are not growing in a way or at a scale that can affect the employment structure.[3] Wherever jobs are being created, they are almost exclusively in urban areas.[4] Next, local savings are not large or stable enough to finance and sustain activities outside agriculture. The alternative is foreign capital, but this cannot become the exclusive engine of growth. Third, investments, whether local or foreign, require adequate infrastructure and trained local human resources, at reasonable prices. Last, there is the issue of weak governance, which needs considerable development. All these problems indicate the need to hasten a reform process, and to initiate or support activities that have a high employment potential, are regionally dispersed and require relatively small doses of capital to flourish.

One of the proposals currently in vogue in international forums is to upscale activities in the informal sectors in rural as well as urban areas.[5]

Diversification of occupations in rural areas has many advantages, and there is extensive literature that elaborates these gains (Saith 1992; Islam 1983). However, up-scaling informal rural sector activities (off-farm and non-farm activities), requires their identification, strengthening their technological economic base, and the creation of market channels.

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[2] For every 10 percent growth in the national income, poverty reduced by a mere 1.4 percent (Acharya 2001).

[3] The garment industry has created the largest number of formal sector jobs. Between 1993 and 2001, about 200,000 jobs were created, but this employment is only a little over 3 percent of the employed workforce. The wage bill is not high enough to radically influence rural expenditure structure.

[4] In contrast, over 80 percent of the population resides in rural areas (RGC 1999). Jobs are therefore not being created where there is need.

[5] The International Labour Organisation has led the debate. See ILO (1999); ILO (2000); ILO (2001)

This paper is written in the spirit of identifying the problem, in the sense that it tries to identify the size and shape of off-farm and non-farm activities rather than suggest ways to upscale them *per se*. This is because there are no recent surveys or establishment censuses, conducted in Cambodia.[6] Comprehensive sector reports on activities other than large-scale manufacturing and tourism have yet to be undertaken. There is a paramount need to conduct a detailed establishment census and, in a small way, this paper is a precursor to this. In Section 2.2 this paper will attempt to trace the historical and factual basis of different non-farm and off-farm activities that have existed in the country. Section 2.3 examines the existing data as obtained from secondary sources to paint a picture of contemporary non-agricultural activities. Section 2.4 details the status of rural industries in Cambodia as collated from field studies conducted here, and supplemented by existing literature on specific industries. Section 2.5 presents a discussion on financial and economic parameters, based on surveys of 276 enterprises in seven industrial groups. Section 2.6 discusses the market linkages of these enterprises. Section 2.7 presents a synopsis of existing policies, including those on training. Concluding remarks are made in Section 2.8.

2.2 The History of Off-farm and Non-farm Activities

2.2.1 Early History

Cambodian society traditionally possessed a vast array of skills in civil engineering, earth moving, water harvesting and transportation well over a thousand years ago, as is witnessed from the ruins of Angkor (Rooney 2000). There is also adequate evidence to suggest that the society had mastered the technology of metal smelting and moulding coins, human shapes and utensils as early as the first millennium of the Christian era. Transportation methods, which could move bulk cargo, particularly very large stone boulders and water, were developed, which facilitated the construction of Angkor and its mammoth structures. Additionally, the architecture of Angkor suggests that the early Khmers, possessed knowledge of astronomy, geometry and other branches of mathematics. It is not clear whether they actually used these skills for developing non-farm activities, but the little evidence that exists, suggests that the skills were almost exclusively devoted to construction of temples and its fortifications in addition to building large civil engineering works for water transportation. Further, given the fact that the medieval Khmer kingdoms spanned well beyond the present boundaries, the skills were perhaps put to use

[6] The last countrywide Establishment Census was conducted in 1995. In that, only the relatively larger establishments were covered. Not much is known about the recent survey being conducted by the Ministry of Planning with assistance from Asian Development Bank (ADB) other than the fact that it also concentrates on relatively large establishments in urban areas.

for making weapons, mass transport equipment, food processing and harnessing draught animals.

2.2.2 After the Angkor Period

Not much is known about Cambodian history between the fall of Angkor in the 14th century and the 19th century. Chandler (1993) and Tarling (1999) suggest that in the early-mid 19th century, Cambodia was ravaged by famine, and invading armies. As a result, it became less populous.[7] People predominantly lived in rural areas and earned their living through rice farming. Ethnic minorities such as the Chinese, Sino-Khmer and Chams managed marketing, non-rice garden farming, weaving, and commercial fisheries (Willmott 1977). Accounts of trade in the 19th century suggest that international trade was restricted to such agro-based and animal-based commodities as ivory, pepper, cardamom, hides and wood, and this was in small quantities.[8] Perpetual wars, natural disasters, and population movements appear to have taken their toll in the form of deskilling the society and reducing it to subsistence farmers. To quote Chandler on Cambodia in the early-mid 19th century,

> *"Unlike Burma and Laos, its soils contained fewer gems or precious metal. Unlike Siam its manufacturing, trade, and commerce were underdeveloped, and finished goods, like brassware, porcelain, and firearms, came from abroad. Unlike Vietnam, its communications were poor and internal markets underdeveloped... Cambodia had a subsistence economy; most of its people spent most of their time in growing rice."(pp. 100-101)*

The seat of governance in the 19th century was at Udong (30 km north of Phnom Penh). The kingdom, however, extended little beyond the city. Farmers paid taxes irregularly, often on demand or coercion, and seldom interacted with people outside their villages. The population in urban areas were constituted mainly of merchants (almost exclusively of foreign origin), the army and royalty. In this sense, it is safe to conclude that there was no noteworthy state patronage to art, culture, or institutions of learning, which might have provided the necessary encouragement for non-farm activities to evolve as has been found in many other Asian countries.

Much of the remarkable technological prowess of the Angkor era was lost in the mists of time. By the 19th century, perhaps only in the Kompong areas[9]

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[7] These sources maintain that the population of Cambodia in the 1840s did not exceed one million.

[8] The geopolitics of that time did not permit trade to expand, which otherwise might have brought in newer development options in the country. *In effect*, Cambodia was cut-off from the rest of the world.

[9] Kompong areas were distinct from the hinterland — they were situated on water banks and residents here were engaged in trade and transport (Acharya and Chan 2001).

did communities retain some skills in inland navigation, boat making, fish processing, some food processing, and spinning and weaving, in addition to growing rice. Beyond this, little else existed.

2.2.3 The French Colonial Period (mid-19th Century to Mid-20th Century)

Unlike in most other colonies, the French did not maintain detailed records of the social and economic events in this country (Chandler 1993). In fact, apart from Vietnam, the French maintained few records on its other Southeast Asian colonies. What exists, are some records on agricultural exports, taxes and revenues and budgets. To again quote Chandler,

> *"On rare occasions when French writers looked at Cambodia's economy, they related it to the rest of Indochina, particularly in terms of export crops and colonial initiatives, like public works," (pp. 139)*

Written accounts of French travellers in the 1850s, 1860s and 1870s suggest that in the area known as Kompong Cham today, the cotton crop was extensively cultivated (de Carne 2000; Mouhot 2000).[10] Records also suggest that cotton processing ginning, spinning and weaving were not alien to Cambodians. As will be seen below, cotton was grown in Cambodia until as late as 1950. It appears that cotton cultivation was discontinued as late the 1970s, though official records are not explicit on this point. While much of the cotton in later periods may have been grown for export to neighbouring countries, people's skills in spinning and weaving methods surely survived. Remnants of cotton processing can also be observed today, in the form of handlooms and semi-automatic looms in the same areas: Kompong Cham, Takeo and Prey Veng provinces. Ironically, these weaving operations today use imported yarn; the cultivation of cotton crop has not revived.

Fishing activities were commercialised well over a century back. The Crown rented out large aquatic areas for a year or two to contractors, who in turn hired workers or sublet their catchment areas to locals for fishing. The French modelled their taxation system on the same system of leasing out fishing areas. Not all landed fish could be marketed fresh, and a considerable amount was dried, salted, or fermented. Petillot (1911) estimated that, in 1909, about 50,000 tonnes of dried or salted fish were exported. Later estimates, for the 1920s and 1930s, show that about 25,000 tonnes of dried fish were shipped out of Cambodia. Given that dried fish weighs a third of the fresh fish, this corresponds to 75,000 tonnes of fish. Estimates for the 1940s suggest that annual production

[10] These books were originally published in French in the 19th century. References quoted here are English translations, now brought out.

could then have been in the range of 120,000 tonnes (van Zalinge, Nao, Touch and Deap 2000). Despite the richness of the resource, neither the French nor the Crown kept a systematic record of fish catch or its export. Further, the consolidation and modernisation of the industry was never on the agenda.

However, during the French colonial period there was a significant growth in urbanisation, and the establishment of transportation and communication systems in addition to electrification. Railways and metalled roads came into existence. A number of Cambodians travelled to France for higher education, as well. All this provided a basis for the modernisation of at least the capital city, Phnom Penh, and a few other towns: particularly, Sihanoukville and Battambang, Kompong Cham and Siem Reap.

There are no simple explanations to the low evolution of non-farm activities in Cambodia. In most societies, non-farm activities have emerged because of higher agricultural productivity, which permitted the release of labour from farming operations, and at the same time financed these operations. In Cambodia, agricultural productivity was never very high. The *extensive* (or swidden) nature of agriculture, excessive taxation of agricultural products, and the politically nebulous situation, did not permit land or labour productivity to grow. Low agricultural productivity forced all in the community to work the land for subsistence. There was therefore, neither impetus nor resource to promote or support non-agricultural activities. Additionally, the non-availability of technologies for want of state patronage contributed to this *status quo*.

2.2.4 From 1953 until the 1980s

By the 1940s, the country had acquired a small industrial base. A government report produced in 1958 says that before 1955, there were 369 small and medium industries operating in Cambodia. In 1958, the number exceeded a thousand: 985 new enterprises were created between 1955–58 alone. These included, an assembly facility for Two-Horse-Power Citroen cars (producing 720 units a year), a plant for assembling motorcycles, two scooter factories, an assembly plant for sewing machines, six aerated water plants, 11 soap factories, six mechanised weaving factories, two paper mills, one sugar mill, two chemical plants, and one food canning factory (KOC 1958). Data from a five-year plan drawn up for the period (1960–64) also show that the country at that time was producing such products as cotton, jute, rubber, plywood, silk and paint, and planned to produce steel during the 1960s (KOC 1960). The period 1953–64 has been characterised as one where private investment was taking roots, though steel production could never materialise (Sok and Acharya 2002). In terms of human capital, a medical college and some technical training institutions were set up under the aegis of the government.

This list may appear impressive, given that the 1930s and 1940s reveal no such production or training capacities. Almost all of these activities, however, were located in urban areas principally Phnom Penh, and to a limited extent, Sihanoukville. It is also true that a very large majority of the people continued to live in rural areas and earned their living through subsistence agriculture. The available census of that time, *The Census of Cambodia 1962*, does not provide an occupational distribution of the workforce. However, data on the rural-urban distribution of the population from the census (revealing greater than 80 percent rural population) and electricity generation in the late fifties (less then 10 megawatts, mainly in Phnom Penh) (KOC 1960), suggest that rural industrialisation or occupational diversification was minimal at best, limited to fishing, fish processing, some agro-processing, non-mechanised weaving, and the like.

Turmoil began in the late 1960s, with Cambodia increasingly falling under the shadow of the Indo-China War on the one hand, and on the other economic stagnation originating from policies extant at that time. The period from 1970 to 1990 has often been referred to as one where there was turbulence and civil war. During 1975–79, the Khmer Rouge period, almost all non-rice activities were brought to a standstill. Very large numbers in the population were separated from their skills during the huge and tumultuous population relocation and reassignment of work.

After 1980, some activities under the cooperative sector (the *Krom Samki*, typically rice milling and other food processing) began to re-emerge (Rozemuller 1998), in addition to a nascent private sector that began to grow in urban and semi-urban centres. Some cotton processing activities (perhaps along with the revival of cotton cultivation) were initiated in Kompong Cham in the 1980s with Soviet aid, but the insecure situation did not permit the endeavour to take root; they were soon discontinued. By 1985, there was widespread street vending, petty marketing, and some light consumer goods manufacturing, though again concentrated in urban and semi-urban areas. Large-scale industrialisation only began in the 1990s (Sok and Acharya 2002).

2.2.5 Summary

Historically, Cambodia does not have much to draw upon in terms of occupational diversification. For one, the gains made in the earlier civilisation were lost, and second, the small gains made during the early-mid 20th century, were lost during the turbulent decades of the 1970 and 80s.

2.3. Occupation Diversification in the 1990s

Some information on the diversification of industrial activities can be deciphered from two of the four large-scale surveys launched in the 1990s. The two earlier

Socio-Economic Surveys (SES) of 1993 and SES of 1996 could not be used since data on industrial distribution of activities were not tabulated. Detailed two or three-digit data on industrial distribution of the workforce can be obtained from the SES of 1997, the Census of Cambodia 1998 and the SES of 1999. Next, it is possible to obtain a two-digit level industrial classification of workers from the Labour Force Survey of 2000. However, given the limited sample sizes of the SES of 1997 and 1999 (about 6,000 households), it is best if data from them are not disaggregated beyond a two-digit classification, or regionally. For a three-digit or regional analysis, the Census of Cambodia is the only reliable source.

A word about the definition of rural and urban also needs to be mentioned. In international parlance, an area is classified as urban if it simultaneously meets certain criteria: population density (greater than 500 persons/square kilometre), population size (more than 5,000 persons), and occupational base (higher than 75 percent non-agricultural). All other areas are classified as rural. In Cambodia, an administrative definition is used instead, according to which a district in which the administrative headquarters are located is urban, and all other areas are classified as rural. Next, four cities, namely Phnom Penh, Sihanoukville, Kep and Pailin, are classified as urban, despite the fact that large parts of the last three are essentially rural.

Keeping in view this anomaly of definitions on the one hand, and the reality that Cambodia is predominantly an agrarian economy on the other, the analysis in this section is not restricted to areas defined as 'rural' alone; instead, a substantial part of the analysis is based on grouped (rural and urban) data.

2.3.1 Analysis of the Distribution of the Workforce, 1997–2000

Table 2.1 presents data on industrial classification of the workforce in Cambodia at four points of time, 1997, 1998, 1999 and 2000. This table is drawn up for the whole country as well as for rural areas (figures for rural areas are shown in the lower section of the table). A very large proportion of workers — more than 70 percent — are concentrated in the agricultural sector for the country as a whole; for rural areas, the figure is even higher, between 75–80 percent. The only other industrial groups that show some visible concentration of activities (more than 1 percent of total employment) are fishing, food processing, construction, retailing (sales and services), transport activities (land and water), education and public administration. All industry groups, whose share in the workforce was less than 1 percent over the four years, are grouped together under 'others'.

Next, data suggests a gender-specific clustering of workers in many industry groups: there are more female workers in food processing, apparel industry and retailing, while in fishing, transport and public administration, there are more male workers. In jobs where heavy labour or extensive travel is

required — fishing, construction, transport — there is more male labour.

There is not much difference between rural and urban areas in the distribution of workers by industry groups, when seen at a two-digit disaggregate level (except in rural areas where a larger proportion of workers are engaged in agriculture and some industry groups are virtually non-existent). Therefore, occupational diversification is rather small in rural areas as per these data. There is a higher concentration of female workers in agriculture than male. As elsewhere in developing countries, the main reason is the relatively low occupational and geographic mobility of female workers. Consequently, female workers are concentrated in higher numbers in relatively low productivity options.

A comparison of the occupational trends across different years is problematic because of non-comparability of data. The total number of workers, was 4.2 million for the SES-1997, it was 4.8 million for the Census of 1998, 5.6 million for the SES-1999 and 5.2 million for the Labour Survey of 2000. The data are not exactly comparable across the years, one of the reasons being the different coverage.[11] Further, each survey has had its own definitions and instruction manuals, which were not necessarily synchronised with the other. Third, for 1997, 1999 and 2000, data were drawn from sample surveys while the 1998 data are census based. Data from the sample surveys might have some small sample biases at the disaggregated level. Fourth, in the sample surveys, the workers covered belong to 10 years and above age groups while in the census all workers aged 5 years and above have been covered, further contributing to incomparability. Last, the industrial classification of workers in the Labour Survey is not as meticulous in the other surveys (where jobs are classified as being primary, secondary, etc.). This is yet another point of incomparability.

[11] The SES-1997 left out at least three large provinces in the north-west for security reasons. The Census claims to have covered over 90 percent of the country. SES-1999 seems to have covered over 95 percent of the country. Coverage details of the Labour Force Survey of 2000 are not known.

Table 2.1 Percentage Distribution of Workers, two-digit Industrial Classification for 1997, 1998, 1999 and 2000

Industry	SECS 1997			Census 1998			SECS 1999			LF 2000		
Group	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both Sexes	Male	Female
01. Agriculture, Hunting & Related Service Activities	70.03	66.08	73.74	75.57	69.0	81.8	72.31	68.46	75.83	70.09	67.07	72.88
02. Forestry, Logging & Related Service Activities	0.70	0.85	0.56	0.14	0.2	0.08	1.63	1.99	1.3	0.85	0.93	0.76
05. Fishing, Operation of Fish Hatcheries, Farm				1.47	2.0	0.89	2.1	3.31	0.99	2.79	4.42	1.28
15. Manufacture of Food Prods & Beverages	1.16	1.41	0.93	0.34	0.4	0.25	1.22	1.26	1.18	1.53	1.56	1.51
17. Manufacture of Textile	1.07	0.43	1.67	0.27	0.0	0.46	1.15	0.48	1.77	0.88	0.49	1.25
18. Manufacture of Wearing Apparel	0.84	0.22	1.43	1.09	0.3	1.83	1.98	0.6	3.23	3.45	0.7	6.01
20. Manufacture of wood and wood Products	1.39	1.81	1	0.35	0.5	0.13	0.27	0.53	0.03	0.05	0.1	0.01
45. Construction	1.69	3.01	0.46	0.93	1.6	0.23	1.4	2.56	0.34	1.32	2.4	0.32
50. Sale, Maintenance & Repair of Motor Vehicle	2.42	3.6	1.31	0.53	0.9	0.13	0.29	0.5	0.09	0.49	0.79	0.21
52. Retail Trade, Except of Motor Vehicle	9.19	4.56	13.54	6.23	3.5	8.75	7.05	3.33	10.45	7.17	3.84	10.25
60. Land Transport, Transport via Pipelines	1.59	3.17	0.11	2.22	4.1	0.42	1.59	3.3	0.04	1.85	3.73	0.11
75. Public Administration & Defence	3.24	5.79	0.84	4.54	8.5	0.75	3.21	6.11	0.57	2.79	5.28	0.48
80. Education	1.37	1.86	0.92	1.66	2.2	1.1	1.53	2.21	0.91	1.66	2.27	1.09
95. Private Households With Employed Persons	1.19	1.24	1.15	0.21	0.2	0.25	0.63	0.66	0.6	0.64	0.68	0.6
Others	4.12	5.97	2.34	4.45	6.54	2.93	3.64	4.70	2.67	4.44	5.74	3.24
Total	100	100	100	100	100	100	100	100	100	100	100	100

(Rural)

01. Agriculture, Hunting & Related Service Activities	79.96	76.7	82.91	82.76	77.3	87.63	77.74	74.53	80.63	75.85	73.29	78.17
02. Forestry, Logging & Related Service Activities	0.75	0.93	0.59	0.11	0.1	0.07	1.76	2.17	1.38	0.86	0.96	0.77
05. Fishing, Operation of Fish Hatcheries, Farm				1.47	2	0.89	2.1	3.31	0.99	2.79	4.42	1.28
15. Manufacture of Food Prods & Beverages	1.03	1.37	0.72	0.26	0.3	0.19	1.34	1.24	1.03	1.53	1.57	1.49
17. Manufacture of Textile	1.2	0.52	1.8	0.29	0	0.49	1.2	0.46	1.86	0.97	0.56	1.34
18. Manufacture of Wearing Apparel	0.47	0.1	0.79	0.83	0.2	1.8	1.73	0.51	2.82	3.36	0.64	5.82
20. Manufacture of wood and wood Products	1.5	1.87	1.16	0.31	0.5	0.12	0.24	0.48	0.02	0.05	0.09	0.01
45. Construction	1.26	2.2	0.41	0.54	1	0.12	1.19	2.24	0.25	1.03	1.86	0.27
50. Sale, Maintenance & Repair of Motor Vehicle	1.82	2.84	0.9	0.3	0.5	0.07	0.17	0.33	0.04	0.3	0.46	0.16
52. Retail Trade, Except of Motor Vehicle	5.38	2.82	7.71	1.17	2.4	5.74	5.48	2.71	7.95	5.01	2.84	6.99
60. Land Transport, Transport via Pipelines	0.87	1.75	0.06	0.57	2.9	0.36	1.17	2.43	0.03	1.31	2.66	0.08
75. Public Administration & Defence	1.32	2.66	0.11	3.01	6	0.29	1.98	4	0.18	1.9	3.74	0.21
80. Education	1.1	1.66	0.58	1.42	2	0.81	1.32	2	0.71	1.44	2.08	0.84
95. Private Households With Employed Persons	0.94	0.9	0.97	0.09	0	0.1	0.44	0.43	0.45	0.61	0.71	0.52
Others	2.4	3.68	1.29	6.87	4.8	1.32	2.14	3.16	1.66	2.99	4.12	2.05
Total	100	100	100	100	100	100	100	100	100	100	100	100

2.3.2 Comparison: SES 1997 and SES 1999

It is believed that the two Socio-Economic Surveys of 1997 and 1999 could be somewhat more comparable than the other data sources since the samples were drawn from the same master sample prepared in 1993.[12] Effort is therefore made here to compare the absolute changes in the extent of employment in rural areas, by broad industry groups, disaggregated to a two-digit level, between 1997 and 1999 (Table 2.2).

Table 2.2 Employment and Employment Change by Industry Groups, Rural Areas 1997–99

Industry group	Workers 1997	Workers 1999	Change (%)
01. Agriculture, Hunting & Related Service Activities	2,770,703	3,815,151	38
02. Forestry, Logging & Related Service Activities	25,918	86,239	233
05. Fishing, Operation of Fish Hatcheries, Farm		102,994	
10. Mining of Coal and Lignite	201		
11. Extraction of Crude Petroleum & Nat Gas		1,163	
13. Mining of Metal Ores	300		
14. Other Mining and Quarrying	8,996	1,148	-87
15. Manufacture of Food Prods & Beverages	35,741	55,647	56
16. Manufacture of Tobacco Products	1,843	2,393	30
17. Manufacture of Textile	41,443	58,888	42
18. Manufacture of Wearing Apparel	16,138	85,118	427
19. Tanning and Dressing of Leather			
20. Manufacture of wood and wood Products	51,979	11,667	-78
22. Publishing, Printing & Reproduction of Recorded Media	477	1,283	169
23. Manufacture of Coke & Refined Petroleum Product	411		-
24. Manufacture of chemical and Chemical Product		845	
25. Manufacture of Rubber & Plastic Product	201		
26. Manufacture of Non-Metallic Mineral Product	2,399	8,961	274
27. Manufacture of Basic Metals	9,295		
28. Manufacture of Fabricated Metal Prod Excl. Machinery	1,150	6,332	451
29. Manufacture of Machinery and Equipment, N . E. C	859	1,603	87
32. Manufacture of Radio. Television & Comm. Equipment	1,961		
35. Manufacture of Transportation Equipment	874		
36. Manufacture of Furniture, Manufacture, N E C	913	3,201	251
40. Electricity, Gas, Steam & Hot Water Supply	350	1,130	223
41. Collection, Purification & Dist, of Water		651	
45. Construction	43,619	58,383	34
50. Sale, Maintenance & Repair of Motor Vehicle	63,140	8,549	-86

[12] A new Master Sample has been prepared from the Census of 1998. It is however yet to be put to use.

51. Whole Sale Trade & Commission Trade	3,714	1,294	-65
52. Retail Trade, Except of Motor Vehicle	186,522	268,735	44
55. Hotels and Restaurants	1,128	7,926	603
60. Land Transport, Transport via Pipelines	30,052	57,279	91
61. Water Transport	5,195	1,881	-64
62. Air Transport		6,260	
63. Supporting & Auxiliary Transport Activity	13,298	14,559	9
64. Post Telecommunication		2,072	
65. Financial Intermediation, Excl. Insurance	1,598	1,849	16
66. Insurance & Pension Funding		236	
67. Activities Auxiliary To Financial Intermediation	392	511	30
70. Real Estate Activities		446	
71. Renting Machinery Equipment W/O operator	1,215	719	-41
72. Computer & Related Activities	453		
74. Other Business Activities	1,394	3,234	132
75. Public Administration & Defence	45,727	97,404	113
80. Education	38,079	64,858	70
85. Health & Social Work	12,165	16,224	33
90. Sewage & Refuse Disposal, Sanitation	833	2,238	169
91. Activities of Membership Organisation, NEC	2,273	2,477	9
92. Recreational, Cultural & Sporting Goods	3,737	5,592	50
93. Other Service Activities	4,282	10,544	146
95. Private Households With Employed Persons	32,438	21,625	-33
99. Extra- Territorial, Organisations & Bodies	1,702	7,960	368
Total	3,465,112	4,907,269	43

Data in the last row of Table 2.2 show the total number of workers in the two years. In 1997, rural workers were estimated at about 3.4 million while in 1999 they were estimated at about 4.9 million. This increase of 1.5 million, equivalent to about 43 percent of the rural working population, is improbable within two years. There has not been that large-scale an influx into Cambodia, either from urban areas or from overseas to justify this difference. Clearly, the coverage of the two surveys leaves much to explain. Perhaps the multipliers (weights) used in one or both the sample surveys were incorrect, since none of these made use of the Master Sample drawn from the Census; instead they relied on the listing drawn up by UNTAC in 1993.

However, a bias in the population count, if *systematic* across industries, could still permit limited comparison. While it is impossible to determine whether the bias is systematic, some comparison is made under the assumption that *it is* systematic.

In the production sphere, a notable increase in employment (more than 100 percent) is observed in fishing, apparel industry, non-metallic mineral products, metal fabrication, furniture manufacture, electricity generation, and printing activities. Hotels and restaurants, sanitation related activities, and public services, exhibited a similar expansion in the services sector. In contrast, sectors

that faced contraction (as seen from employment data) are mining and quarrying, wood and wood products, sale and maintenance of motor vehicles, wholesale trade, water transport, renting machinery and domestic employment. In the former, apparel is clearly a favoured industry in the Cambodian context — it grew very rapidly during that period even in rural areas. Non-metallic mineral products (*e.g.* limestone) were in demand because of the expansion in the construction industry, and electricity, hotels, printing, furniture, and similar activities accompany a modernisation process. Since the economy grew by 5–6 percent during the late 1990s, this increase in demand is not unrealistic. Activities in wood and wood products exhibit a contraction, probably because of stricter government control over logging. Road transport appears to be replacing water transport — increased import of motor vehicles bear evidence to the fact that road transport is expanding fast. Lastly, as the development process expands, the number of domestic workers will decrease.

Overall, this listing is useful in identifying activities that have exhibited the potential to grow and those that have not. Not much more could be deciphered from these data.

2.3.3 Distribution of Activities as Seen from the Census of 1998

The census, by the very definition, provides a more detailed classification of activities than the sample surveys. A three-digit disaggregation of workers, obtained from the Census of Cambodia 1998, is presented in Table 2.3. This table shows the frequency distribution of workers in *select* industry groups, based on the relative importance of each activity, as seen from Tables 2.1 and 2.2, and based on activities that could *possibly* flourish in Cambodia's rural environment. The data are presented separately for the whole of Cambodia and specifically for rural areas.[13]

In 1998, the total size of employment in the country was about 4.8 million, and in rural areas, it was about 4.1 million. The industrial groups listed in Table 2.3 constitute only about 14 percent of the total employment for the country, and about 10 percent in rural areas. These are but small proportions, which indicate the nascent character of non-farm activities in Cambodia.

Since agriculture is not included in this table, the percentage frequency of other activities shows up much more prominently here than in Tables 2.1 and 2.2. In addition, being a three-digit classification, many more activities appear in this table than in the earlier tables. Figures here suggest that despite leaving agriculture out, up to two-thirds of the jobs are still in rural areas. Next, there appears to be a strong correlation between the spread of employment across

[13] See Acharya and Mitra (2000) for identification of important rural activities.

activities in rural areas and all areas (correlation coefficient: 0.90), meaning that the spread of non-farm activities is similar in both rural and all areas (at least in this list of activities).

Table 2.3 Employment in Specific Industry Groups: 1998

		All Cambodia		Rural Cambodia	
Industry	**Description**	**Employment**	**Percent**	**Employment**	**Percent**
050	Fishing, fish hatcheries and fish farms; service activities incidental to fishing	71,079	10.39	56,857	13.42
141,142	Other mining and quarrying	5,535	0.81	3,648	0.86
151	Production, processing of meat, fish, fruit, vegetables, oils and fats	4,750	0.69	2,797	0.66
152	Manufacture of dairy products	35	0.01	24	0.01
153	Grain mill products, starches and starch products, and prepared animals feeds	4,565	0.67	3,769	0.90
154	Manufacture of other food products	2,672	0.39	1,579	0.37
155	Manufacture of beverages	4,291	0.63	2,785	0.66
160	Manufacture of tobacco products	1,501	0.22	1,044	0.25
171	Spinning, weaving and finishing of textiles	11,583	1.69	10,808	2.55
172	Manufacture of other textiles	1,457	0.21	1,192	0.28
173	Manufacture of knitted and crocheted fabrics and articles	67	0.01	34	0.01
181	Manufacture of wearing apparel; except fur apparel	52,818	7.72	34,766	8.21
182	Dressing and dyeing of fur; manufacture of articles of fur	14	0.00	11	0.00
191	Tanning and dressing of leather, luggage, handbags, saddles and harness	358	0.05	165	0.04
192	Manufacture of footwear	752	0.11	352	0.08
201	Saw-milling and wood products	9,454	1.38	7,026	1.66
202	Manufacture of products of wood, cork, straw and plaiting materials	7,415	1.08	5,727	1.35
210	Manufacture of paper and paper products	440	0.06	285	0.07
251	Manufacture of rubber products	2,009	0.29	1,663	0.39

269	Manufacture of non-metallic mineral products not elsewhere classified	7,143	1.04	5,482	1.29
361	Manufacture of furniture	8,981	1.31	5,436	1.28
371	Recycling of metal waste and scrap	180	0.03	125	0.03
401	Production, collection and distribution of electricity	2,651	0.39	1,229	0.29
451	Site preparation	1,303	0.19	514	0.12
452	Building of complete constructions or parts thereof; civil engineering	31,197	4.56	16,530	3.90
453	Building installation	7,906	1.16	3,535	0.83
454	Building completion	620	0.09	214	0.05
455	Renting of construction or demolition equipment with operator	4,255	0.62	1,930	0.46
502	Maintenance and repair of motor vehicles	10,719	1.57	5,271	1.24
504	Sale, maintenance and repair of motorcycles and related parts and accessories	9,206	1.35	4,920	1.16
505	Retail sale of automotive fuel	3,030	0.44	1,499	0.35
512	Sale of agricultural raw materials, live animals, food, beverages and tobacco	2,820	0.41	1,585	0.37
514	Wholesale of non-agricultural intermediate products, waste and scrap	2,267	0.33	1,009	0.24
521	Non-specialised retail trade	2,296	0.34	1,226	0.29
522	Retail sale of food, beverages and tobacco in specialised stores	2,144	0.31	955	0.25
525	Retail trade not in stores	280,840	41.06	165,240	39.01
526	Repair of personal and household goods	1,974	0.29	1,021	0.24
551	Hotels; camping sites and other provision of short-stay accommodation	4,172	0.61	931	0.22
552	Restaurants, bars and canteens	10,388	1.52	3,863	0.91
602	Other land transport	106,774	15.61	65,068	15.36
612	Inland water transport	2,336	0.34	1,455	0.34
	Total	683,997	100	423,570	100

The industry groups found to be prominent in terms of the proportion of jobs, are, fishing and fish processing, mining, food processing, non-metallic minerals, spinning and weaving, apparel, furniture manufacture, saw milling and wood processing, grain mills, building and construction, retail trade,

maintenance of motor vehicles, maintenance of motorcycles, and land transport. Each of these, perhaps other than saw milling, is an important activity and could have the potential to provide increased employment in the future. A caveat: there appears to be an undercount of employment in both water transport and fishing and fish processing activities in the census. Each of these is far more evident in reality than what these data suggest. Since a census, like any other large survey, uses the 'principal activity' criterion for classifying a worker by his/her activity status, some of the activities that are seasonal or part-time, fail to get full recognition.

2.3.4 Spatial Distribution of Non-farm Employment

To examine regional variations in the extent of non-farm employment, non-agricultural employment as a proportion of total employment for each of the 186 districts in the country is calculated and plotted on maps; these can be seen in Figures 2.1 and 2.2. These maps have been drawn without distinction between rural and non-rural areas, as the present (administrative) definition of rural and non-rural areas categorises whole districts as being either rural or urban.[14] The band within which the proportion of non-farm employment varies between the districts is small. However, within this small spectrum there are notable variations. Districts in Phnom Penh and the western and northwestern provinces show relatively more non-farm employment, while elsewhere non-farm employment is less. Additionally, there are some districts around Phnom Penh, the Tonle Sap Lake, and a few districts in the central parts of the northeast and in the north, where there is some non-farm work. In most of the northeast and large parts of the Mekong Plains region, non-farm employment is less than 5 percent of the total. A possible reason is that in areas where there are large arable lands available, people have not moved away from agriculture.

There are more male workers compared to female in non-farm work almost everywhere. As stated earlier, the most plausible reason for this is the lower occupational and geographic mobility of women compared to men.

To obtain a statistical estimate of the variation in non-farm work, the mean and standard deviation of non-farm employment, for male and female workers, were calculated (from district level data). The mean values of the percentage of non-farm employment are 27.33 percent (male) and 17.60 percent (female). However, the corresponding values of the standard deviation are 22.64 and 23.50, which are very high compared to the mean values; there is not much of a central tendency. This large regional variation in occupational diversification speaks of the diversity present in the country, distinct from the conventional

[14] Since outside a few cities like Phnom Penh, Sihanoukville and Siem Reap, almost all of the country exhibits a rural characteristic, an aggregate mapping is quite representative of the rural areas.

wisdom, which suggests that there is little other than paddy cultivation in Cambodia's hinterland.

Figure 2.1 Proportion of Male Workers in Non-primary Sectors, District Level, 1998

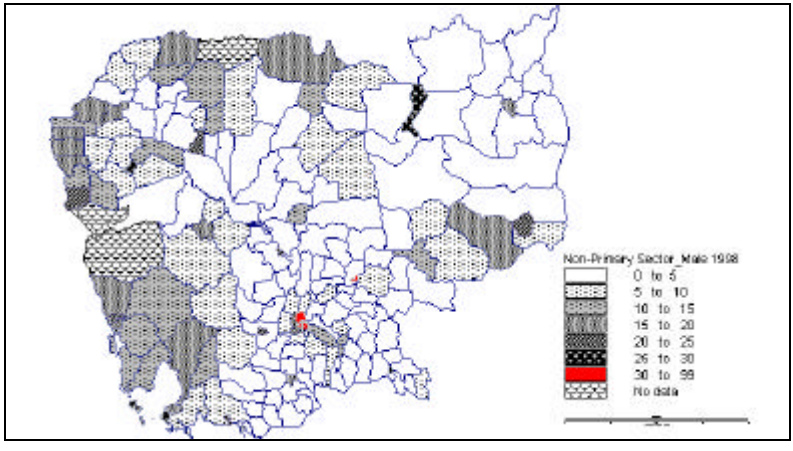
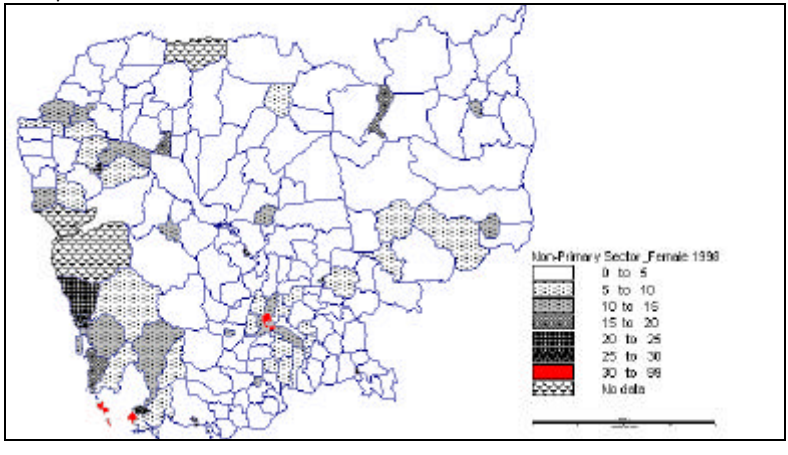


Figure 2.2 Proportion of Female Workers in Non-primary Sectors, District Level, 1998



To follow up the regional variation further, employment data at the provincial level are disaggregated by 17 sectors (Tables 2.4 and 2.5).[15] The reason for creating these tables is to explore the extent of inter-regional variation in non-farm activities for each of the 17 major industry groups. As earlier, these data pertain to the complete country and not rural areas alone. The mean and

[15] These 17 sectors have been classified in the Census of Cambodia, following the international classification of industries.

standard deviations of the percentage of employment, in each of these sectors, are presented in Table 2.4. The generic data are presented in Table 2.5.

Table 2.4 Average Percentage Employment in 17 Sectors: Mean and Coefficient of Variation

	Sector	Mean	Std. Deviation	Coefficient of variation (%)
1.	Agriculture and allied activities	73.64	19.51	26.49
2.	Fishing and related activities	2.11	3.51	166.35
3.	Mining	0.39	0.95	243.59
4.	Manufacture	2.13	1.74	81.89
5.	Electricity, water and gas	0.05	0.12	240.00
6.	Construction	0.90	1.15	127.78
7.	Wholesale trade	6.82	5.32	78.01
8.	Hotels and restaurants	0.27	0.51	188.89
9.	Transport	2.49	2.53	101.61
10.	Financial services	0.02	0.05	250.00
11.	Real estate	0.05	0.07	140.00
12.	Public administration and defence	6.42	5.16	80.37
13.	Education	1.45	0.53	36.55
14.	Health	0.52	0.38	90.48
15.	Community services	1.29	0.97	75.19
16.	Private employment	0.18	0.33	183.33
17.	Employment in extra-territorial organisations	0.17	0.23	135.29

In only seven out of the 17 sectors, the coefficient of variation (of the proportion employment in different sectors) is less than 100 percent; in just one is it less than 30 percent. There is, therefore, large variation across regions, which also suggests the possibility of each area possessing some comparative advantage in one activity or another.

Table 2.5 Proportion of Employment by 15 Major Industrial Categories in Each Province

Province	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15
Banteay Meanchey	75	.39	.39	2.04	.02	.66	7.73	.16	5.60	.00	0.03	4.17	1.44	0.56	1.78
Battambang	69	1.62	.12	2.73	.04	1.15	9.58	.18	3.41	.01	0.07	7.11	1.93	0.71	1.76
Kompong Cham	84	.98	.04	2.18	.03	.50	5.20	.07	1.38	.01	0.03	2.03	1.55	0.36	1.12
Kompong Chhnang	81	4.40	.03	1.34	.01	.30	5.38	.06	1.28	.01	0.03	3.13	1.35	0.37	1.19
Kompong Speu	89	.03	.06	0.80	.01	.21	2.81	.06	0.81	.00	0.02	3.05	1.35	0.29	0.96
Kompong Thom	84	1.70	.06	1.37	.01	.32	4.28	.10	1.09	.01	0.03	3.10	1.61	0.37	1.19
Kampot	86	1.31	.35	1.01	.01	.30	3.54	.06	1.08	.01	0.03	2.87	1.69	0.36	1.02
Kandal	74	2.12	.08	5.03	.06	1.02	6.93	.22	2.42	.01	0.04	3.40	1.79	0.44	1.69
Koh Kong	36	16.00	.08	5.40	.06	1.74	14.81	.57	8.83	.03	0.08	10.04	0.80	0.63	2.95
Katie	77	1.60	.07	3.17	.01	.94	6.72	.16	3.69	.00	0.03	3.28	1.79	0.49	1.27
Mondol Kiri	75	.12	3.25	0.85	.01	.80	4.61	.12	0.93	-	0.10	9.93	0.85	0.76	1.93
Phnom Penh	9	.87	.14	-	.54	5.24	26.12	2.35	8.56	.24	0.38	16.08	3.22	2.21	8.03
Preah Vihear	83	.16	.09	0.77	-	0.15	2.29	.06	0.42	.00	0.02	10.06	1.23	0.31	0.85
Prey Veng	90	.55	.08	0.93	.01	.21	3.56	.02	0.80	.01	0.02	1.64	1.41	0.27	0.66
Pursat	79	3.45	.07	1.71	.04	.23	6.32	.09	1.39	.03	0.02	4.01	1.59	0.49	1.33
Rattanakiri	88	.07	.12	0.92	.01	.30	3.01	.06	0.66	.01	0.05	4.53	0.59	0.43	0.64
Siem Reap	80	2.21	.10	1.27	.04	1.01	5.05	.30	1.37	.01	0.05	5.25	1.18	0.34	1.51
Kompong Som	42	8.68	.16	7.41	.26	3.47	14.86	1.32	7.76	.06	0.10	7.75	1.84	0.74	3.25
Stung Treng	79	.33	.01	1.66	.01	.74	5.56	.14	2.08	.02	0.02	7.41	1.23	0.62	1.03
Svay Rieng	90	.03	.01	0.62	.01	.20	3.27	.05	0.62	.03	0.02	1.98	1.51	0.30	0.89
Takeo	90	.12	.01	1.50	.01	.21	2.51	.04	0.67	.01	0.02	1.86	1.72	0.28	1.03
Uddar Meanchey	79	.04	.01	0.95	.02	.09	2.39	.05	0.61	-	0.01	14.18	1.14	0.32	1.07
Kep	77	4.54	.48	0.80	.01	.87	5.37	.07	1.41	.02	0.02	5.98	1.20	0.31	1.21
Pailin	49	.03	3.77	3.67	.01	.87	11.76	.25	3.00	.01	0.04	23.02	0.48	0.58	0.73
Total	76	1.47	.12	3.10	.07	.93	6.90	.30	2.34	.03	0.06	4.54	1.66	0.54	1.78

Note: C1 and C2 refer to the different industry groups as in Table 2.5.
There are 15 groups here and not 17, since Groups 16 and 17 have been merged with group 15.

2.3.5 Summary

The analysis in this section supports the earlier finding in Section 2.2 that occupational diversification away from agriculture is small in Cambodia. In addition, much of the occupational diversification is in the natural resource-based sectors, and the classical link between '*high-agricultural productivity'* and *'non-agricultural growth'* is yet to be established in the country. While some changes have occurred in the 1990s, these have been small. It is however, impossible to estimate the extent of change over time, since none of the macro level databases are fully comparable with each other. Next, there are large regional variations; both across districts and across provinces, in the extent and nature of jobs people take up outside farm work. These statistics leads one to believe that even if off-farm and non-farm activities are few, they could well reflect an extensive variety.

2.4 A Profile of Specific Rural Industries in Cambodia[16]

Cambodian authorities conducted the last countrywide Establishment Census in 1995.[17] According to that survey, there were only 829 business establishments at that time; 94 percent of which were in manufacturing. However, that census surveyed only those businesses that employed 10 or more workers. Next, the survey carried a strong bias towards manufacturing activities located in urban areas. Last, as much has changed in the seven years since 1995, inferences drawn from the survey today would be of limited relevance. Considering these limitations, findings from that survey are not used here to profile rural industries or non-farm activities.

Analysis in the previous section suggests some prominent sectors in terms of magnitude or growth. In this section, an attempt is made to draw up select industry studies *within those industry-groups*. In this section, profiles of non-farm activities for which data was available — or gathered — are presented.

2.4.1 Rice Milling

Rice processing as an activity has existed for a long time in Cambodia, though it was never a prominent *industry*, since much of the paddy has historically been domestically processed for domestic consumption only. Its origin in recent years can be traced to its revival under the *Krom Samki* in the 1980s. When a market economy took root in 1993, rice milling as an industry became more visible. The

[16] Other than rice milling and rural electricity generation, the findings in this section are based on primary surveys conducted for this study. Information from existing studies supplements the primary data in all cases.

[17] A countrywide Establishment Census was carried out in 2001–02, whose results are not expected before 2003. It is not yet known what its coverage is likely to be.

number of factories also grew; in fact, the growth of the industry during 1993–2001 is believed to be higher than the growth in rice production. In the early 2000s, it is estimated that there were 400 rice mills operating in the country in addition to an estimated 1,000 smaller, village-level commercial units. There are many more household operated mills as well, but they are not enumerated here as they fall within the domain of the household.

The two main zones where commercial rice-milling units have been installed are in the west (principally Battambang and Banteay Meanchey), and the southeast (principally Prey Veng, Takeo, Svay Rieng and Kandal), which are also the main rice producing areas. Most mill machinery is of Chinese, Russian or Vietnamese make, powered by old, often inefficient diesel engines, which keep productivity low. One of the disadvantages that Cambodian rice millers face is that they buy diesel in US dollars and market their products in riels, baht or dong. They lose out because of downward currency fluctuations in baht and dong. Some paddy-stock is still exported to neighbouring countries for processing, since foreign mills have the technology to outcompete local mills. This is a loss of value added and employment to the country.

There are two modes of operation for rice mills in Cambodia: custom milling and market milling. In the former, millers operate on an order basis from customers, and in return, they keep the bran and husk rather than charge a cash fee. The smaller mills (with a capacity greater than 500 kgs per hour and more than $5,000 fixed capital) mainly carry out custom operations. They function seasonally, up to a maximum of six months in a year. The larger mills (with a capacity greater than 500 kgs per hour and some having more than $30,000 in fixed capital) generally operate round the year. They buy paddy from their own village as well as from neighbouring villages when the prices are favourable, process the paddy, and market the rice locally and in the cities. In rare cases, sales in international markets have also been recorded. With rising commercialisation in the rice sector, the former mode of operation is facing stagnation while the latter is gaining ground.

Almost all rice mills are family owned and operated, without any professional staff. Spouses and relatives form the main workers, but in any case, the total number employed in an enterprise is between five and ten. Many mills do not even keep financial accounts and other details such as data on inventory, inputs and outputs. The whole sector also faces an acute shortage of working capital, a major problem. Although the larger mills do get some money from institutional sources, smaller mills do not, and more than 60 percent of mills have never borrowed any money. Some other difficulties are capacity utilisation and marketing (EDC 2001a).[18] The annual rate of return on capital has been

[18] Interviews with EDC Staff were useful in eliciting information.

estimated at 5–20 percent; the bigger and newer mills have higher yields than the smaller, older ones (EDC 2001a).

Rice milling is an important forward link for paddy production, the most important agricultural crop. However, its direct employment potential is largely seasonal, and is not particularly high, though spin-offs in transportation and storage may be large.

2.4.2 Rural Electrification

Currently, Cambodia has no more than 15 percent of households connected to an electricity grid (260,000 households from 1998 data). Isolated grids connect about 180,000 households, while the other 80,000 households are served through localised generators and rechargeable batteries, which are provided by small-scale rural electric enterprises (REE), operating on a commercial basis. A large part of this activity is located in the northwestern provinces.

There are two kinds of enterprises presently in operation: enterprises that generate and distribute power, and enterprises that recharge batteries. Some dual-operation enterprises also exist. Most units are old, Chinese or Russian made diesel operated generators, which are inefficient and repeatedly breakdown. Maintenance is also conducted less frequently than the equipment requires: an overhaul required after 4,000–5,000 hours of operation is rarely carried out.

The average value of assets for each enterprise is estimated at about $17,633, employing five persons (three full-time, two part-time). The average cost of power is about $0.30–0.45 per kWh, which is rather high, especially compared to costs around $0.10 in large-scale systems in other countries. The power is transmitted through ungauged wires, pegged on wooden poles. There is significant transmission loss (greater than 30 percent) as the poles tend not to be repaired until they collapse. Customers are charged a fixed rate that rarely exceeds $1–2 a month for 1–2 kWh of power and considering the quality of service customers would not pay more. Fee collection itself is not 100 percent. The revenue base is therefore weak and this is the main reason for not replacing the older equipment. The annual rate of return on equity is only about 5 percent (EDC 2001b; EDC 2001c).

The average number of customers served per enterprise is 192. The service is localised, mainly meant for domestic lighting purposes. Households get power for about four hours each day. Only about 7 percent of REEs offer more than just domestic lighting services.

A typical entrepreneur is a high school certificate holder. Few have obtained technical training, and though some have received short-term training,

most learn the technical details of the equipment and transmission through the equipment suppliers. Employees are mainly locally recruited and then trained on the job.

While this is a government recognised (though not regulated) industry and about half of the suppliers are licensed, entrepreneurs do not report receiving any support from the state because of the licensing weaknesses. While only 10 percent of the REE reported obtaining credit from financial institutions, another 40 percent borrow from private sources. Not one has received technical support from institutional sources.

Rural electrification is vital to the modernisation of Cambodia. However, small-scale industrialisation of the kind in evidence is unlikely to be a long-term option for the country, given the low *per capita* generation of power, the rudimentary technology, and the high costs. The employment potential is also low. Nevertheless, despite these shortcomings, the industry is likely to survive for many more years, as alternative, centralised means of electricity provision are yet not available.

2.4.3 Fishing and Fish Processing

Fishing and fish processing are among the oldest off-farm activities in Cambodia. Although it would be usual to consider this activity within the category of agriculture and allied activities, it is classified separately in Cambodia because of its importance to the economy. Even though many believe that the catch for personal use (and that which escapes enumeration) are considerable, production is still estimated anywhere between 290,000–430,000 tonnes annually, and valued between $100–200 million (McKenney and Prom 2002).[19]. This is about 7 percent of GDP.

Cambodia's fisheries economy is mainly in the inland despite the country having a coastline. The primary sources of fish are the inland water bodies like the Tonle Sap Lake and river, and the Mekong River and its multitude of tributaries. Fishing is largely carried out in basin areas, as fishing is sparse in the central plateau region (Chan and Acharya 2002). Fishing is largely a seasonal activity, carried out after the harvesting of the wet season crop, though in recent years there are many who fish all round the year.

The technology for fishing is largely conventional, with fisherpersons simply sailing out in boats to catch fish using nets. Boats can be large or small, mechanised and/or oar-driven. Modern, seafaring boats like the ones owned by the Taiwanese or Koreans, have not yet been launched in inland Cambodia. As most fish is marketed fresh, marketing and transport facilities assume a central

[19] This large variation in estimates indicates the poor quality of the database.

position with respect to profits. Currently, fishing is still a low labour productivity activity and a majority of anglers do not earn much more than subsistence.

Fish processing is an ancient practice in Cambodia with people processing fish to make the product available off-season. Fish is dried, salted (or pickled), smoked and fermented.[20] Each of these processes is carried out in cottage or home-based industries, though, not exclusively by the same households who catch fish. The technology used for fish processing in the villages is fully traditional, though modern plants to process fish have been established in some cities. Processed fish is marketed locally, as well as in the cities, and some of it is exported.

Fishing tends not to be an exclusive activity. Farmers, who sow a rice crop in the wet season, fish in the dry season. Those farmers, whose lands are inundated in the wet season, sow a rice crop in the dry season and fish in the wet season. Calculated from the production data given above and the employment figures given in Table 2.3, labour productivity yields a figure of $2,500–3,000 per worker. This is highly unrealistic and the only explanation lies in the fact that a lot more people are engaged in this activity than the macro data would suggest. In fact, macro data probably only identify those workers who spend a majority of their time fishing and not those who fish in addition to farming. Additionally, the marketing chain probably absorbs a large portion of the value added, denying producers the full value of their catch. This aspect is discussed in Section 2.6.

Fishing lots (large water areas) are leased out to private contractors. The contractors, who hold contracts for one to three years, either exclusively fish the areas themselves, or sublet parts of the water to smaller fishers. Although this system has yielded revenues to the state, there has been little introduction of more modern scientific efforts to fully harness the potential of fishing. To an extent, this implies that centralised efforts to manage this natural resource have only assisted in rent seeking. However, in recognition of the need to provide better food security to the local communities, 56 percent of the one million hectares of fishing lots have been released for open access fishing since 2001.

2.4.4 Pottery

Archaeological research can often interpret the extent of a civilisation from the remains of pottery made in the past. Indeed, Khmer pottery is perhaps as old as the Khmer culture itself. In Cambodia, pottery remains most prevalent in areas where the ancient civilisation existed: the banks of the Tonle Sap, in the

[20] Additionally, fish sauce making is now emerging as an important industry.

provinces of Kompong Chhnang and Kompong Thom.[21] The province name Kompong Chhnang has been derived from the Khmer word C*hhnang*, meaning earthen made cooking vessel (Tin 2000). Cambodia manufactures both glazed and clay-fired pottery.

The production system consists of digging and transporting the clay to households, breaking up the lumps of clay, powdering it and removing impurities, mixing water and earth in right proportions to the clay, and then moulding the clay-earth-water paste into the desired object, using instruments made out of wood and cloth. The vessels or objects are finally fired using firewood. Pottery is exclusively a household business: there are no factories. Both men and women dig the clay, collect firewood; and transport the clay to their house, where they prepare the paste. Women then mould the paste into pottery, and the family/community does the firing. The art of making pottery is passed on from mother to daughter.

Interestingly, this traditional form of labour intensive pottery making does not make use of the potter's wheel, so common in most other parts of Asia. Instead, women spend long periods shaping the edges and corners (Cort and Leedom 2000). This reduces precision and takes a longer time. With the introduction of modern technologies, from aid initiated in 1999 from a German NGO, a foot-paddled rotation machine and a high-temperature furnace had been introduced in the areas where this research was conducted in Kompong Chhnang. This has helped raise labour productivity and invoked much interest among local potters.

Pottery is not a full-time activity and almost all potters farm, only making pottery in the farming off-seasons. Earnings are generally not much more than subsistence, and a team of two generally earns about 70,000 riels, or $18, per month (Tin 2000).[22]. This being a part-time activity, villagers maintain that any income is a welcome supplement. Potters are generally of minimal education and sometimes illiterate. Additionally, none have received vocational education on pottery making, other than that provided by an NGO.

Products are marketed in the nearby provinces, as well as in Phnom Penh. Although a challenge from imported plastics is slowly emerging, a vast array of products, from ornamental vessels to water storage jars and cooking utensils, are still in high demand from the village communities. However, the local nature of markets, and breakages during transport keep the sector's earnings low.

[21] Pottery is also made in Kompong Speu and Takeo where fine quality clay is available.

[22] The survey conducted for this research in 2002, did indicate somewhat higher earnings than the mid-1990s survey undertaken by Tin.

2.4.5 Brick Making

Brick making is a new industry in Cambodia. As late as the 1950s, the number of brick kilns did not exceed a dozen. By the end of the 1990s, however, there were about 600 brick making units in the country (RGC 1997).[23] Most factories are located in Kompong Cham, Kandal, Kompong Thom and more than 60 percent are located in Phnom Penh. The sizes of factories vary greatly; the smaller factories could produce 200,000 pieces each year, while the larger ones could have 30 times this capacity. Factories produce varied products: hollow bricks, solid bricks and roof tiles, though the largest selling item is the hollow brick. Most factories are of smaller size, using only one extruder[24] (Rozemuller 1999).

Many factories are family owned kilns (*loh ut krussa*). They are usually small, mainly engage family labour, and supply bricks to nearby villages. The larger factories (*loh ut krom hun*) are regular enterprises that have a larger catchment area. While the smaller family run business are stagnating, the larger enterprises are growing. Bricks are usually marketed to large construction sites, intermediaries/retailers who market the product in urban or other areas, or directly to customers. In each case, the price obtained by the producers is not very different due to their significant market influence.

A typical Cambodian brick factory has a fixed capital outlay of $8,500, and usually employs 15–20 persons (Rozemuller 1999).[25] The jobs created are mostly of the unskilled and semi-skilled type. Labour costs constitute about a third of the total cost, after fuel, which is about 40 percent of the total cost. Bricks are manufactured round the year, though demand is partially seasonal, since a larger number of people build houses in the dry season. Workers, therefore, tend to get jobs only seasonally and not necessarily round the year.

Cambodian brick makers face stiff competition from factories in neighbouring countries. For one, the clay is mixed in a superior fashion in those countries, making their products better. Next, the extruders are bigger and prime movers more efficient.[26] Last, the brick is fired better in neighbouring countries since they use coal, compared to the firewood or rice husk used in Cambodia, which do not generate as much heat. It is widely believed that Cambodian made bricks are cheap and good, and can be efficiently used for making one or two-storey buildings; for taller structures, however, they are not strong enough.

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[23] Official figures showed 446 licensed brick factories in 1997; the rest were unlicensed units.

[24] An extruder is a machine that moulds bricks out of clay. Other than the extruder, Cambodian factories have few machines.

[25] Talks with EDA staff and CDRI's earlier studies were helpful in getting some insights (see also Sok and Acharya 2002).

[26] Cambodian factories deploy old diesel engines, in contrast to the more efficient electric motors used in other countries.

2.4.6 Silk Making

Silk weaving is an ancient technology in Cambodia. In the earliest days, cocoon rearing, reeling and yarn production were all carried out within the country and associated with weaving. Today, however, only weaving and dyeing are carried out here. Up to 98 percent of yarn is imported from Vietnam and only about 2 percent is made in Banteay Meanchey province. Weaving is primarily a household level activity, carried out by women, and the knowledge is passed on from mother to daughter. The three specific jobs Cambodian workers undertake are yarn preparation, dyeing and weaving. The looms are wooden, locally made traditional hand-operated machines, prepared by local carpenters, while the dyes are imported from Thailand.

There are five kinds of merchandise produced: *Sarongs, Phamuong* and *Kronat, Chareibop*, *Hols* and *Kromas*. Each of these products finds a market within the country, mainly in Phnom Penh, and to a limited extent in Siem Reap. Part of the produce was earlier exported to Thailand, but not since the 1997 financial crash in that country. In fact, cheap imports now coming from Thailand have put a lot of pressure on local production. To make matters worse, synthetic fabric from neighbouring countries further cuts into the market for silk products.

It is estimated that there are about 10,000 weavers, mostly working in Takeo (55 percent), Kandal (31 percent), Prey Veng and Kompong Cham (11 percent). The number of weavers is growing at about 4–5 percent each year (Victor-Pujebet and Peyre 2001). Weaving activity engages workers for about 10 months each year, and workers earn about 4,000–6,000 riels for a nine-hour day.

The yarn is imported from Vietnam through intermediaries, who then route the material to the weavers. Traders mainly control the product market, and they advance credit to weavers at interest rates of 3–4 percent each month. This stranglehold exercised by traders discourages innovations in production.

Cambodian silk, manufactured through a traditional cottage industry, is not valued very highly. The product quality is uneven from one batch to another and poor quality of both dyes and yarn further lends to poor quality output. This, coupled with low labour productivity resulting from low technology looms, and the low training of workers, has not permitted the industry to flourish. Further, the value added for the industry (and Cambodia) is further curtailed since almost all the yarn is imported.

2.4.7 Loom-made Cotton

The handloom cotton spinning and weaving industry existed in Cambodia earlier than the 1970s, but has subsequently faded out. Cotton ginning and spinning

activities virtually vanished after farmers stopped growing cotton. Yarn is now imported from Vietnam and woven into fabric here. Villages in the provinces of Kompong Cham, Kandal and Prey Veng engage in handloom and power loom weaving. Power loom weaving has been introduced in villages in Kandal province where entrepreneurs have been able to access electric power for the last five to seven years.

Village carpenters make both handlooms and power looms locally. Carpenters previously learned how to fit electric motors to run the looms through training received from Vietnam. With handlooms, the productivity is low: a worker produces no more than 10–12 *kromas* a day; but power loom production can be 35–40 *kromas* a day. Almost all weavers are young women, aged between 18 and 28. In Kompong Cham, a large number of workers are locals from the Cham community, while elsewhere workers include a number of migrants from Prey Veng and Svay Rieng. The average earning for one hired worker is about 2,700–3,000 riels for a day's work. In addition, three meals and accommodation are provided.

Markets for the main products are steadily growing: the *kroma* for example, which is only manufactured in this decentralised sector, presently has no competition from larger factories in neighbouring countries. Since a *kroma* lasts for no more than three or four months, the replacement demand is large. The markets are largely competitive with no monopoly buyers. Most merchants come from Phnom Penh to procure the product. The markets are not seasonal and production takes place round the year.

Cotton weaving is labour intensive and can therefore provide significant employment. However, there is little in the form of product diversification or improvement, so value added is low and activity is localised. Power looms have a future but traditional handlooms may not survive.

2.4.8 Handicraft

There are several kinds of handicraft manufactured in Cambodia. Most designs follow the Angkor architectural forms, which have a high appeal in the tourist market. A few are made from straw or rattan, some from clay, others from marble, yet others from sandstone and still others from metal (lost-wax casting as well as metal carving). This art, which has survived despite the years of turmoil, thrives because of the high skills and dedication of the artisans. The Faculty of Fine Arts at the Royal University has now begun activities to revive and improve this ancient art in some products, though the impact of this research in the transfer of knowledge to workers has not yet been fully realised.

Marble handicraft manufacture is concentrated in the provinces of Pursat, Kandal, Siem Reap, and Phnom Penh.[27] The latter two are the main markets while Pursat is a source of the marble stone. Most activity is carried out at the household level, very often in addition to farming. Workers learn the art from their parents and mentors. Handicraft making is a household activity, conducted within the home, though in recent years some affluent families have set up relatively larger production facilities. They hire workers, at times from within their own family. Traditional techniques use no more than hammers, chisels and similar such equipment. Modern methods, which make use of power chisels, power saws and power sanders, are now gaining ground. Under the new technologies, both capital intensity and labour productivity are higher.

There is no gender-specificity in the work: this survey found that both male and female workers are engaged in the industry. The earnings of hired workers, though, are little above subsistence.

While modern methods are developing in terms of stone cutting and chiselling, workers in marble mines continue to use rudimentary means to extract the stone. Consequently, large blocks of marble are dug out of the hill, which are then broken into smaller pieces and carved into still smaller statues and much stone is wasted. Not only does the whole process jeopardise the economics of manufacturing;[28] there is waste of precious marble as well — a non-renewable resource.

Traders control product markets. They procure the products and market them through their networks with retailers in cities. There is a huge difference between the prices paid by final customers and those received by the craftspeople.

2.4.9 Summary

The industry profiles presented in this section are not necessarily identical, as data on these activities could not be uniformly gathered. Nevertheless, the information suggests that rural non-farm activities in Cambodia, both in the traditional and modern sectors, exist and thrive, a fact not fully revealed from secondary data. With a proactive policy, they could be a source of viable employment for the rural workforce. It should be cautioned, however, that some industries like small-scale rural electricity generation or handloom cloth

[27] In this section, only marble handicraft is discussed since this was what the fieldwork was restricted to. There is not enough secondary data or literature to write about all forms of handicraft.

[28] It needs to be mentioned that relatively inexpensive imports of handicraft depicting Khmer architecture from Thailand are now finding their way into Cambodia, putting pressure on prices (Sok and Acharya 2002).

weaving might not be sustainable in the long-term, as electrification is essentially a centralised industry, and power looms will replace handlooms. Additionally, the current state of technology is in most cases rudimentary, and in many cases, the earnings of workers are low.

2.5 Economic and Financial Characteristics of Select Rural Industries in Cambodia

Not many studies define the economies of small rural enterprises in Cambodia.[29] In this section, the findings of a survey of 276 enterprises belonging to industry groups and their financial and economic variables are presented (including those household-based enterprises and households engaged in non-farm activities as self-employed workers). While collecting data, the attempt was made to treat each production entity as an enterprise, and calculate economic and financial ratios undertaken for business enterprises. Data could not be uniformly collected on all items in all the industries and tabulations are made according to the availability of data.[30]

2.5.1 The Sample

The sample consists of 60 self-employed persons and enterprises engaged in fishing, 60 in fish processing, 30 in silk weaving, 30 in cotton weaving (*kroma*), 40 in potteries, 34 in marble handicraft, and 22 in brick/tile making. These are small sample cases and are not necessarily representative samples of these industries in the country. Since there is no Enterprise or Establishment Survey that could have set the groundwork for drawing samples, these studies were carried out in locations about which there was already knowledge from existing studies, government documents, market information and historical records. Additionally, the aspects of what was 'sufficient representation', and the resources available with the research team, had to be guiding principles in determining the sizes of the samples.[31]

Table 2.6 presents the sample details. To cover 276 enterprises, the field inquiry was spread across 16 villages and the outskirts of two provincial towns

[29] Although, some very select efforts have been made to understand the internal functioning of small rural units and to suggest methods to upscale their activities. For example, there is at least one study each on silk, brick manufacture and rice milling.

[30] Some data in this section might not fully match with that in the previous section. The previous section also draws upon studies conducted by others, whose samples could be different.

[31] A sample of 60 households is usually considered large enough to represent an activity or phenomenon. In some industries, smaller samples were agreed upon because it was found information was being repeated, or in the case of brick, for example, not enough enterprises were found, even in two locations.

(Battambang and Kompong Cham). The inquiry was conducted in two parts: in the first part, structured interview schedules were undertaken, and in the second, open-ended interviews were conducted to capture views on market linkages.

Table 2.6 Sample Details

Industry	Province	Villages	Sample	Total sample
Fishing	Kompong Chhnang Pursat	Chnok Trou Kompong Loung	30 30	60
Fish processing	Kompong Chhnang Pursat	Chnok Trou Kompong Loung	30 30	60
Silk weaving	Takeo	Pei and Prey Chup	30	30
Cotton weaving	Kandal	Kbal Koh	30	30
Pottery	Kompong Chhnang	Ondung, Trapang, and Krang Deimaes	40	40
Marble handicraft	Pursat	Bantay Dei, Keo Sonann Lue, Bandos Sandek, O Bankrang Kandal, Kamcheou Baydach and Kbalhong	32	34
Brick making	Battamb-ang Kompong Cham		9 13	22
Total				276

Section 2.4 discussed that the fact that many workers were engaged in activities other than the particular rural industry being studied. Table 2.7 shows that other than those households engaged in fishing and fish processing, most of the sample owned some agricultural land. Non-farm activity was clearly an additional activity in these households. However, since fishing is by far the largest activity in the rural non-farm sector, it can safely be stated that non-farm activity is not always a complement to farming.

Table 2.7 Distribution of Owning Households by Land Holding

Land holding	Fishing	Fish processing	Silk weaving	Cotton weaving	Pottery	Marble handicraft	Brick making
Yes	3	5	30	29	36	23	14
No	57	55	0	1	4	9	8
Total	60	60	30	30	40	32	22

With the exception of those engaged in pottery and marble crafts, Table 2.8 shows that, on average, all enterprises earn a great deal more than half their total income from their particular rural non-farm activity. In fact, brick kiln owners, fisherpersons and cotton weavers obtain almost all their income this way. Fish processing, being a seasonal activity, provides no more than two-thirds of total income. Potters and marble statue carvers also undertake this work on a part-time basis and earn no more than a third of their income from this non-farm work. The picture is clearly varied by enterprise type.

Table 2.8 Extent of Earnings Obtained from Non-farm Activity (distribution of enterprises by industry)

Industry	% Earnings from this activity (mean)	Standard deviation
Fishing	89.24	21.01
Fish processing	66.49	21.46
Silk weaving	61.85	21.69
Cotton weaving	75.23	21.96
Pottery	33.00	-
Marble handicraft	36.00	-
Brick making	93.00	-

Data in Table 2.9 suggests that other than fishing, most enterprises in the sample are of recent origin. At one level, this recent origin indicates the age distribution of the population but at another, it is a reflection of the rebuilding of Cambodian economy since the 1980s. It is believed that fishing was not dismantled during the 1975–79 period and did not, therefore, have to be re-established.

Table 2.9 Number of Years Since the Enterprise Began Operation (distribution of enterprises by industry)

Industry	Number of years in operation			
	Earlier than 1980	1980–1990	1991 to date	Total
Fishing	21	15	24	60
Fish processing	6	16	38	60
Silk weaving	1	24	5	30
Cotton weaving	4	13	13	30
Pottery	6	9	25	40
Marble handicraft	5	7	20	32
Brick making	-	4	18	22

2.5.2 Employment and Earnings

Rural non-farm activities are to an extent seasonal, particularly if they are dependent on seasonal inputs, like labour, or if the demand for output is seasonal. Employment in one season may not mean that the same numbers of workers are engaged all year-round. The numbers presented in this section have to be interpreted accordingly.

2.5.2.1 Size of Employment

Table 2.10 shows that, an average fishing enterprise employs about 3.65 persons. In the January-March and April-June seasons, the average number of workers per enterprise is full strength, but in the July-September season it drops down to less than half this number. It climbs back to 80 percent of full strength in the October-December season. Employment wise, the majority (almost 60 percent) of the fishing enterprises are small, employing two to five workers

(including hired workers). The most common method is for a father to fish together with his grown sons in a team. Single worker enterprises, and then those engaging six to ten workers follow this. Only three out of 60 enterprises employ 11–20 workers each. During the interviews a few operators were identified who owned large mechanised boats employing about 10–15 persons each. The relatively large standard deviation, compared to the mean, suggests that activities in the sample units are of a variety of sizes.

Fish processing is a household/cottage industry, engaging people seasonally (not more than two to three months when the fish catch is abundant) who then take up other activities. The average employment shown in Table 2.10 appears to be small (2.23 workers), because it is an average of on- and off-seasons. Again, like fishing, the maximum number of workers in fish processing are engaged in enterprises of the two to five workers size. Significant numbers are engaged in single-worker enterprises. There were only two enterprises with between six and ten workers each.

Table 2.10 Number of Total Workers (distribution of enterprises by industry)

Industry	One worker	2–5 workers	6–10 workers	11–20 workers	>21 workers	Total	Mean workers	Std. deviation	% Women workers
Fishing	7	35	5	3	-	60	3.65	3.13	28.51
Fish processing	23	35	2	-	-	60	2.23	2.45	54.85
Silk weaving	16	14	-	-	-	30	1.51	0.27	97.59
Cotton weaving	2	23	5	-	-	30	4.00	1.87	86.66
Pottery	27	11	-	-	-	38	1.35	0.68	N/A.
Marble handicraft	8	16	8	-	-	32	2.26	1.85	N/A.
Brick making	-	-	-	4	18	22	32.86	19.36	N/A.

N/A: not available

Although there are several silk looms concentrated in one location, the looms belong to different households and each owner qualifies to be an entrepreneur. It is not surprising that 16 out of the 30 units are one-worker outfits and the other 14 employ only two to five workers. In contrast, cotton loom weaving units are larger, and while the modal frequency of employment in this activity is again in the two to five workers' range, there are fewer (only two) singe-person enterprises. In the case of silk weaving, the average size of employment is larger at four, compared to the mean of 1.51. The magnitudes of the standard deviation in both these cases are small compared to the mean, suggesting that there is not much variation in the sizes of the units. Further, there is not much seasonal variation: both these activities are year-round.

Pottery, like fish processing, is a household enterprise, with the difference that the work is part-time, spread round the year. Most of the enterprises (27 out of 38) are one-worker outfits, and the average size of employment in a unit is

only 1.35 workers, the smallest in this sample. Marble carving is also a household activity similar to pottery, though its enterprises are not as small as often believed — half the enterprises employed between two and five workers, and one-quarter between six and ten workers. Only eight enterprises out of 32 are single worker units. The average employment is 2.26.

Enterprises engaged in brick making are the largest in the sample: an average factory employs about 32 persons. These are larger than the enterprises surveyed by Rozemuller, where the average employment per factory was 15–20 workers. Only four out of the 22 units here employ between 11 and 20 workers. However, Rozemuller conducted his study in 1998, while the present study is conducted four years later. It could also be the case that this sample does not fully represent the relatively smaller units.

The last column of Table 2.10 shows that, the percentage of female workers engaged in fishing is less than a third, but that it is significant in fish processing. Next, women are mainly employed by the two weaving industries. Although the gender break up could not be discerned for three industries, there is a clear gender division of labour in at least four industries, revealed by the survey data.

2.5.2.2 Hired Labour and Earnings

Table 2.11 shows that 100 percent of brick workers are hired; a much higher figure than that found for all other enterprises. The range is from about 20 percent in fishing and 16 percent in marble handicrafts, to less than 3 percent in fish processing, silk and pottery. Since industries other than brick making are of a very small-scale, the proportion of hired workers is also small. In most cases, workers are mainly the owners themselves and their family members. The smaller the scale of operation, the smaller is the incidence of hired workers and vice versa.

The average wage paid for male workers is the highest in fishing and the lowest in cotton weaving (in the four industries for which data is available — also there are no hired workers in silk weaving). In fishing, the monthly wage for male workers is 153,283 riels (a full month), which comes to just over 5,000 riels a day. However, work is available for a full month only for a small period. The average number of days of work per month is only about 13, since in some months (July-September) there is no work at all. Wages of female workers in this industry are lower, at about 83 percent of the male wages. In fish processing, the wages of male workers are about 4,500 riels a day and female workers’ wages are about 63 percent of male workers' wages. In the cotton weaving sector, the wages are lower still, at about 2,700 per day, though the gender wage gap is virtually zero. In short, earnings are not much higher than a dollar a day; even then, a gender gap exists.

Table 2.11 Average Percentage of Hired Workers, Work Availability and Average Wage (by industry)

Industry	%Hired workers	Average wage (month) male	Average wage (month) female	Employment (days per month) male	Employment (days per month) female
Fishing	21.71	153,283	127,500	12.9	12.9
Fish processing	1.80	137,500	86,980	23.7	23.7
Silk weaving	-	-	-	9.2	27.1
Cotton weaving	9.07	80,900	81,928	10.0	28.7
Pottery	2.50	N/A.	N/A.	N/A.	N/A.
Marble handicraft	16.00	N/A.	N/A.	N/A.	N/A.
Brick making	100	N/A.	N/A.	N/A.	N/A.

N/A: not available

2.5.2.3 Skill Acquisition

Table 2.12 indicates whether skills were present and how workers (including those who are self-employed) acquired skills. This table shows that irrespective of the industry, a very large majority of the workers learnt skills from their family. For both fishing and fish processing, about one-quarter of the workers learnt their skills on the job. In pottery, NGOs have played a major role in imparting skills, though their role in marble handicraft is low. In short, in most of these industries, skills are passed on from one generation to another; in some cases, NGOs have stepped in, though it is not clear whether their role has been pivotal to workers being in their present jobs.

Table 2.12 Source of Skill Acquisition for Workers (distribution of enterprises by industry)

Industry	Parent/ guardian	NGO	On the job	Formal training	Total
Fishing	43	1	16	-	60
Fish processing	47	-	13	-	60
Silk weaving	30	-	-	-	60
Cotton weaving	29	-	1	-	30
Pottery	11	25	-	2	38
Marble handicraft	26	2	3	1	32
Brick making	17	2	3	-	22

The industries surveyed here are not the ones that would normally require formal training especially if technology and methods of operation are traditional. It does not imply, however, that there is no scope, or need to, upscale the technology in these sectors. The examples of the Department of Fine Arts at the Royal University intervening in the potteries and handicrafts sectors, a German NGO imparting improved technologies in pottery, or the introduction of power looms, speaks of the scope for improving product quality and productivity.

2.5.3 Capital Outlay

2.5.3.1 Size of Capital

Table 2.13 presents data on the distribution of enterprises by the size of fixed capital (excluding land, measured in riels) and the mean value of capital outlay in each industry.

The differences between the sizes of enterprises, as seen from figures on capital outlay, are much larger than those seen from employment data. For example, in the fishing industry, the smallest enterprises have a fixed capital outlay of less than 250,000 riels (about $63), while the largest will be greater than 20 times that. The picture is similar for fish processing; the smallest capital outlay is just greater than 50,000 riels (about $13) while the largest would be 40 times larger. The spread of capital outlay across enterprises is the least in pottery — understandably so, given the highly labour intensive methods of production — followed by silk weaving where the technology is equally as rudimentary, then cotton weaving and finally marble handicraft. In marble handicraft, the introduction of power saws and chisels by a few entrepreneurs has raised the scope of capital application, thereby widening the inter-enterprise gap in capital outlay. Brick making has a uniformly high capital outlay with not much of a spread in terms of percentages (the proportion of smallest sized bracket to the largest is about 1:3). This contrasts to fishing or fish processing, where the gap exceeds 1:20. The relatively small spread in capital outlay in brick making may also be because of the bias in favour of larger units in this sample.

The mean capital outlay in fishing operations is 3.9 million riels (about $975), in fish processing 1.49 million riels (about $373), in silk weaving 130,557 riels (about $34), in cotton weaving 3.76 million riels (about $940), in pottery 283,560 riels ($72), and in marble handicraft 1.47 million riels (about $370). Only in brick making is the average outlay much larger, at 126 million riels (about $31,500).[32] These figures suggest that except for brick making and even in the context of low-income countries, it is possible to initiate business enterprises in rural areas with relatively low amounts of capital, which in turn could provide remunerative jobs.

[32] Rozemuller had calculated the average capital outlay per brick factory at about $8,000. This is surely due to the time gap between the two studies, and the bias towards larger units in this sample.

Table 2.13 Size of Fixed Capital (distribution of enterprises by industry)

Industry	Size classification (riels)	Number of enterprises	Fixed capital (mean, riels)
Fishing	<250,000	9	3.9 million
	250,000-500,000	10	
	500,000-1million	14	
	1-1.5 million	9	
	1.5-5 million	8	
	>5 million	10	
Fish processing	<50,000	13	1.49 million
	50,000-200,000	8	
	200,000-500,000	16	
	500,000-1 million	7	
	1-2 million	7	
	>2 million	6	
Silk weaving	<50,000	6	130,557
	50,000-100,000	8	
	100,000-200,000	11	
	>200,000	5	
Cotton weaving	<1 million	4	3.76 million
	1-2 million	3	
	2-3 million	7	
	3-5 million	5	
	>5 million	11	
Pottery	<200,000	7	283,560
	200,000-300,000	12	
	>300,000	6	
Marble	<500,000	17	1.47 million
	500,000-3 million	7	
	>3 million	8	
Brick making	<70 million	5	126 million
	70-100 million	8	
	100-200 million	6	
	>200 million	3	

2.5.3.2 Equipment Acquisition and Maintenance

Is equipment availability a problem? Table 2.14 shows the distribution of enterprises by how capital equipment has been acquired. Before describing the data, it is important to define the titles of Columns 2 and 3 in the table. A 'local input supplier' is a regular local shopkeeper who sells equipment (against cash or credit), a local carpenter or equipment maker. In contrast, an 'intermediary' could be an equipment dealer or a trader in the final product and supplies inputs as a part of a larger trade link. An intermediary may not be a local person, and may come from elsewhere to supply inputs against orders. In the hierarchy of reliability, a local supplier is more reliable for the producer (s/he being a local) compared to an intermediary.

Table 2.14 How Capital Equipment is Acquired (distribution of enterprises by industry)

Industry	Local input supplier	Intermediary	Phnom Penh	Self provision	Total
Fishing	21	36	3	-	60
Fish processing	27	20	2	1	60
Silk weaving	14	15	1	-	30
Cotton weaving	19	9	2	-	30

The frequency distribution of enterprises in this table shows that local suppliers and intermediaries supply the equipment in almost similar numbers. In fishing, more intermediaries supply the equipment, while in fish processing there are more enterprises that obtain equipment from local input suppliers. In silk weaving, the suppliers are evenly divided between local suppliers and intermediaries, while in cotton weaving, a large number of entrepreneurs buy the equipment from local suppliers.

The source of equipment supply depends upon the kind of equipment. Boat makers construct boats locally, while intermediaries procure (second-hand) diesel engines from Thailand (or locally if they are Russian or Chinese made). These are then fitted on boats either by the owners themselves, or by local mechanics. For fish processing, the main equipment is pots, pans, pails, stirrers, knives and other kitchenware, which can easily be supplied by local shopkeepers. Only in bigger operations are things like freezing equipment needed. Local carpenters construct both the silk weaving and cotton weaving equipment, though there might be others in the supply chain, who procure looms to sell to the weavers. The logic of having local equipment is also linked to the possibility of getting the machines repaired locally at a small cost. Very often, the owners themselves repair their equipment. This is one of the reasons why entrepreneurs choose simple technologies even if the productivity is low.

Most producers acquire capital equipment as well as working capital through inheritance and family owned resources, followed by borrowing from relatives and friends. Few borrow from institutional sources; at least in fishing, fish processing, silk weaving and cotton weaving, the industries where answers were actively sought to credit-related questions. This finding is not new and has been found in other studies. The main reason for a lack of credit supply is the inadequate social infrastructure for loan regulation and recovery. The consequent, high interest rates inhibit borrowers from borrowing. In the process, business enterprises are not able to grow.[33]

[33] Debt capital can raise the overall capital base of rural enterprises. At the individual enterprise level, market borrowing can increase leverage, thereby raising turnover. None of these presently happens.

2.5.3.3 Capital-labour Ratios

Capital-labour ratios determine the extent of capital required for generating each job: in other words, the capital intensity of activities. Table 2.15 presents these ratios for six of the seven industries.

Table 2.15 Capital-Labour Ratios (by industry)

Industry	Capital-labour ratios (mean, riels)	Standard deviation
Fishing	753,722	1,427,683
Fish processing	789,301	2,356,941
Silk weaving	96,850	65,547
Cotton weaving	943,517	476,845
Pottery	253,290	219,809
Brick making	4.94 million	6.44 million

For both fishing and fish processing, it requires between 700,000–800,000 riels (about $200) to create one job, a rather small amount in the present form of technology and organisation. The capital requirement for one job is even smaller for silk weaving, at between 90,000–100,000 riels ($25–30), though the skill required for silk weaving may be higher. Cotton weaving requires more capital per worker (about 900,000 riels) since the looms are fitted with electric motors. Pottery, like silk, requires between 250,000–260,000 riels ($65–70) for each worker, but again, requires more skill. Only in the case of brick making is the capital requirement for creation of one job, 4.94 million riels (about $1,250). Although this is by far the highest in this sample, it is not too large a figure when seen in the context of a larger enterprise.

The standard deviation figures are large. In three out of the six industries, they are larger than the mean values; in the other three, they are not much smaller than the mean. Such significant dispersion of the capital-labour ratios shows that there is considerable variation in the technologies put into practice. Part of the reason could lie in the valuation of capital by the respondents, but in some industries like fishing, the spectrum of technologies is truly vast.

In sum, data in this subsection suggests that there is high labour intensity in most activities, again an indicator for large potential job-creation with small capital.

2.5.4 Production and Productivity

2.5.4.1 Production and Value Added

Data on annual production from these enterprises, grouped into size brackets, can be seen in Table 2.16. Value added in this section is calculated by deducting material inputs from the value of production. The last two columns present data on the mean value added and the ratio of value added to production (in percent).

Since the scale of production in each industry is different, the size classes in Table 2.16 are drawn accordingly. In fishing operations, the production range is from less than two million riels a year (about $500) to more than 50 million riels ($12,500). Fish processing has a similar range, though the number of enterprises concentrated toward the higher end are larger. Silk weaving has a smaller range (from 1.7 million riels to more than 5 million riels), while cotton weaving has a range from less than 15 million riels to more than 40 million riels. The scale of operation of silk weaving is much smaller than that of cotton weaving in this sample, since cotton looms are mechanised and have a larger capacity.

The mean value of production for each fishing enterprise is about 19 million riels ($4,890) and the value added is 12.7 million riels, yielding a value added to production ratio of 66 percent. This may appear small, given the nature of the activity, but fish culture has assumed an important place in Cambodia. Fish culture requires that anglers buy fingerlings in addition to fish feed, and undertake regular repairs of the fish cages. Each of these adds to material costs. The mean value of production in fish processing is four times higher than in fishing, though the value-added ratio is smaller at about 31 percent. This is because, in this activity, all the fish have to be procured: not everyone undertakes integrated 'fishing-fish processing' work, and even if they do, fish is still a raw material for them.

The value of production in silk weaving is modest at about 3.5 million riels ($875) annually, while cotton is woven at a higher scale; its average annual production (per enterprise) is about 10 times higher than that of silk. The value added in silk is 54 percent of production value, while in cotton it is 23 percent. At the level of value added, the gap between the two becomes smaller. Both silk and cotton weaving activities could have yielded higher total value added for the country if these industries were not so dependent on imported yarn.[34]

The scale of production in the three earth/clay-based industries (pottery, marble handicraft and brick making) is in conjunction with their capital outlay. Pottery making yields a high value added to production ratio as its material inputs, earth or clay, are either very inexpensive (an ox-cart full of clay costs only 5,000 riels) or they are self-provided. In the case of brick making, the value added to production ratio is about 68 percent. The earth and clay are relatively inexpensive but fuel costs are substantial, and therefore the proportion of value added to production is not as high as for pottery.[35]

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[34] In other countries, farmers rear silkworms on mulberry bushes or tussore trees. Yarn is then made from silk wool. Even in the cotton loom sector, cotton ginning, spinning and weaving are carried out together. In the process, maximum value added stays within the country.

[35] Pottery also uses fuel for baking. However, the quantity of heating required is low. In addition, economical, community ovens are used extensively.

Table 2.16 Distribution of Enterprises by Size of Production, Average Production, and Average Value Added.

Industry	Frequency of enterprises by size class	Mean (riels)	Value added (riels)	[(Value added)/Production]x100
Fishing (N=60)		19,252,755	12,721,252	66.07
< 2 million riels	8			
2-3 million riels	10			
3-4 million riels	8			
4-5 million riels	6			
5-7 million riels	5			
7-10 million riels	6			
10-15 million riels	5			
15-50 million riels	6			
> 50 million riels	6			
Fish processing (N=60)		86,006,841	26,868,651	31.24
< 1 million riels	8			
1-2.5 million riels	9			
2.5-4.5 million riels	8			
4.5-10 million riels	7			
10-50 million riels	10			
> 50 million riels	18			
Silk weaving (N=30)		3,501,652	1,898,329	54.21
< 1.7 million riels	6			
1.7-2.5 million riels	6			
2.5-3 million riels	7			
3-5 million riels	5			
> 5 million riels	6			
Cotton weaving (N=30)		32,634,017	7,421,425	22.74
< 15 million riels	8			
15-30 million riels	8			
30-40 million riels	7			
> 40 million riels	7			
Pottery (N=38)		3,147,782	3,061,739	97.26
Brick making (N=22)		270,355,714	183,409,316	67.84

2.5.4.2 Output-Labour, Value Added Labour and Capital-Output Ratios

Output-labour or value added labour-ratios are indicators of labour productivity. They indicate the capacity of a production system to yield unit incomes for the factor inputs deployed. High labour productivity ratios suggest high economic viability of enterprises, as entrepreneurs and workers can earn a decent earning, and vice versa. Capital-output ratios determine the fixed resource requirement to generate unit production. These three ratios, along with the capital-labour ratio discussed in Table 2.15, are critical in planning for investment, choosing technologies and creating jobs.

Table 2.17 presents these for six out of the seven industries being studied. The first two ratios are in riels per worker, while the third is a pure number.

Table 2.17 Output-Labour, Value Added Labour, and Capital-Output Ratios

Industry	Output/labour ratio (riels/worker)	Value added/labour ratio (riels/worker)	Capital/output ratio
Fishing	3,712,397	2,361,044	0.22
Fish processing	25,827,014	10,154,218	0.19
Silk weaving	2,474,698	1,261,600	0.05
Cotton weaving	8,018,212	1,795,832	0.12
Pottery	2,819,086	2,744,000	0.08
Brick making	8,601,311	7,629,644	0.47

The pattern in labour productivity, observed in the table above, is a little puzzling: fish processing shows the highest productivity figures, followed by brick making, cotton weaving and fishing; pottery and silk weaving come last. The size of production, technology use, and labour productivity, do not necessarily follow the same ranking. The highest value added per worker is in fish processing ($2,571), while the lowest is in silk weaving ($320): a 1:8 difference. A more capital-intensive industry like brick making has a lower value added per worker ratio than fish processing. Silk weaving yields value-added per person not very different from subsistence, when calculated on a daily basis, *i.e.* about one dollar a day. These data suggest *per se* that scales of operation or sophistication in technology do not ensure success, and that product demand (*i.e.* product price) plays a critical role.

Capital/output ratios with values less than one, imply that capital is rotated more than once each year; *i.e.* every unit of capital is capable of generating output more than its face value each year. In most modern large industries, capital rotates only once every three to five years (capital/output ratio is 3–5). The capital/output ratios in this sample show the highest figure at 0.47 in brick making and the lowest in silk weaving and pottery, at less than 0.10 (Table 2.17). In some of these rural industries, capital is rotated several times each year; efficiency of capital use in them is, therefore, many times higher than that of modern large industries. This implies that these industries survive essentially on labour inputs; many are also starved of capital.

In summary, all the industries produce large amounts of value for their capital outlay and production. In pure financial terms therefore, these industries are highly efficient. In a market place, though, survival requires more than just being financially efficient. Scale of operation is critical for ensuring a critical minimum income, technology is critical for labour productivity, and demand is critical to keep output prices reasonably high.

2.5.5 Profits and Profitability

Profits, the disposable incomes of the entrepreneurs, are the final determinants of the viability of an enterprise. Here, profit is calculated as production (sale)

minus the costs paid out and depreciation.[36] The different profit ratios calculated here are profit per unit of production, profit per unit of value added, profit per capital outlay, and profit per non-hired worker (*i.e.* profit per owner-worker). Table 2.18 contains these for six out of the seven industry groups.

Table 2.18 Profitability Ratios (figures in riels)

Industry	Profit per enterprise (riels)	(Profit output) x100	(Profit/value added) x100	Profit/capital	Profit/(owner-worker)
Fishing	11,351,471	48.18	87.83	7.33	7,068,367
Fish processing	26,560,405	34.54	88.38	17.88	12,985,366
Silk weaving	1,885,273	52.23	98.85	14.44	1,251,915
Cotton weaving	6,309,425	19.05	82.87	2.72	1,208,319
Pottery	3,005,748	94.00	98.17	10.60	-
Brick making	44,000,000	16.27	23.27	0.35	-

This table shows that an average fishing enterprise generates an annual gross profit of 11,351,471 riels (about $2,839), to be shared between family members of the enterprise owner. A ratio of the amount of profit to working family members, *i.e.* income per owner-worker has been calculated in the last column. For fishing operations this is about $1,767 annually or $4–5 per enterprise-owning member per day. The amount may actually be less than this, after those expenses that differentiate gross profits from net profits are accounted for. Next, this is the average of disparate enterprises: the smaller ones may earn much less, at not much above subsistence. A fish processing enterprise generates an annual gross profit of 26,560,405 riels (about $6,640). Gross profit per owner-worker (calculated in US dollars) is about $3,246 annually, or about $9 per day. For a silk weaving enterprise, gross profit is 1,885,273 riels (about $475), for which an owner-member works receives $315 annually, or a little less than a dollar a day. For a cotton weaving enterprise, the gross profit per enterprise is 6,309,425 riels (about $1,580) annually, which works out at about 3,400 riels per owner-worker per day. Owners and hired workers earn similar amounts in both the weaving operations. For pottery, the annual gross profit is 3,005,748 riels (about $751), and for brick making, it is 44,000,000 (about $11,000). Such details could not be calculated for the other industries.

Earnings per owner-worker are higher than subsistence in all industries except weaving. However, as seen earlier, the wages of hired workers are at subsistence everywhere. A possible reason is that labour market conditions determine the hired workers' earnings rather than capacity to pay. Hired workers in rural non-farm enterprises are low skilled and frequently illiterate, and overall labour market conditions are slack (*i.e.* supply is greater than demand). These factors result in low wages.

[36] Depreciation is calculated simply here, *i.e.* 10 percent of the value of fixed capital is deducted each year.

Profit per unit production (Profit/output x100) and profit per unit value added (Profit/value added x100) are calculated in Table 2.18. Profitability in all industries is high. It is extraordinarily high in four out of the six industries and moderately high in cotton weaving and brick making. Profit per unit of capital invested is so high in all the industries that, except for brick making, the whole of fixed capital invested can be recovered several times over in less than a year. In silk weaving and fish processing, the fixed capital can be recovered in less than a month![37]

2.5.6 Productivity and Scale

So far, the data have illustrated the high internal efficiency of small and micro enterprises, but also that the earnings of workers are not high. Both the small-scale of operations and rudimentary technology appear to be responsible for the latter. In this subsection, an assessment of the relationships of earnings and technology with the scale of operation is made.

Regression equations have been estimated to verify the relationships described above. Given the elementary nature of data here, technology is measured by the capital/output ratio (capital productivity) and earnings by value added to labour ratio. Scale is measured by the size of output. The estimated equations (using logarithmic transformation) for four industries are as follows:

Fishing:

Ln (Value added/labour) = 0.11 - 0.15 Ln (Capital/output) + 0.77 Ln (Output)
(1.10) (7.66)
R2=0.54; F = 31.80

***Fish processing**:*

Ln (Value added/labour) = 1.23 - $4x10^{-2}$ Ln (Capital/output) + 0.71 Ln (Output)
(0.37) (6.64)
R2=0.62; F = 42.41

Silk weaving:

Ln (Value added/labour)=$1.91x10^{-2}$ - $2.24x10^{-2}$ Ln (Capital/output) + 0.83 Ln (Output)
(0.68) (6.19)
R2=0.62; F = 20.91

Cotton weaving:

Ln (Value added/labour) = 2.49 - 0.26 Ln (Capital/output) + 0.57 Ln (Output)
(1.44) (4.01)
R2=0.40; F = 8.05

(Figures in brackets are the respective ‘t’ values; ‘Ln’ refers to natural logarithm)

[37] Such high rates of return are quite common in micro enterprises in developing countries of Asia. See ADB (1998). It is not high in brick making since brick making is not a micro industry.

In all four equations, the coefficient of Ln (Output) is positive and statistically significant at 0.01 percent confidence.[38] The coefficients of Ln (Capital/output), however, are statistically not significant — perhaps this variable is not adequately able to represent technology.[39] The equations in general confirm that the size of incomes per worker critically depend upon the scale of operation.

2.5.7 Summary

The analysis in this section suggests that rural industries are disparate entities: there are vast inter-industry, intra-industry and inter-enterprise variations in their labour use, capital outlay, value added, and profitability. However, almost all of them are labour intensive and short of capital. In almost all, the turnaround cycle of capital is rather short, in some cases as little as a month. The source of capital is largely personal resources. Equipment suppliers are either local shopkeepers or intermediaries and the logic for choice of machines is the ease with which they could be repaired. With the exception of brick making, hired workers are few in number compared to workers who are engaged on their own account. Earnings of paid workers are always at subsistence, though profits in many industries (and enterprises) are higher than subsistence. This is because the labour market is slack. Despite the high technical efficiency exhibited in operations, absolute earnings are modest because of the tiny scales of operation, low output prices and rudimentary technologies.[40]

2.6 Marketing and Market Chains

Marketing is an important link in any business, but it probably assumes a critical position in small rural businesses in Cambodia because few rural locales are effectively integrated into larger markets. Lack of market integration affects both output disposition and input supply. Local monopoly situations often arise, and because of this, producers may not be able to obtain adequate returns for their produce. Instead, market controllers reap much of the benefits. This section presents two distinct analyses; the first on aspects of product marketing as obtained from questionnaires, and the other on market structure and its linkages to the production process, as seen from studies carried out using qualitative methods.

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[38] This positive association is not in contradiction to the findings in Table 2.17. These equations measure intra-industry, inter-enterprise associations, while data in Table 2.17 present inter-industry variations.

[39] An alternative specification, using capital/labour ratio to represent technology, also did not yield significantly different results.

[40] Technical efficiency refers to efficient use of existing means of production. This concept is different from the quality of technology, which is primitive in most cases.

2.6.1 Markets and Prices

Table 2.19 presents data on how different industries market their products. The different categories of purchasers are the same as described in Section 2.5 earlier.

Table 2.19 How Products Are Marketed.

Industry	To local buyer	To middle person/ trader	To Phnom Penh market	To others	Total
Fishing	16	39	-	5	60
Fish processing	6	45	-	1	60
Silk weaving	4	25	-	1	30
Cotton weaving	-	5	25	-	30

This table shows that in the four industries for which data are available, the largest aggregate proportion of buyers are the intermediaries and traders, followed by local buyers (local shops). Products are directly marketed in Phnom Penh markets only in the case of woven cotton products (*kroma*). Intermediaries operate between the larger markets and producers. They may or may not be locally based, and might enjoy a localised monopoly. This aspect is discussed in the next subsection.

Table 2.20 presents data on the perception of producers, as to who controls the output prices.

Table 2.20 Perception as to Who Controls the Price

Industry	Local buyer	Intermediary/ trader	Phnom Penh market	Others
Fishing	7	47	1	5
Fish processing	15	-	5	40
Silk weaving	4	25	-	1
Cotton weaving	16	-	14	

Perceptions about who controls output prices are mixed, largely according to the markets faced by each producer. In fishing, 47 out of the 60 producers felt that intermediaries controlled prices. There could be an element of truth in this since the fish market, which is mainly one of fresh produce, is large and controlled by persons outside the local region. It is common knowledge that markets in Phnom Penh and from across the border (in Thailand) set the final product prices. In the case of fish processing, intermediaries and traders do not appear to be important. First, there is no such urgency to dispose the produce. In addition, much of the processed fish is locally consumed; only a small portion is exported to Vietnam, through cross border trade. ‘Others’ in this table, refer to miscellaneous agencies outside the present discussion; meaning that processed fish is sold through a variety of outlets outside the three options mentioned here.

Intermediaries, who supply the yarn and pick up the final product to be marketed in Phnom Penh, dominate the silk market. Finally, the cotton product (*kroma*) is marketed locally as well as in Phnom Penh. Hence, answers as to who controls the prices again reflect the prevailing market situation.

Table 2.21 Whether Input Suppliers are also the Output Buyers, and Whether Costs of Output Payment are Adjusted to Input Supply

Industry	Input supplier same as output procurer	Input supplier not same as output procurer	Input cost adjusted against output payment	Input cost not adjusted against output payment
Fishing	7	53	6	54
Fish processing	8	52	8	52
Silk weaving	22	8	11	19
Cotton weaving	6	24	16	14

This research also sought to determine whether the input suppliers also control the output market. Table 2.21, shows that in the fish and fish processing activities, only about 15 percent of the entrepreneurs find the input and output markets controlled by the same trader. This is not difficult to explain as inputs for fishing (other than diesel and fishing nets, and maybe salt for fish processing), are locally produced. The small proportion of entrepreneurs who supply produce to the input suppliers are perhaps those who borrow money and then pay back in kind. In the case of silk, those who supply yarn, also buy the silk fabric. This activity is more like captive production, where producers are virtually reduced to hired workers for the buyers (and sellers). In the case of cotton woven *kromas*, producers have found markets in Phnom Penh, either directly or through local shopkeepers. There are no intermediaries who control the output market, (see also Table 2.20).

The last two columns in Table 2.21 show responses to whether payments for outputs are adjusted against credit advanced for inputs. Most of the producers in fish related activities do not link receipts for outputs with payments for inputs. In both the weaving related activities, there is some adjustment. As indicated later, these enterprises get a lot of yarn on credit, to be paid back in the form of woven produce. Such a characteristic is against competitive market principles and may not provide full advantage to the producers.

Table 2.22 provides data on whether producers are paid on time for their products.

This table suggests that a very large number of workers in fish related activities get payment on delivery. The same cannot be said for silk, probably because of the critical dependence of the producers on intermediaries, who in turn get their money only after the merchandise is sold in Phnom Penh. Cotton lies somewhere in-between. The stone/earth-based industries generally get all

their dues on delivery of the product. Hence, it could be concluded that in most industries and enterprises, producers get payment without much delay.

Table 2.22 Timing of Payment by Distribution of Households

Industry	In advance	At product delivery	After product is sold	Excessively delayed
Fishing	3	52	3	3
Fish processing	4	51	1	4
Silk weaving	1	8	11	10
Cotton weaving	-	20	-	10
Pottery	-	36	3	1
Marble handicraft	-	30	2	-
Brick making	-	20	2	-

Finally, data collected on timed-based trends in sales suggest different patterns of growth across the industry groups. In the last four years or so, fishing has shown a decline; respondents complained that production has fallen from a base of 100 in 1998 to 65 in 2002. The fall is consistent with findings from other studies as well, though the magnitude may not tally.[41] In contrast, fish processing has progressed from a base of 100 to 128 in four years, and this could be a demand-led increase.

Silk production has hardly risen, from 100 to 111 in four years. The demand for this product has been stagnant due to stiff competition from synthetics from neighbouring countries. Sales of cotton weaving products, however, have risen rapidly from a base of 100 to 353. It is not clear at this stage, why this activity has progressed so fast. Field inquiries on the one hand suggest that there is no competition for this product from other countries. In addition, since the life span of a *kroma* is only three or four months, demand is maintained. On the other hand, the cotton *kroma* market exhibits incomprehensible behaviour: while demand appears to be rising rapidly, prices are stagnant and profits are low. Possible explanations are that the product is selling *because* it is inexpensive. Additionally, field inquiries suggest that the supply is rising very fast as well. Each year, at least 60 new power looms are being installed and the increased supply contributes to keeping prices low.

The demand for pottery has been steady while demands for marble are unsteady. Excessive competition along with high costs could be the possible causes of low sales. Last, the index of brick production has fallen from a base of 100 in 1998 to 63 in 2002. The reason for this is the lack of demand, with stiff competition from neighbouring countries that are supplying a superior product.

[41] Fish production is reported to have suffered in recent years due to repeated floods and other ecological factors.

2.6.2 Forward and Backward Linkages

2.6.2.1 Fishing and Fish Processing

Fishing is a complicated business, involving a large number of partners in the whole production and marketing process. Boats are made locally, and this is a specialised job generally undertaken by certain minority groups. Smaller boats are simpler to make, though they are only good for shallow waters. Medium and large boats are of a more sophisticated build and are fitted with diesel engines. There is no monopoly in supply, and boats are abundantly available at short notice.

Fishing nets are made out of nylon and are imported from other countries. Previously, nets were made out of locally produced rattan, though this practise has been discontinued now. A fishing net does not last much longer than a season before it has to be replaced. This is a drain on the country's resources, as nylon fishing nets could be made within the country.

Most of the fish caught is marketed fresh; a relatively small portion is pickled, smoked, dried or salted. Fresh fish is mainly transported to either Phnom Penh or the border at Poipet for export to Thailand. Local or regionally based merchants are the main operators in this business. There are two kinds of merchants: those who procure smaller quantities from individual fisherpersons and sell the catch in a regional market where another group of merchants take over, and those who are concession-lot owners who possess the resources to market their products in Phnom Penh or Poipet. Needless to say, there are merchants in Phnom Penh and Poipet who take the merchandise further for distribution to its final users. The markets are not perfect, as the numbers of merchants are small compared to the number of producers.[42] Thanks to mobile phones, the market is transparent as prices can be communicated to all locales on a daily basis.

A monopoly situation can be observed from the fact that the price of fresh fish received by the producers (and even some merchants) has not risen over the last two or three years despite an increase in demand. However, input prices for items like salt, ice and diesel have risen steadily. Cambodian traders also lose out while conducting business with their Thai counterparts, who quote prices in baht, as Cambodian merchants incur expenses in US dollars. This is especially the case as the exchange rate of the baht has recently fluctuated downwards.

[42] While the producers can produce even with a small rowing boat, traders must be of a certain size to be able to effectively store and transport the fish to faraway places. Inevitably, a monopoly-like situation will arise. This is particularly so since the product is perishable.

Figure 2.3 Forward and Backward Linkages in Fishing Operations

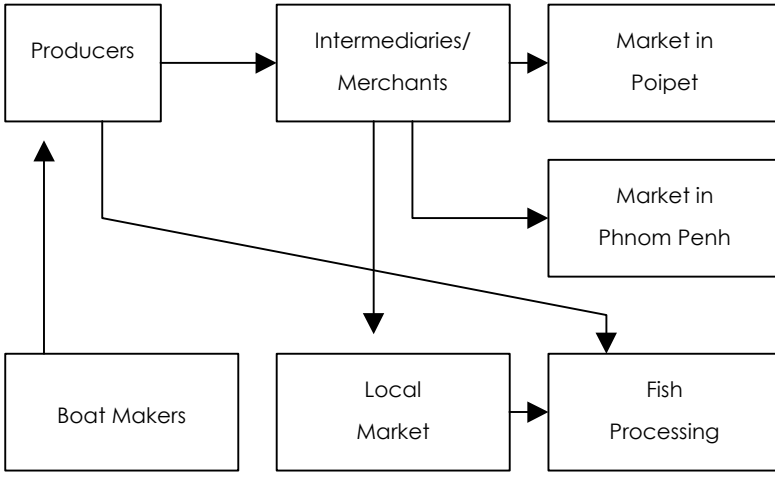


Figure 2.3 illustrates the forward and backward links of fishing operations, revealed by the field study. The price paid by intermediaries/merchants to producers is determined either by prevailing prices at the border or those in Phnom Penh, and negotiated on a daily basis. To cover the freight cost (diesel for a 30-tonne truck), road fees and check point payments, intermediaries pay 5 baht/kg to transport fish to the Poipet border.[43] Additionally, intermediaries have to pay a licence fee of 100,000 riels per trip, telephone expenses of about 80,000 riels, and labour costs of about 400,000 riels per month for loading and unloading the fish. At the border, warehouses cost about 30,000–40,000 riels (per truck, per journey), though only the larger operators, who operate 30–tonne trucks, use this facility or it would not be economical. Smaller traders cross the border and dispose of their product at whatever price they can get. In the event that merchandise reaches the border late, after it is shut, extra expenses must be incurred to get it across. Ice for storage, costing another 50,000 riels, is required at the warehouse. A border fee of 100,000 riels, Thai customs of 500 baht/tonne and additional bribes to cross the border add to the costs. The incidence of all these expenses is not borne by the consumers alone. In fact, consumers enjoy quite a competitive market, as producers, some intermediaries, and merchants have to bear the expenses. It is not surprising that the prices producers receive have remained stagnant.

Expenses when the merchandise is shipped to Phnom Penh are somewhat lower, since the distances are less, checkpoints fewer and informal payments

[43] Transporters directly manage the entire road expense, like formal and informal fees; the shippers do not have to get involved in these dealings.

usually lower. However, the final output prices are also lower in Phnom Penh compared to Poipet. Some smaller merchants offload their products in local markets for consumption or processing. Although they have less operational problems, they also earn less.

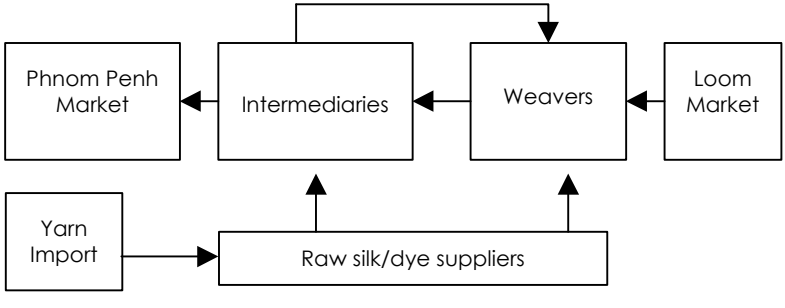
From the details given above, several factors can be identified that would help Cambodian fish producers:

1) If the informal payments en route were reduced;
2) If local traders got a better deal in the trade process, which would in turn benefit both traders and producers;
3) If warehousing facilities were available to all at reasonable charges so that traders do not have to sell in distress;
4) If trade routes (roads) are physically improved;
5) If trade regulation with the Thai traders was enforced.

2.6.2.2 Silk Production

Although silk is woven using locally made wooden machines, fabric designs and the yarn, come from 'outside' giving locals no real control over production. In addition, as there has been no introduction of modern techniques, backward economic linkages are weak and localised.[44]

Figure 2.4 Forward and Backward Linkages in Silk Production



Up to three or four intermediaries visit each village; they supply the yarn and dye and collect the final product. In some cases, the persons who collect the final product and those who sell the yarn are the same. They also manage the transport to and from Phnom Penh markets, to bring the yarn to the producers

[44] There is a proposal being made by PRASAC to infuse modern technologies in this sector, but this is at an early conceptual stage. This aspect is discussed in Section 7.

and take the silk fabric back. The final product prices are determined by the demand and product quality. Presently, the demand is depressed because of stiff competition from silk and synthetic cloth from neighbouring countries. The prices are also depressed because Cambodian silk is seen as low quality. The rejection rate of lots is high because of defects, and this further depresses earnings.

Intermediaries supply lots of 4–5 kg of yarn to the producers, at $16/kg if paid in cash, and at $20/kg if advanced on credit. When yarn is advanced on credit, a condition might be that the product has to be sold back to the same supplier. The turnaround cycle is never more than a month (averaging two weeks). In a small number of cases, raw silk importers, who also import the dye, have tried to market the product directly to the producers, but this practice has yet not gained ground.[45] Producers get returns on their produce according to the quality of the product. Intermediaries market the product in Phnom Penh, where merchants from Psar Thmey, Psar O Russey, Psar Toul Tompong or Banteay Srey Silk Store control the market and prices. The transport cost to bring 20–40 kg of merchandise to Phnom Penh is about 25,000 riels (borne by intermediaries).

Intermediaries often obtain credit from the merchants, and since the interest rates are what they are, the real gainers in the trade chain could be the city-based merchants and not the silk intermediaries. Intermediaries also lose out when merchants delay in making payments. The product is finally sold to the consumer at prices ranging between $20–25 a piece; merchants earn about $2–4 a piece, the silk intermediaries' profit margin is $1–3 a piece, while the producers gross about $10–15 a piece.[46]

It follows from the above that producers are handicapped in the market place since they control neither the input supply nor the output prices. Poorer technologies keep their productivity low, which further weakens their market position. In conclusion, the silk industry requires a thorough readjustment.

2.6.2.3 Cotton Looms

As mentioned earlier, cotton weaving machines are locally constructed, but all cotton yarn is imported from Vietnam and its price is externally determined.

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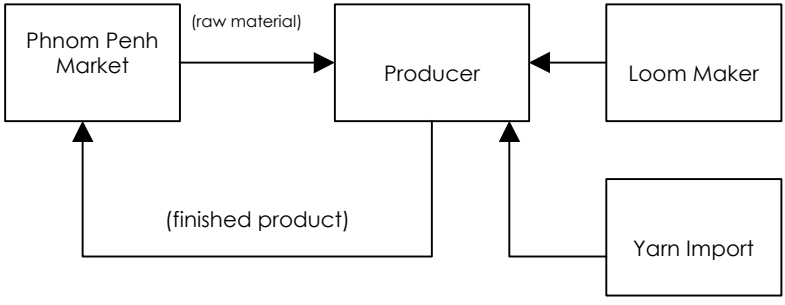
[45] A direct marketing by importers eliminates one intermediary; therefore, the cost at which the producers receive yarn is cheaper, at $14/kg. If this channel becomes more popular in the future, it might be of advantage to the producers.

[46] Since the producers are able to weave only about two pieces a month, their incomes are at subsistence.

Figure 2.5 Forward and Backward Linkages in Cotton Loom Products



Historically, producers have had direct contacts with cloth merchants in Phnom Penh. There are no intermediaries, and select owners travel to Phnom Penh to both deliver products and pick up fresh yarn for weaving. Producers spend up to 6,000 riels for each trip (motorcycle costs) to carry a load of 50 kg whether it is raw material or the finished product.

At least two factors limit the incomes of both workers and producers. First, output markets are competitive, and if the cost of production rises due to increased input prices, the incidence cannot always be passed on to the marketplace. Second, even after fitting the looms with electric motors the technology is still rudimentary. Productivity is therefore low, and the only reason why this product is surviving is because the product has no competition from elsewhere, and the prices are low a dichotomous situation but true. The industry could get a boost if its backward linkages were strengthened.

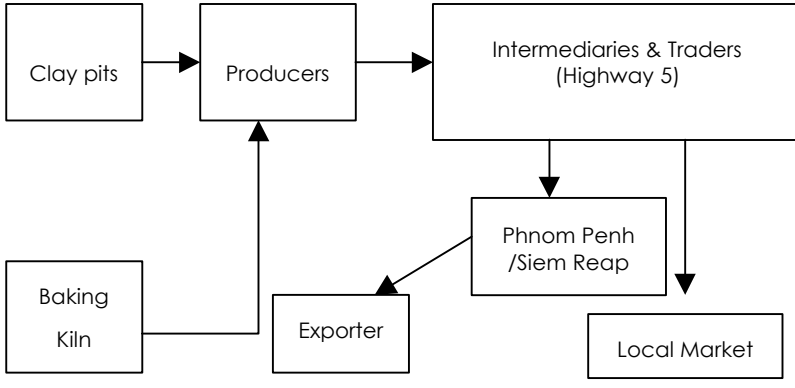
2.6.2.4 Pottery

As with most of the other industries studied, the forward links in pottery appear to be more critical than the backward linkages.

The main input is clay, which is inexpensive; a cart (about ½ m^3) is available for 5,000 riels (20,000 riels for delivery at home in a cart owned by the transporter), and is sufficient to make more than 250–300 pots and vessels. Often the producers themselves dig the clay and transport it.

As mentioned previously, producers mould the vessels and fire them in kilns owned by others, where they hire time. The charge for hiring kilns is 25,000 riels for one session. An additional expense of 8,000 riels has to be incurred on firewood. Producers bear all these expenses. Each firing session can fire up to 100 pots and vessels. The whole process of moulding and baking about 100 pots and vessels takes about 11 days.

Figure 2.6 Forward and Backward Linkages in Pottery



Traders and intermediaries market up to 95 percent of the product. Most traders' outlets are concentrated on Highway No. 5, which connects Kompong Chhnang with Phnom Penh. They retail the product, transport it to Phnom Penh and Siem Reap, and also export a small proportion through their links with other merchants. The breakages, which can be up to 30 percent, are borne partly by traders, though it can also be partly borne by producers through price adjustments.

Traders have recently enjoyed a tenfold increase in sales. The price paid for each product is not standardised, other than for components that are sold to locals for household use. While profits of the producers are given in Section 2.5, profits of traders could not be ascertained due to this price factor. Almost certainly, their profits appear to be higher in quantity than that of the producers (if not on unit sales), because the size of their operations is usually larger.

Technical assistance from NGOs has definitely strengthened backward linkages. Additionally, forward linkages are not too disadvantageous to the producers. However, as mentioned earlier, the scale of operation of each producer is too small to yield remunerative incomes.

2.6.2.5 Marble Handicraft

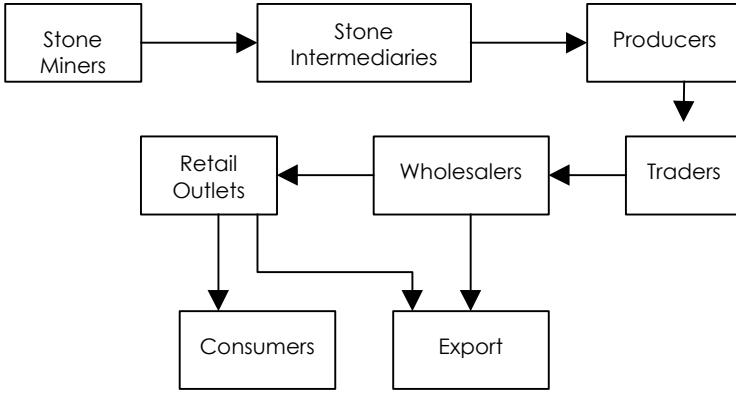
The principal backward linkage in marble handicraft is the supply of marble stone. Transporters and intermediaries form an important link in the trade chain as forward linkages include intermediaries and wholesalers in Phnom Penh, other areas in the country, and abroad. Intermediaries buy and resell the product to the final users.

Miners are local people from the mountainous area of Kravanh (Cardamom Mountain chain) some 70–80 km from the production sites in Pursat town. They extract and cut marble slabs and transport them in ox-carts to an open warehouse (an open space from where the stone slabs could be transported onwards). They dig, extract, and transport the marble for a period of one or two months to complete a full job. This only fetches them a subsistence income.

Intermediaries pick up the merchandise from the warehouses after paying the miners in accordance with the stones quality and weight.[47] The producers (carvers) buy stone from the intermediaries at prices ranging from 700–4,000 riels/kg. The intermediaries usually sell stone to producers at prices two to three times greater than that which they paid to the miners. Part of the margin is (informally) shared with government functionaries, for safe passage to Pursat.

Producers sell the handicraft to traders from Phnom Penh and Siem Reap. These traders take up to 80 percent of the total produce in volume. They have a network of wholesalers, to whom they supply; who in turn distribute the product to smaller shops, emporia, and souvenir shops. The final customers are tourists, local high-income groups, and foreign wholesalers/ exporters. Traders usually have their own means of transport and they are prepared to absorb these costs. The profit margin of traders is two to three times higher than their costs, while the profit margin for wholesalers will be a further two or three times higher than that. It can be seen how the products value multiplies up to six times between leaving the producer's hands and reaching those of the customer.

Figure 2.7 Forward and Backward Linkages of Marble Handicraft



[47] The most expensive stone is of a dark green colour, as it resembles emerald.

Once again, it is the traders and wholesalers, rather than the producers, who control the business. Both stone miners and statue makers earn small amounts and have little control over the market. While many producers have now enhanced their productivity with power drills and chisels, they do not earn very high incomes for lack of market control.

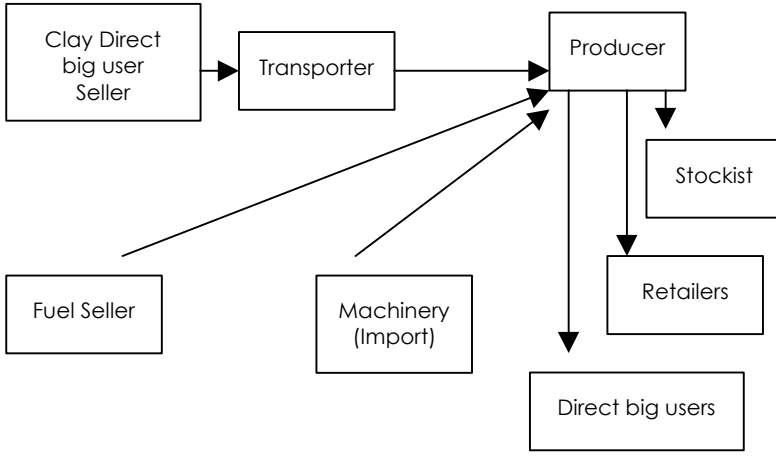
2.6.2.6 Brick Making

The backward links in brick making include supplies from clay sellers, rice husk suppliers (*i.e.* rice mill owners) and transporters. The forward linkage includes intermediaries, traders and transporters.

Brick making machinery is imported from Vietnam. This machinery may not be the best in the trade, but is preferred since it is inexpensive. Next, clay suppliers often own the land plots from where clay is dug and transported to the brickyards. Workers are locally employed at subsistence wages to dig the clay and pack it in trucks. Transporters then take the clay to the brickyards. In the case of bricks, producers rather than wholesalers dominate the market at this stage. They sell bricks on an order basis, as well as supplying wholesalers and retailers.

After the stock leaves the brickyard, traders decide the prices. The margin they get is small, though, at only about 10 riels per brick.

Figure 2.8 Forward and Backward Linkages in Brick Making



Unlike other industry owners, brick makers comprehensively control their markets. No effort is therefore made to work out the profit margins at any level other than at the production level, since they are nominal. As with any other

industry, however, their productivity could improve with technological upgrades.

2.6.3 Summary

Typical to small producers in developing countries, small rural industries in Cambodia also suffer from a lack of control over marketing and price mechanisms. Traders and intermediaries, who possess money and a monopoly position, gain a great deal. It must be recalled, though, that traders are not a homogeneous entity. There are 'dominant' and 'dependent' traders among them. Very often, the urban-based traders who have a direct interface with the final buyers are the ones who exercise the maximum control.

Backward linkages are often quite shallow, and while producers do not suffer unequal terms of trade, low quality inputs certainly keep their productivity low. Big traders play a dominant role in forward linkages. This is compounded when those traders also become input suppliers. In such cases, producers are reduced to mere piecemeal workers. However, there are not many cases where producers are under the dual control of traders, so far, it is only evident in the silk trade.

2.7 Policy and Market Initiatives

In the last decade, there have been many schemes for promoting Cambodia's agriculture and industry during the country's development. These initiatives have been led both by the government and by international agencies, including NGOs. There has been no clear policy, however, for the promotion of small industries, rural industries or non-farm activities, other than some initiatives that a few NGOs and international agencies have undertaken. The rural non-farm sector was not mentioned in the first Socio-Economic Development Plan (SEDP, 1996–2000), nor does it appear explicitly in the second SEDP. Even the Poverty Reduction Strategy Paper (PRSP) recently prepared by the government only makes a passing remark about this sector (fishing is of course an exception).

This paper now attempts to provide an overview of some of the initiatives that could have a bearing on rural non-farm and off-farm activities.

2.7.1 A Select Listing of Initiatives

2.7.1.1 Fishing Activities

Fisheries is a major sector in Cambodia, and other than the Ministry of Agriculture, Forests and Fisheries, there are specialised agencies, like the

Mekong River Commission and its national counterpart that are engaged in its development. The different schemes for its promotion include resource conservation, creating conditions for better breeding, training of officials, management of fishing lots, issues of access to fishing areas by the local communities, and international marketing (EDC 2002; McKenney and Prom 2002). While the debate on the efficiency of development activities is outside the scope of this paper, it is important to mention that existing policies are often criticised as they fail to effectively help the sector move away from a centralised control of resources to a market-led one. Even further, there is little in policy that would strengthen the production base of marine fisheries and, in contrast to fresh water fisheries, they hardly receive mention. Last, perhaps it is important to state that fish processing, packing (including freezing) and canning can add immense value under a more enabling policy environment. Unfortunately, there seems to be little evidence of movements in this direction at a policy level.

2.7.1.2 Private Sector Development under CARERE

The Cambodia Rehabilitation and Resettlement Programme (CARERE) was initiated in 1995 to experiment with local level development planning. CARERE was implemented in select provinces in the northwest and northeast. While its various facets included decentralised development, agricultural development and democratic decentralisation, it had a small focus on private sector development as well.

The private sector development activities of CARERE were primarily aimed at strengthening rural industries. Attempts were made to set up associations of small private manufacturing units, like rice millers, brick makers, fisherpersons and small-scale electricity manufacturers. The basic purpose of forming these associations was to impart training in business development, help form credit unions and assist in marketing. There were also some field studies conducted, which formed the basis of policy formulation for these sectors.

With the termination of the CARERE programme in 2000, its private sector development wing has now become an independent NGO, the Entrepreneurship Development of Cambodia (EDC). EDC presently focuses on promoting private sector and social capital development in rural Cambodia. It actively supports projects for private sector institution building and enterprise management, upgrading activities in rice milling, commercial fisheries, brick and tile manufacturing and renewable energy sources. However, its scale of operation is small, as it has to raise its own resources.

2.7.1.3 Training

Cambodia has a system of vocational training through which the state as well as NGOs have set up as many as 33 technical centres and schools. There is an extensive range of schools that might relate to industrialisation in rural areas and these include the following:

1) School for Industry;
2) Don Bosco Training Centre, Phnom Penh;
3) Technical and Vocational Training Centre;
4) Centre for Vocational Training, Don Bosco, Telka;
5) Centre for Professional Training, Battambang;
6) Cambodia-Japan Friendship Centre for Vocational Education;
7) Vocational Training Centre, Siem Reap;
8) Kampot Technical Industry Training Centre; and
9) Enterprise Centres for Rural Youth in Prey Veng and Sway Rieng (PRASAC).

Most of these are training centres that provide generic broad-based training. Currently there is no information available which would permit an assessment of the contribution of these institutions to occupational diversification. In an interview, a training expert working in an international NGO, candidly stated that with technical training that lasts only a few weeks or months, it is difficult to transform rural youth who are often asset-less (and with no more than five or six years primary education) into fully fledged entrepreneurs. Since there is more than just technical training required for people with a farming background to become entrepreneurs, such trained persons can, at best, help raise productivity in organisations (if and where) they are engaged. It also increases their employability.[48]

Don Bosco is among the more influential training centres, which offers training, primarily to orphaned children in a variety of skills like food preservation, sewing and stitching, electrical and electronic activities, mechanical engineering and printing. Their training activities are also spread across different areas of the country — Poipet, Kep, Sihanoukville, Kandal, Kompong Cham, Kompong Thom, Battambang and Takeo. So far, more than 2,000 candidates have been trained in different skills. The trainees usually get a stipend during the training period.

[48] Interview with a PRASAC training expert, September 4, 2002.

Although maybe a subjective evaluation, it does seem that many who are trained, seek paid jobs in large cities. There are no indications of the trainees either becoming small-scale entrepreneurs or reverting to rural areas.[49]

2.7.1.4 Entrepreneurship Development

The Mekong Project Development Facility (MPDF), a project supported by the Asian Development Bank (ADB), the World Bank and several bilateral donor governments, has been functioning since 1997. Its aim is to foster the domestic private sector in the three transitional economies in South-east Asia. MPDF has conducted 128 courses and trained 1,604 Small and Medium Enterprises (SME) entrepreneurs in the region. They have also included shorter flexible training programmes, which have found high acceptability among the users (MPDF 2001). Although the MPDF has initiated activities in rural areas in Vietnam, its activities in Cambodia have not necessarily concentrated in rural areas. In addition, out of the 87 projects on Company Advisory Assistance completed in the region, only seven pertain to Cambodia.

In its Cambodia operations, other than the completed projects stated above, distance learning, training of bankers and funding of a television programme formed the highlights of 2001. In the context of rural areas, MPDF has aided the Federation of Rice Millers' Associations. It also helped establish RICENET, an Internet site on rice. One of MPDF's activities is to assist soybean milk production, an agro-based industry, though the project is not located in a rural area (MPDF 2002).

2.7.1.5 Micro Credit

It is well established, from both existing literature and the case studies presented here, that credit is a major constraint in all development activities in Cambodia. Private credit is restrictive and expensive, while institutional credit is in very short supply. In addition, many borrowers do not legally qualify to access credit from institutional sources.

Commercial banks find it infeasible to bank in rural areas.[50] Instead, it is widely accepted that micro credit appears to meet the needs of small rural farmers and other producers. Efforts to extend micro finance got a major boost with ACELEDA establishing itself as a major credit provider (58 percent share of the market), and then the setting up of the National Rural Development Bank

[49] Interview with expert, Don Bosco Training Centre, September 6, 2002.

[50] The Canadia Bank experimented with lending money to farmers in the late 1990s, but found the venture unprofitable. It was subsequently discontinued.

for refinancing micro finance agencies. As of 2001, there were 75 micro institutions providing credit, serving about 21 percent of rural households in Cambodia (EMT 2001). However, in financial terms, only about 23 percent of need is presently being met and the estimated credit shortage is about $120 million annually (Kang 2002). Calculations indicate that rural micro credit institutions can be financially viable if the interest rate is in excess of 48 percent; which in turn implies that the rates of return for the enterprise that is borrowing should be even higher. Earlier analysis suggests that returns to investment are indeed well in excess of 48 percent in several cases. Yet, money is not flowing into rural areas, and there are several possible reasons for this.

a). The spread of profits might be too thin across different stakeholders, making it difficult to lend to a specific user;

b). The risks are too high in the absence of a legal framework; and

c). The supply is restricted.

As a result, despite $20 million dollars from the ADB to promote micro credit, only a small portion of it has been currently utilised.

2.7.1.6 Private Sector Initiatives

The private sector and NGOs have initiated a number of schemes for the evolution, or revival, of some activities in rural areas. Agro-processing is a good example with cassava processing initiated by one of the major industrial houses. Cassava-processing factories are set up near farm gates, and if farmers grow this crop, the produce is purchased for a guaranteed quantity and price (Sok and Acharya 2002). This type of agro-industrial integration is another form of rural industrialisation gaining ground in Cambodia.

Private sector initiatives have also begun in food processing. Examples of fish sauce production have been noted in Acharya (2002), while others include meatpacking, fruit packing and vegetable processing. However, each of these is presently at an early stage of development.

Silk promotion is yet another initiative which can improve the development of rural industry. Two such projects have an advantage due to their location in rural areas and their direct interface with farmers and rural workers. One example involved PRASAC in 2001–02, whose proposal consists of technological development, organisational and product scale-enhancement, and better product marketing (Victor-Pujebet and Peyre 2001). Technical studies conducted by PRASAC suggest that it is possible to increase the production and sale of silk, by three times over the next 10 years. UNESCO has also supported an association of women silk weavers in Phnom Chisor, Takeo province, to extend quality training in weaving and dyeing.

2.7.2 Summary

The few initiatives mentioned here may not cover the full spectrum of activities being undertaken in Cambodia, but they are a fair reflection of the state of public policy and activities by both the government and other agencies. It is evident that at best, the efforts are modest; and except for fishing and micro credit where there is *macro* level intervention, all other interventions appear to be at the individual and *micro* level. They attract attention because of their success, but they certainly cannot be termed as part of 'public policy'. In brief, Cambodia really has little to show in terms of a current effort to upscale rural non-farm activities and enterprises.

2.8 Conclusions and Recommendations

For reasons that are very largely historical, Cambodia has had few livelihoods in rural areas other than subsistence agriculture. Efforts to modernise the economy during the 1950s and 1960s bore some fruit, but the real impact was restricted to a few urban areas. During the 1980s and 1990s, some activities fanned out into the rural areas, and some existing ones like fishing, became more formalised. Nevertheless, to date, the rural non-farm economy has yet to grow to a magnitude that can make an impact on the structure of rural employment.

In addition to analysing secondary data, this study presents results from field inquiries carried out on seven rural industries and activities. To recap, these activities were fishing, fish processing, silk weaving, loom cloth weaving, pottery, marble handicraft and brick making. In almost all cases, the internal functioning of the enterprises was found to be efficient. However, the enterprises suffer from poor, obsolete technologies, inadequate training and exposure of workers to modern methods, lack of finance, limited marketing channels and rather small scales of operation that yield insufficient incomes. Not only are marketing channels inefficient as well as expensive, they frequently put the producers at a *disadvantage*. In addition, subsistence and family-oriented styles of business operation, keep productivity low. Last, the two most quoted obstacles to the promotion of local business, in Cambodia, namely poor infrastructure and dollarisation of the currency, appear to be present here as well.

To date, public policies focussing on non-farm operations have been few and isolated at best. However useful the sporadic attempts have been so far, they do not constitute the critical minimum incentive for rural development.

Promotion of rural non-farm activities requires a national effort towards rural industrialisation. The focus should be to move rural industry operations away from subsistence towards market-oriented forms, with full participation from the private sector. Aspects like an enabling macroeconomic framework, infrastructure development and good governance form a prerequisite to such a

policy. Some would even argue that growth of a non-farm economy (which is facilitated by demand from the farm sector) should be closely tied to modernisation of the agricultural sector, or else the attempt would be less than successful. Such a 'puritan' view is not necessarily subscribed to here.

It is beyond the scope of this paper to provide a blueprint for the growth of the non-farm sector in a development-planning framework. Consequently, recommendations made are restricted to discussing a few issues that emerge from the field study.

2.8.1 Sectoral Development

In rural non-farm business, some important activities concern the natural resource sectors like fishing, forestry and water resources. Each of these, directly or indirectly affects non-farm activities and/or employment. While the need for a comprehensive policy has often been voiced, and although the government has established a policy framework for each of these, with assistance from external agencies, the task is far from complete. A comprehensive natural resources policy framework and implementation mechanism — including technical, legal, administrative, and jurisdictional aspects — will have to be put in place, sooner rather than later. This point is not pursued in detail here as it finds extensive discussion elsewhere.[51]

2.8.2 Marketing

Marketing of products is facilitated by an appropriate physical and social infrastructure being in place, and an effective legal and administrative system. This could be a general statement for all products and services.

Having stated this, the context of rural industries and activities has to be viewed less generally. Some products and services are consumed locally in the rural sector itself, while others find outside markets. Either for those products that are marketed very locally or 'outside', efficient and low cost channels need to be established, to enable products to be cost effective and marketed on time. Fish and fish products, other resource-based industries, rural-based water transport services, and agro-based products are prominent here. Many products are locally consumed; but these products are often the ones that face competition from urban or internationally made products. Typical examples are of earthenware used for domestic purposes and of cotton handlooms. Some of these local products could face stiff competition from metal and plastic products and

[51] Useful references are minutes of Donors Meetings on Natural Resources, in addition to reports prepared by the MAFF, MRC and several bilateral and multilateral donor agencies.

imported fabrics, and might eventually lose out in the end. For such products, a smooth transition to another product or process (or a process upgrade) will have to be planned.

In some countries, rural industry marketing corporations have been set up to market products like handicrafts, custom-made silks, and artistic pieces, for example. There is a need for research to find out the economic feasibility of such an approach in Cambodia. However, unless the approach becomes self-sustaining in a reasonable period, it may not survive.

Product standardisation, quality control and packaging are an important component of marketing. Some countries have set up institutions to aid product standardisation, which certify the quality of the product for a price. Similarly, packaging has become an industry unto itself, and specialised institutions have been set up to evolve new packaging methods. To what extent such approaches could be suitable for Cambodia, is another priority need for research.[52]

2.8.3 Technology and Human Capital

Facts and recommendations, with respect to upgrading human capital and technology transfer for rural enterprises, are presented below:

1) There is a lack of personnel with good basic education. Therefore, few personnel can be directly trained into activities consistent with specific business or technical requirements. This needs to be addressed, particularly in rural schools.

2) Presently, there is a shortage of skilled personnel in mid-level technical vocations. Technical schools (especially if spread across the country) that can impart these skills, after eight years or more general schooling, would go a long way toward bridging this gap.

3) Business acumen is limited to a few, sometimes specifically with certain ethnic groups for historical reasons. This is usual in other countries as well, but the problem needs address. Both full-time and mid-career business schools, which can provide short courses in entrepreneurship, finance and specific aspects of technology management, can be helpful in bridging the knowledge gap in business. For the rural non-affluent sections of the society, some NGOs have introduced a new concept called 'group entrepreneurship'

[52] The most celebrated example of product standardisation, quality control and brand establishment is that of Delft Pottery. In the 19th century, when faced with stiff competition from Chinese-made porcelain, the Dutch crafts persons worked hard to exact better standards and establish a brand of its own. They succeeded in portraying their product as superior to the Chinese product. Today, Delft pottery is an industry, producing some of the best porcelain in the world.

(Bogart and Das 1989). Such approaches need serious examination in the Cambodian context.

4) The high cost of training in Cambodia is a concern. Unless technical and professional education is subsidised, the system would screen out a very large majority that are unable to pay. State support is essential here, if not in the form of low fees, then through generous scholarships. Often, both are required. Lessons from other low-income but highly literate countries like Sri Lanka, China, and Vietnam can be useful. Low cost training, including community-based training can also be instructive (World Bank 1994; ILO 1994).

5) Transfer of technology is critical to establishing a sound technological base, and while there is no unique formula for achieving this, one approach is to set up a tripartite organisation (employers, workers and the government) under the umbrella of the Asian Productivity Organisation (APO) located in Tokyo. Many countries in Asia have national productivity councils that share and disseminate technologies nationally as well through international transfer protocols. Some also have branches specialised in addressing rural problems. It is worth considering establishing a national council in Cambodia.

2.8.4 Business Development Services and Supply-side Strengthening

All businesses require services: this could be with regards to finance, markets, inputs, technologies, costs, and a range of other issues. In industrialised countries, such services are available in colleges, professional magazines and Internet sites, and provided through a number of consultancy agencies. Some items have a price but many are free. For many less developed countries, a business environment has to be created initially, if necessary with external assistance, before the market begins to provide business services. Supply-side strengthening, therefore, is an important policy measure.[53] One such approach is establishing Business Development Services (BDS).

BDS include training, consultancy and advisory services, marketing assistance, information, technology development and transfer, and business link promotion. BDS can be both, operational and strategic. Required operational services are provided on a day-to-day basis, while strategic services are required for medium to long-term business planning and expansion. BDS can be individual service-specific as well as for a group of services; this decision would depend upon the market being served (ILO 2001).

[53] Supply-side strengthening is not an anti-market policy. The US Government practiced it as well, though in a different form, in the 1980s.

The different actors in a BDS are private enterprises (the clients), facilitators (consultants, policy advisors), providers (product certifiers, technology suppliers, troubleshooters, trainers) and donors and governments. The relationship between the different agents is somewhat as follows:

Donors/Government ——> BDS Facilitators ——> Providers ——> Clients

Clients seek services on demand and for a price, providers are also demand-driven private agencies that work for a profit, while donors, NGOs or governments support facilitators in the initial stages of development, but finally, facilitators too become market-driven. Sometimes even banks take up the role of facilitators. In some countries, special banks, known as 'development banks', have taken up the task of carrying out these services. The World Bank (2001) and ILO (2001) provide many examples of variants of BDS.

There are a number of other services that can be provided by the government and donors to promote the private sector — providing they are not direct subsidies or cash concessions. These could include training (in country or abroad), establishment of industry or technology parks, and construction of common-use facilities (deep freezers for small fisherpersons) or common design centres (for small garment manufacturers). Help can even be provided in organising business associations. In a developing country, the provision of services under the ‘infant industry argument’ is a perfectly legitimate activity. However, the potential risk of BDS becoming supply driven has to be avoided.

2.8.5 Finance

Literature, as well as the field studies carried out here, suggests that people in Cambodia conduct business with their own savings, and borrowings from relatives and friends. This needs to change. To strengthen institutional lending, however, a number of preconditions would need to be put in place.

1) Transparency and market information require business support institutions — independent actuary authorities, statutory audits, business law firms, and credit rating agencies — whose authority is internationally recognised and respected. Cambodia lacks most of these, and it is not clear from the existing documents whether each of these is receiving attention. These institutions are not necessarily created on the initiative of the private sector alone; a lot of state support and partnership with the government are essential for their establishment.

2) Banks in Cambodia typically resemble banks elsewhere in the

developed world: they have their main offices (often their only offices) in the capital city, they deal with large sums of money, and they work in low risk environments. In reality, the concept of risk has never been institutionally defined in Cambodia and this aspect needs more research. Next, questions such as; what are the demands for credit from rural enterprises, rural retail marketing systems, decentralised business enterprises and trading; what is the seasonality of credit demand; and what is the capacity of different borrowers to pay back, have no clear answers. Clearly, the supply side of the financial system needs major policy support.

3) While not fully reflected in the case studies in this survey, a large number of economic activities do get credit — and pay interest rates of 60–120 percent annually. This is evidence that credit institutions can do profitable business with a much larger part of the population than at present. Banks presently do not have the expertise or experience to effectively negotiate with the 'small' or the decentralised. They are equipped to handle large sized loans and a few customers, and not a large number of customers wanting smaller quantities of loan. In dealing with small customers their transaction costs tend to rise, as a result, they shy away. It requires a different approach to bank with the small and decentralised, a management style yet to become popular, but needed in Cambodia.

4) For very small businesses, recent experiences elsewhere in the developing world reveal that while individual small operators may not qualify for credit, their credibility rises if they are formed into groups (Hulme and Mosley 1996; Tilakaratna 1996). Credit groups (or associations), composed of small borrowers often begin as savings groups, and as their credibility as savers gets established, they also qualify to apply for group loans — in quantities that banks can manage to administer at lower costs — and distribute the amounts among themselves according to each member's need (ADB 1998). There are no concessions on interest rates or payback periods; the interest rates are at par with the prime lending rates, or even higher. This approach has become popular in many countries, as the repayment rate of loans is generally in the range 90 percent or more. To make such a system operate nationally requires both organisation and regulation. Strengthening local governments — the commune councils in this case, which can act as regulatory authorities — as well as industry associations can be one step in this direction. Considerable training and innovations for this purpose would also be a prerequisite. One of the major challenges would be to steer funds from the formal banking

sector into micro finance and similar decentralised banking outlets. The establishment of the Rural Development Bank is a step in this direction, but much more needs to be done.[54]

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Chapter Three

Off-farm and Non-farm Employment and Activities in the Lao PDR

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3.1 Introduction

The Lao economy has historically relied mainly on its agricultural sector. As late as the 1970s, it was noted that over 80 percent of the workforce were engaged in subsistence agriculture and about 10 percent in government jobs. A small population and large surface area never created the historical impetus to move away from land-based activities for survival. In recent years, though, with a population increase of 2.5 percent and agriculture increasingly unable to provide more jobs, the need for off-farm and non-farm jobs is increasingly being felt. People's expectations for an improved standard of living also arise as they are exposed to global markets. This further creates internal pressures to find livelihoods outside agriculture.

With the establishment of Lao People's Democratic Republic (PDR) in 1975, the country pursued a centrally planned model of economic development for about a decade. The economic strategy of that period, principally promoted state regulated and collectively owned enterprises and the private sector was not encouraged. Rural non-farm and off-farm activities were not yet considered a part of either development priorities or the industrialisation programme of that period.

In 1986, the Lao government adopted a comprehensive reform programme called *the jintinaakaan mai*, or New Economic Mechanism (NEM), to effect transfer from a centrally planned system to a market oriented or mixed economy. Under the NEM, deregulating price controls and liberalising private investment and trade have provided a boost to the private sector. It has significantly encouraged development of the decentralised sector (SMEs) and this has included rural non-farm and off-farm activities. However, they are still at a nascent stage of development. The rural sector is still in the process of transformation from a subsistence economy to an integrated market economy.

Currently, the Lao economy is generally characterised by subsistence agriculture and rural small-scale non-agricultural production, which form the core of the economy. About 80 percent of the Lao population live in rural areas and rely mainly on agricultural production. About 75 percent of the total labour force work in the agriculture sector. Indeed, agriculture is the primary sector that determines the living standards of people, particularly in rural areas. However, due to the growing labour force in rural areas, limited arable land and relatively low productivity, agriculture is not able to absorb all of the existing and additional workers and improve their living standards. At the same time, urban industrialisation has only created jobs for small numbers.

In this context, rural non-farm and off-farm activities could play a significant role in job-creation and income generation. Lao Peoples' Democratic Republic (Lao PDR) is currently in the process of gradual industrialisation in which rural small-scale industries including food processing and handicraft are being established. Initially, Lao PDR is using intermediate technologies; but is expected to gradually enter into more complex manufacturing processes as the country's technical and managerial capacity rises.

The main purpose of this research project is to explore the possibilities of creating more diversified jobs, particularly in rural areas, with a view to generate incomes and alleviate incidences of poverty, unemployment and underemployment. The study aims to examine the possibilities for promoting micro, small and medium enterprises (SMEs) in agro-processing, subcontracting, trade, transport and other services, also referred to as the decentralised sector. The main purpose is to promote the idea of dispersed industrialisation and promotion of private sector initiatives in rural areas in the country.

3.1.1 Methodology

The study was carried out in four stages. For the first stage, secondary data sets were analysed to determine the trends and patterns in non-farm activities. The second stage involved a limited field survey. For the third stage, present state policies were subject to critical analysis. In the fourth stage, policy recommendations were considered.

The broad objectives of this study were to analyse the current status of off-farm and non-farm activities, to assess the public policy and support for the decentralised sector, to discover the dynamics of the internal functioning of the sector, and finally to make policy recommendations for its growth.

3.1.1.1 Secondary Data Analysis

Unlike many other developing countries, there have been no detailed labour or

establishment surveys conducted in Laos, which would comprehensively cover the whole country. A number of one-off surveys have been conducted, and data from these have been analysed here. The main existing surveys from which data have been drawn for analysis are:

- Lao Expenditure Consumption Survey (LECS-II), 1997–98;
- Population Census 1995;
- Survey of Large and Medium Industrial Establishments, 1999;
- Survey of Small Industrial Establishments, 1999;
- Small and Medium Enterprises Survey (GTZ, 1995).

3.1.1.2 Field Survey

A small sample study of 240 selected rural enterprises in non-farm and off-farm activities has been conducted in the following industry groups: Weaving, Sugar Cane Processing, Bamboo, Handicraft and Fishing. They were conducted in select provinces in Louangprabang, Xiengkhouang, Vientiane and the Vientiane Municipality.

3.1.2 Concept and Definition

In developing countries, a rural area is often defined as any settlement with up to 5,000 inhabitants. There are also occasions when urban and rural areas are defined not only by size, but also by the kinds of activity undertaken by its people. For example, if greater than 75 percent of the workforce is engaged in non-agriculture activity, the area can qualify as urban. In some countries, rural areas include rural towns, often defined as settlements with populations of 200,000–250,000. In some countries, population density is also a criterion for establishing the definition of an urban area. In Lao PDR, a different definition is used; according to the 1995 Census, an urban area must satisfy at least three of the following five conditions:

1) It has a market;
2) It has a road for access by motor vehicles;
3) It lies in a municipal vicinity where the district or provincial authority is located;
4) The majority of its households are connected to electricity; and
5) Tap water is supplied to a majority of the households.

Other than perhaps the Vientiane Municipality, all other locations within Laos can be characterised as rural. Therefore, analysis in this paper does not

attempt to minutely differentiate between rural and urban areas: Rather, the rural-urban divide is provided where given, and aggregate figures are provided otherwise. The field studies are carried out in rural areas as defined in the census.

Non-farm and off-farm economic activities in Laos cover a wide range of activities, which, are usually, directly or indirectly related to agriculture. Within the rural non-farm sector, activities relate to both production and trade. Prominent activities include weaving, handloom cloth, making hand-knotted carpets, processing of agricultural commodities, transport of agricultural outputs and inputs, extraction of forest, fisheries and mineral resources, village artisan activities like pottery, construction activities, service type manufacturing activities, hotels, restaurants, shop keeping retailing, and wholesaling.

3.1.3 Structure of the Report

This report consists of six main sections. Section 3.2 presents an overview of recent economic developments and trends, the general economic structure, and employment in the Laos economy, including findings from secondary data analysis. Section 3.3 presents findings from the field study. Section 3.4 provides a critical review of the government policies related to non-farm and off-farm employment and activities. In Section 3.5, development perspectives for off-farm and non-farm activities and employment will be provided. Concluding remarks are made in Section 3.6.

3.2 Overview of Recent Economic Developments and Trends

After the Lao economy was strongly impacted by the Asian crisis of 1998 (4 percent of GDP growth rate, the lowest growth rate in the 1990s), the Lao economy started to recover at 7.3 percent, 5.84 percent and 5.7 percent in 1999, 2000 and 2001 respectively.[1] In the 2001–02 fiscal year, agriculture grew at 4 percent, industry at 7 percent and services at 7.7 percent. The contribution to economic growth by the population at large, through the expansion of family production, small-scale business, and construction of residences, has remained steady at about 2 percent of GDP.

Despite the annual growth rate of GDP, the average *per capita* GDP decreased by less than 1 percent, from about $328.6 in 2000–01 to about $326.2 in 2001–02, and this is even lower than that before the crisis in 1997 (in 1996 *per capita* GDP was $360). The sharp decline in GDP *per capita* was due to significant depreciation of the kip since 1997.

[1] See the Government reports on the Implementation of the Socio-Economic Plan for the Fiscal Year 2001–02 and the Socio-Economic Plan for the Fiscal Year 2002–03.

The overall performance of the Lao economy during the 2001–02 fiscal year was satisfactory. This was despite the fact that it took place in the context of a gradual, but fluctuating, economic and financial recovery after the Asian financial crisis and from the unexpected catastrophic impact from the flooding in the country. The severe flooding destroyed 37,500 ha of rice fields, representing almost 7 percent of total rice fields. The most heavily hit areas were the provinces of Phongsaly, Luang Namtha, Bokeo, Oudomxay and Bolikhamxay. The estimated total damage to crops, irrigation schemes, livestock losses and fishponds amounted to over 85 billion kip. The Lao government provided emergency funds, and is currently preparing timely intervention for dry season production. The response from the international community, the private sector and other sectors has also been very generous.

While agriculture occupies a predominant sector in the economy, providing 50.3 percent of GDP for 2001–02, industry and services only account for 23.5 percent and 26.2 percent respectively. Key industrial activities are electricity production, garments, handicrafts, foodstuffs, chemical production and mining.

Since September 1999, month-to-month inflation has decreased. The inflation rates were 50 percent and 8.4 percent in 2000 and 2001 respectively. This was partly a result of the large fluctuations and resulting depreciation of the Lao kip against the Thai baht and US dollar, which made imports more expensive, causing an increase in prices. The average official rate for the whole fiscal year was approximately 9,800 kip per US dollar, which is about 14 percent higher than the average rate for the previous fiscal year.

The trade deficit decreased from 12.35 percent last year to 11.3 percent of GDP in 2001–02, which was still slightly higher, than the planned target of 11 percent. The total value of overseas development assistance (ODA) reached $387.23 million, of which grants amounted to $288.63 million, or 73 percent of total ODA. Loans amounted to $158.6 million.

Positive developments of the past year also include an appreciable increase in foreign direct investment (FDI). Currently, there are 84 projects valued at $493.8 million dollars, an increase of 11 times compared to last year ($43 million dollars for the 2000–01 fiscal year). This includes investment in the power sector of 73.2 percent, 12.2 percent in the industrial and handicraft sector, 3.3 percent in the service sector, 2.8 percent in the agricultural and forestry sector, 2.8 percent in the construction sector, 2.6 percent in the telecommunication and transport sector and 3 percent for other sectors. From last year, there is an inflow of both physical and monetary funding through the banks, which amounts to $73.6 million dollars. In general, the environment for promoting foreign investment is more appropriate and attractive than the previous fiscal year. Regulations related to foreign investment promotion have been improved largely to encourage and attract more foreign investment. The encouraging evolution of FDI can be linked to the

gradual recovery of the region's economy, combined with the improving foreign investment environment in the Lao PDR

3.2.1 General Economic Structure, Activities and Employment

3.2.1.1 Nature of the Data

A detailed analysis of the rural non-farm or off-farm sector is handicapped by the lack of easily available, adequate, relevant data that would allow us to measure the size and composition of the sector, or to test the various hypotheses advanced in the study. To make matters worse, it appears as if few analyses on off-farm or non-farm sector have previously been undertaken in the country. Nevertheless, there has been an increased effort in terms of data collection in recent years. As stated earlier, there are different data sets such as the Population Census, the Establishment Survey, the Lao-German Small Enterprise Development Project – Ministry of Industry and Handicraft (GTZ-MIH) Survey on SMEs, the MIH-UNDP Survey on Establishments, and the LECS-II (1997–98) Survey, which can be used. These censuses and surveys are only available for the 1990s; therefore a time series analysis or analysis of long-term trends is not possible. The population census is conducted every 10 years, and the LECS survey at five-year intervals. Other surveys are occasionally undertaken in response to the needs of a government agency or to meet the needs of government and non-government organisations engaged in promoting the non-farm or off-farm sector. The sample designs of the data sets collected in various surveys are different; therefore, the results are not comparable. In the light of this situation, it is only possible to make some general comparisons of results obtained from the different surveys.

An overview of the economic structure, activities and employment in Lao PDR will be provided initially. Following that, data on farm and non-farm employment and productivity, using data from the 1997–98 Lao Expenditure and Consumption Survey (LECS), and Enterprise Surveys will be presented.

3.2.2 General Overview on Economic Structure, Activities and Employment

Laos is predominantly an agricultural country and was even more so at the beginning of the reform process in the mid-1980s. In 1985, agriculture accounted for no less than 89 percent of total employment, while industry and services combined only accounted for 11 percent (of which industry accounted for 2.5 percent). Compared to its neighbouring countries, Laos has a larger share of its labour force in agriculture.

In 1995, about 80 percent of the total population lived in rural areas in Laos and about 86 percent of them lived by agriculture and fishery. The varied

geographical structure of Laos is a key determinant of labour force activities and occupations for the population living in different areas, though almost all rely on the primary sector.

The agriculture, industry and service sectors respectively accounted for 55.19 and 26 percent of the total production in 1995. Table 3.1 shows that the distribution of employment between economic sectors differs significantly from the distribution of production.

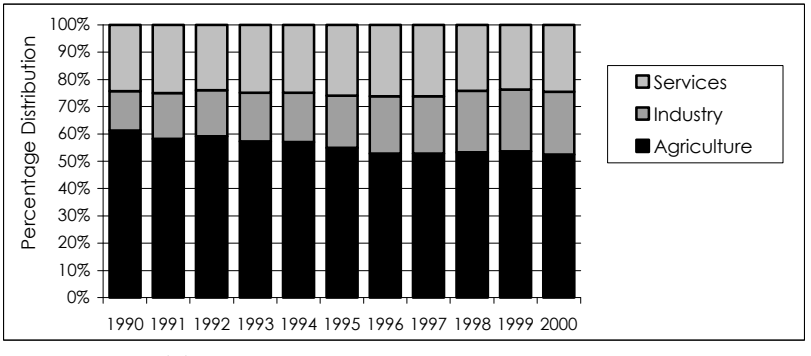
Table 3.1 Total Employment and Value Added: Number and Percentage distribution, 1995

Economic sector	Employment (Labour)	Percent	GDP (mill. kip)	Percent	GDP/ employment
Agriculture	1,849,033	85.4	767,565	55.0	415,117
Industry	76,286	3.5	265,331	19.0	3,478,111
Services	239,199	11.1	362,219	26.0	1,514,302
Total	2,164,518	100.0	1,395,116	100.0	644,539

Source: NSC estimates 1995 and Population Census 1995

Noteworthy differences in productivity between the different economic sectors explain the discrepancy between the employment distribution pattern and the corresponding value added. As illustrated in Figure 3.1, rapid changes have taken place in production in different sectors since 1990. However, the shift in the labour force responding to these changes has been limited (Figure 3.2). This is a significant cause of inefficiency and is, therefore, a matter of concern.

Figure 3.1 The Distribution of Value Added by Economic Sectors, 1990–2000

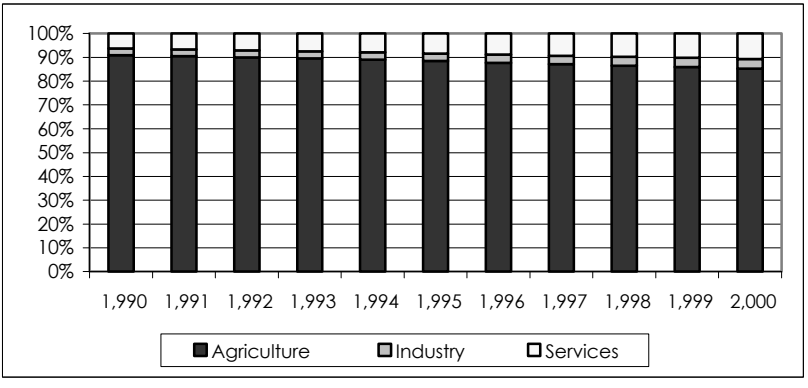


Source: NSC, Statistics Yearbook 1975–2000

The Lao Population Census of 1995 permits examination of the economically active population for the 10 years and over age groups. The economically active population aged 10 and over, constitutes 2,164,518 persons, of whom 1,120,441 are women and 1,044,077 are men (Table 3.2). Besides the agricultural sector, people work in the wholesale and retail trades, (3.5 percent), followed by public administration and the defence sector (3.2 percent), manufacturing (2.2 percent) and the education sector (2 percent). Regarding the gender aspect, more than 89

percent of women are engaged in the agricultural sector and 4.2 percent in trade. In contrast, more men work in public administration and the defence sector (5.7 percent) and in the education sector (2.4 percent). The geographic immobility and lower skills of women are the reasons for this gender discrepancy.

Figure 3.2 The Distribution of Employment by Economic Sectors, 1990–2000



Source: NSC Estimated.[2]

Table 3.2 Percent Distribution of Population, Older than 10, In Industrial Sectors by Sex

Industrial sector	Male	Female	Total
Agriculture, hunting and forestry	81,19	89,3	85,39
Fishing	0,06	0,02	0,04
Mining and quarrying	0,14	0,25	0,19
Manufacturing	2,05	2,26	2,16
Electricity, gas and water supply	0,28	0,04	0,16
Construction	1,91	0,18	1,01
Wholesale and retail, repair of motor vehicles	2,65	4,21	3,46
Hotel and Restaurants	0,17	0,2	0,19
Transport, Storage and Communications	1,7	0,09	0,87
Financial and intermediation	0,11	0,07	0,09
Real estate, renting and business activities	0,2	0,07	0,14
Public Administration and defence	5,67	0,85	3,17
Education	2,38	1,61	1,98
Health and social work	0,43	0,56	0,5
Other community, social and personal service	1,05	0,27	0,65
Private households with employed persons	0,01	0,02	0,02
Total	1,044,077	1,120,441	2,164,518

Source: NSC, Population Census 1995.

[2] Employment growth during the period 1996-2000 is based on ILO estimates (labour elasticity economic growth). For details before 1995, the annual growth determined during 1985 and 1995 population census was used.

Table 3.2 Percent Distribution of Population, Older than 10, by Industrial Sector and Rural and Urban Areas

	Urban			Rural			Total number
	Male	Female	Total	Male	Female	Total	
Agriculture, hunting and forestry	33,59	43,58	38,27	89,79	95,86	92,98	1848187
Fishing	0,05	0,01	0,03	0,06	0,02	0,04	846
Mining and quarrying	0,16	0,17	0,17	0,13	0,26	0,2	4190
Manufacturing	9	13,39	11,06	0,8	0,66	0,73	46742
Electricity, gas and water supply	1,42	0,3	0,9	0,08	0,01	0,04	3447
Construction	7,96	0,96	4,68	0,81	0,07	0,42	21907
Wholesale and retail, repair of motor vehicles	10,88	24,23	17,18	1,16	1,32	1,24	74786
Hotel and Restaurants	0,99	1,4	1,18	0,03	0,03	0,03	4065
Transport, Storage and Communications	7,56	0,57	4,29	0,64	0,02	0,32	18763
Financial and intermediation	0,57	0,48	0,52	0,03	0,01	0,02	1964
Real estate, renting and business activities	1,01	0,46	0,75	0,06	0,02	0,04	2939
Public Administration and defence	16,5	4,36	10,81	3,71	0,35	1,94	68680
Education	3,85	5,41	4,58	2,12	1,07	1,57	42932
Health and social work	1,5	2,82	2,12	0,23	0,23	0,23	10718
Other community, social and personal service	4,91	16,4	3,38	0,35	0,08	0,21	14012
Private households with employed persons	0,04	0,13	0,08	0,01	0,01	0,01	340
Total	159, 734	140,662	300, 396	884,343	979,779	1 ,864,122	2,164,518

Source: NSC, Population Census 1995.

Table 3.3 Participation of Population, Older than 10, in Industrial Sectors by Region and by Sex.

Industrial sector	North			Center			South		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Agriculture, hunting and forestry	87,77	94,74	91,38	74,56	83,46	79,1	85,65	93,14	89,66
Fishing	0,0	0,0	0,0	0,11	0,04	0,07	0,03	0,01	0,02
Mining and quarrying	0,09	0,24	0,17	0,19	0,29	0,24	0,07	0,18	0,13
Manufa-cturing	0,63	0,48	0,55	3,55	4,35	3,96	0,95	0,61	0,77
Electricity, gas and water supply	0,08	0,01	0,04	0,04	0,08	0,26	0,24	0,03	0,13
Constru-ction	0,81	0,05	0,42	2,99	0,3	1,62	1,21	0,12	0,63
Wholesale and retail, repair of motor vehicles	1,55	2,19	1,88	3,63	6,16	4,92	2,2	3,24	2,76
Hotel and Restaurants	0,06	0,09	0,08	0,3	0,35	0,32	0,06	0,07	0,07
Transport, Storage and Communic ations	0,84	0,06	0,44	2,52	0,14	1,31	1,22	0,04	0,59
Financial and interme-diation	0,06	0,03	0,04	0,15	0,11	0,13	0,11	0,05	0,08
Real estate, renting and business activities	0,08	0,02	0,05	0,34	0,13	0,24	0,08	0,02	0,05
Public Admin and defence	5,34	0,55	2,86	6,21	1,24	3,68	4,94	0,48	2,55
Education	2,03	1,03	1,51	2,81	2,14	2,47	1,96	1,39	1,66
Health and social work	0,35	0,4	0,38	0,5	0,73	0,62	0,39	0,43	0,41
Other community , social and personal services	0,29	0,09	0,19	1,67	0,45	1,05	0,86	0,18	0,5
Private households with employed persons	0,01	0,01	0,01	0,01	0,03	0,02	0	0,01	0,01
Total	347667	372856	720523	486819	506345	993164	209591	241240	450831

Source: NSC, Population Census 1995

Table 3.3 shows the percentage distribution of the workforce, aged 10 and above, by industrial sector and by rural-urban areas. The rural workforce amounts to more than three times that engaged in urban areas. Almost 93 percent of the rural workforce is engaged in agriculture, while only 38 of total urban workers contribute to this sector. Instead, much of the urban workforce is engaged in wholesale and retail, repair of motor vehicles (17 percent), the manufacturing sector (11 percent), public administration and the defence sector (10.8 percent), and 3.4 percent in other community, social and personal service activities. The overall distribution of the workforce is quite similar to the distribution in rural areas: this is expected since the weight of the rural population is so significant with respect to the total population.

Participation of the population, older than 10, in different regions of the country and activities can be seen in Table 3.4. The highest proportion of the workforce engaged in agriculture (91 percent) is found in the north. In the south, the proportion is 90 percent and in the centre, 89 percent. There are relatively more women participating than men in the trade sector, while there appear to be a higher share of men in the other two regions. On aggregate, therefore, there is little regional variation.

It is evident that the census data does not particularly contribute to the analysis of non-farm activities, since agriculture is such a dominant sector.

3.2.3 Employment and Agricultural and Non-agricultural Activities

With the help of results obtained from different surveys, an attempt will be made to give the overall picture regarding sector-specific economic activities and employment.

According to findings from the LECS 1997–98, the number of farmers as a proportion of the total workforce was approximately the same as 1992–93. Between 1992 and 1997 the economically active population, aged 15 and above, increased by 380,000 persons, and the farming population increased by 240,000 people. This suggests that 140,000 persons were absorbed in non-agricultural activities during this period.

Table 3.5, presents data from LECS 1997–98 on the total economically active population; those engaged only in agriculture, those engaged only in household business, those engaged in both agriculture and household business, and others (employees and unemployed). Farm labour and those engaged in both farm and non-farm activities (household business) accounted for more than 80 percent of the workforce. The highest rate of engagement solely in household business is found in the central region of the country, while the rate of workforce engaged only in agriculture was the highest in the south. Data in Table 3.5 are evidence to the fact that even though an overwhelming proportion of the workforce may be

engaged in agriculture, off-farm jobs constitute an essential part of work among more than half the households in the country.

Next, the general characteristics of farm and non-farm workers are presented and the amount of non-agricultural work carried out in 1998/99 (time allocation) is considered.

Both men and women work on the family farm. Of those aged 15 years and over, 92 percent of men and 91 percent of women work on the family farm. Farm work, however, is seasonal and does not usually provide full-time work: only 18 percent of household farm workers work 9–12 months a year on the family farm; 30 percent work for less than half a year. Caring for livestock, or other agriculturally allied activities, usually require only a small amount of time each day.

Table 3.4 Labour in Agriculture and Non-Agriculture by Region

Region	Only engaged in agriculture	Only engaged in household business	Engaged both in agriculture and household business	Other	Total
North	312,172	42,371	342,338	70,534	767,415
Centre	475,947	126,954	457,902	110,995	1,171,798
South	245,682	42,094	145,555	49,021	482,352
Total	1,033,801	211,419	945,795	230,550	2,421,565
North	41%	6%	45%	9%	100 %
Centre	41%	11%	39%	9%	100 %
South	51%	9%	30%	10%	100 %
Total	43%	9%	39%	10%	100 %

Source: LECS 1997–98

Women are more likely than men to have a farming occupation, with 94 percent of women compared to 90 percent of men. Excepting the predominance of employment in agriculture, men are more likely to be found in professional, technical, trade or machinery occupations, while women more commonly hold service sector occupations. Persons whose main occupation is farming may do other work to supplement their income and men are more likely to find jobs in other non-agricultural work. In total, 20 percent of male workers were engaged in some non-agricultural work during 1998–99, compared to 18 percent of female workers.

While men are more likely to have non-agricultural occupations, they often still undertake some work on the family farm, usually on a part-time basis. In all, 92 percent of both men and women (aged 15 years and above) work on family farms. However, 9 percent of men work on the family farm for only one or two months of the year, compared with 7 percent of women. As discussed previously, farm work is seasonal and does not usually provide full-time work. For example, 8 percent of people work for only one or two months on farms, while 22 percent

work for three to five months, and 18 percent of people work for more than nine months.

In the time use survey, (the LECS survey of 1997–98) the distribution of time between different activities can be seen (Table 3.6). A distribution of time spent on different activities by households (those with household businesses) shows that considerable time is spent on trade activities. After trade, most time is spent on manufacturing and agriculture. This is true across the whole country as well as regionally, although the pattern does show regional variations. In the north, people allocate comparably less time on trade and more on manufacturing activities. In the centre, people spend relatively less time on agriculture and allocate more time instead on service activities. Finally, in the south, workers spend more time on agricultural work compared to that of the other regions, implying that agriculture is an important activity even among those engaged in other businesses.

Table 3.5 Distribution of Time Spent on Different Economic Activities: Households with Household Businesses (Percent of Hours)

Activity	North	Centre	South	Lao PDR
Agriculture Work	15.5	2.6	21.8	9.1
Forestry	2.2	3.3	0.9	2.6
Fishing	7.4	4.3	2.6	4.7
Mining. & Manufacturing	24.4	15.1	10.8	16.7
Construction	0.1	1.1	0.1	0.7
Trade	31.2	54.1	56.8	48.9
Hotel &Rest	1	1.2	1.7	1.2
Transport	6.7	4.2	1.3	4.3
Real estate	5.3	2.4	4	3.4
Health & social work	0.6	0.7	0	0.6
Recreation, Culture	3.4	1.1	0.5	1.5
Other services	6.3	10.5	2.8	8.1
Percent	100	100	100	100

Source: LECS1997–98

In summary, it can be seen that most Lao households engage in a variety of sources of livelihood, at least to some extent. This typically involves a mix of subsistence and income earning activities, to cope with multiple environmental and economic uncertainties. Most households are engaged in a wide variety of off-farm and non-farm activities, combined with hunting and gathering, with agriculture, horticulture, animal husbandry and forestry to ensure a living.

3.2.4 Results from Establishment Surveys

The status of non-agricultural activities has been outlined with the help of three different 'enterprise and establishment surveys' from the 1990s. Results from other, different surveys are now presented separately.

3.2.4.1 Employment Structure by Industry in Large and Medium Categories [3]

The Large and Medium Industrial Enterprises Survey of 1999, reveals that there are various types of industrial enterprises in Laos. The numbers of large and medium establishments in manufacturing industries in the registration list[4] were 586, of which 107 were large (more than 100 workers) and 479 were medium-sized (10–100 workers). However, the number of establishments really in operation in 1999 was estimated to be 427, the rest were dormant. The survey results indicate that industrial production in Laos is highly concentrated within a few large establishments. Only 15 large establishments contribute 75 percent of total gross output in the industry sector. [5]

Table 3.6 Distribution of Employment by Industry Classification, 1999.

Industrial sector	Number of person engaged	Percent distribution
Mining and quarrying	715	1,9
Mining of coal	223	0,6
Other mining and quarrying	492	1,3
Manufacturing	32677	88,1
Manufacturing of food and beverages	2276	6,1
Manufacture of tobacco products	853	2,3
Manufacture of textile	375	1,0
Manufacturing of wearing apparel	15227	41,1
Wood and wood products	6819	18,4
Paper and paper products	311	0,8
Publishing and printing	386	1,0
Chemical and chemical products	732	2,0
Rubber and plastic products	536	1,4
Non metallic and mineral products	2473	6,7
Basic metals	583	1,6
Fabricated metal products	257	0,7
Machinery and equipment	218	0,6
Electrical machinery and apparatus	104	0,3
Manufacture of vehicles	864	2,3
Other transport	181	0,5
Other manufacturing	482	1,3
Electricity and water supply	3683	9,9
Production and distribution of electricity	3097	8,4
Collection and distribution of water	586	1,6
Total	37075	100,0

Source: MIH, Report on Survey of Industrial Establishments 1999

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[3] At two-digit industrial classification

[4] According to administrative records available in the Ministry of Industry and Handicraft.

[5] Two electricity supply companies (Electricite Du Lao, Theuanh-Hinboun Power Station) and 13 other establishment of manufacturing sector (Lao Brewery Co, Lao Tobacco. Lao Garment Co. Ltd, Phoudoi-Leuangfathong Wood Industry Corporation, LaoVang Vieng Cement Plant and Vientiane Steel Industry Co. Ltd .

According to this survey, large establishments absorb considerable numbers of workers. Large establishments in the manufacturing sector employed nearly 84 percent of total workers engaged in the sector, though they produced only 74 percent of the output. On the contrary, medium-scale manufacturing establishments employed only 16 percent of total workers engaged in this sector, but contributed 26 percent of total gross output.

The total number of workers engaged in mining, manufacturing, electricity and water supply was estimated at 37,075 (Table 3.7). The highest concentration of employment was found to be in large-scale establishments, especially those employing between 100–499 persons. The numbers engaged in each establishment were estimated at an average 86 persons. Out of the 226 surveyed establishments, 88 belonged to the group of large-scale industries.

The highest share of employment distribution among manufacturing was in wearing apparel (41 percent); followed by wood and wood products (18.4 percent) and then food and beverages. The industry structure, therefore, could be characterised as one of extraction and low technology, though metal and machinery industries have begun to develop in a small way. These industries are not capital intensive.

Persons working as proprietors and unpaid family workers were estimated at 745 out of 37,075 engaged persons, all the rest were employees. Among the employees, about 70 percent were production workers and 13 percent technicians. Of total employees, administrative and seasonal workers comprised 10 percent and 7 percent, respectively. A high proportion of production workers were reported in the garment industry, while production of electricity employed more technicians than any other category of workers. Similarly, wood and wood products, non-metallic mineral products and basic metal products employed the highest proportion of seasonal and temporary employees. This is not surprising as these industries produce for the construction sector, which is predominantly a seasonal business in Laos.

Among the three categories of state owned enterprises, private sector enterprises and joint venture enterprises, analysis by ownership shows that joint ventures dominate the manufacturing sector. Almost half the workers engaged in industrial establishments were employed in joint venture industries, producing two thirds of the total value added. Most of the privately owned establishments were engaged in food processing, the garment sector, wood products, and brick production. The private sector accounted for more then 20 percent of employment and produced 10 percent of the value added.

Since ownership is so closely associated with the industry type, is seems that capital or labour intensity is more of an industry rather than an ownership characteristic.

3.2.4.2 Employment Structure in Small-Scale Enterprises:

Small enterprises here are defined as ones that employ less than 10 workers. Based on the results of the Small Establishment Survey conducted by the Ministry of Industry and Handicraft in 1999, the total number of small establishments was estimated at 21,759. Small establishments made a substantial contribution to industrial employment (for the period under discussion) producing 13.4 percent of the industrial output in 1999.

In employment terms, the average size of small establishments was only two workers per manufacturing unit. This small, average size was because of a large number of grain mills of very small size in the data set. In total, 91 percent of the small establishments were reported to have between one and three workers engaged, while 7 percent were reported to have between four and six workers. Only 2 percent reported they engaged between seven to nine workers.

One very important contribution of small establishments is employment generation. This survey reveals that there are more workers engaged in small manufacturing establishments than there are in large and medium industries combined. In 1999, the total number of workers engaged in small establishments was estimated to be 42,725, compared to 37,075 in large and medium-scale establishments.

Table 3.7 Profile of Principal Small-Scale Manufacturing Activities, (percent)

Industry (ISIC)	Number of Establishments	Numbers engaged	Gross output
15 Food products and beverage (including. grain mills)	81.78	72.73	53.35
17 Manufacture of textiles	4.62	7.11	10.05
20 Wood and products	2.39	3.07	2.39
26 Non-metallic mineral products	2.34	4.35	2.97
27 Manufacture of basic metals	1.62	1.78	2.48
36 Furniture and other manufacturing	4.29	7.02	26.45
Subtotal of major activities	97.05	96.05	97.67
Other activities combined	2.95	3.95	2.33
Total	100.0	100.0	100.0

Source: MIH, Report on Survey of Small Manufacturing Establishments 1999.

Working proprietors and unpaid family workers were 86 percent of the total number engaged in small establishments, but only 2 percent in large and medium-sized industries. One third of the total numbers of workers engaged were female. The number of female workers was particularly high in textile and wearing apparel related activities.

Many establishments employed hardly any hired hands. This was evident in paper-related industries, paper products, publishing and printing, chemical and chemical products, fabricated metal, machinery and equipment, and electrical apparatus. These establishments operated using household labour, which averaged two to three persons.

3.2.4.3 Results of GTZ-MIH Small and Medium-sized Enterprise Survey, 1995

In this survey, small enterprises were defined as ones that employed less than 10 workers, and medium enterprises as ones that employed between 10–29 workers. The results obtained from the 1995 enterprise survey indicate that there were 146,000 small and medium-sized enterprises (SMEs) in total. This total included the services sector, which was not counted in other surveys. They employed 284,000 workers [6], including owners and part-time workers. The proportion of labour force working in SMEs was estimated at 12 percent of the total workforce, using results from the 1995 census, which estimated that the labour force was about 2.14 million (NSC, 1995c:135).

Table 3.9, indicates that SME employment in urban areas is 36,000 while peri-urban areas employ another 25,000. There are over 110,000 SMEs in rural areas, employing close to 200,000 people.

Table 3.8 Enterprise and Employment Densities by Region

Region	Number of SMEs	SME employment	Estimated population	SME per 1000 population	SME employment per 1000 population
Urban	9709	20954	315523	58	112
Urban markets	8748	14456	0	*	*
Industrial	305	725	12084	25	60
Peri-Urban	14403	25350	301168	48	84
Rural Mekong	43138	71234	1647313	26	43
Other rural	69724	125859	2378181	29	53
Total	146028	258577	4654269	31	56

Source: MIH -GTZ Report on small enterprises survey
Note: Enterprises in the urban market category are counted in the urban density.

Table 3.9, also shows the density of SMEs, expressed as the number of SMEs, and SME employment per 1,000 inhabitants. Urban areas have a higher density, with 58 small and medium-sized enterprises for every 1,000 inhabitants, and 112 SME workers per 1000 inhabitants. The density of SMEs in rural areas is about half that of the urban density. The industrial zones have a relatively small number of SMEs but high SME employment density due to the large size of individual enterprises in the regions.

Almost half of all SMEs in the country are located in rural areas, in districts that do not border the Mekong River. Another one third is in rural areas in districts along the Mekong River. More than 70 percent of SMEs are in rural

[6] In this 1995 survey, a part-time worker was counted as half a full-time worker; therefore, the number of full-time equivalent workers was 259,000.

areas. The average number of workers is 1.9, though this varies from one region to another. It follows, therefore, that there is a significant presence of non-farm and off-farm activities in rural areas.

Table 3.10, presents the distribution of enterprises and employment by broad sectors. About one third of the number of SMEs and 35 percent of SME employment is found in the manufacturing sector. Textiles and food processing dominate this sector. The textile subsector is composed largely of weavers and spinners, and account for 14.8 percent of all SMEs. The most important type of activity in the food-processing subsector is rice milling, which represents 8.2 percent of all SMEs. Furniture-making and metal work are also important activities.

The services sector (labelled 'commerce' in this survey) is a large sector, accounting for 54 percent of all SMEs and 52 percent of SME employment. Retail trade forms the bulk of this sector. General traders, food retailers and hardware shops are the most common types of retailers. Another 3 percent of SMEs are vendors (defined as very small-scale retailing). Wholesalers and hotels/ restaurants are much less common, though they tend to be in somewhat larger numbers than other types of commercial enterprises.

Table 3.9 Distribution of Enterprises and Employment by Subsector

Subsector	Percent of SME enterprises	Average of workers per enterprise	Percent of SME employment
Manufacturing	*33.7*	*2.0*	*35.3*
Food processing	12.0	2.4	14.8
Textile	15.5	1.6	13.1
Wood/grass/cane	3.0	2.4	3.7
Metal products	1.4	1.3	0.9
Other	1.8	3.1	2.8
Construction	3.0	11.3	2.0
Commerce	*54.0*	*1.9*	*52.0*
Vending	3.2	1.8	2.9
Retail	49.2	1.8	46.1
Wholesale	0.8	3.3	1.3
Hotel/Restaurant	0.9	3.7	1.7
Transport	4.3	1.7	3.8
Renting space	0.0	9.0	0.0
Other service	*7.6*	*1.7*	*6.8*
Repair	*3.1*	*1.8*	*2.8*
Other	*4.6*	*1.7*	*4.0*
Total	100	1.9	100

Source: MIH -GTZ Report on small enterprises survey, 1995

The category 'other services' accounts for 7.6 percent of small and medium enterprises in the country and 6.8 percent of SME employment. Bicycle repair is the largest single business type in this sector, representing 1.8 percent of SMEs.

Transport represents about 4 percent of SME numbers and SME employment. This includes owners of taxis, buses and *tuk-tuks*.[7]

The distribution of SMEs, by size of enterprise, shows that almost half of the SMEs consist of just one person (the owner). About 95 percent, have fewer than five workers. Medium-sized enterprises (*i.e.* those enterprises with 10–29 workers), account for less then 1 percent of the total enterprises.

The workforce of SMEs is composed primarily of the enterprise-owners and unpaid family members; paid employees are uncommon. Only 7 percent of the SMEs had paid employees during this survey period.

The SME survey of 1995 further provided information on some characteristics of enterprise operation. Questions were asked relating to the characteristics of the enterprise, how long they have operated, the types of inputs they purchase, the technology they use, and the type of customer they serve.

The enterprise locations are quite different in rural and urban areas. In urban areas, a market place is the most common site for an SME. In contrast, almost none of the rural SMEs are located in market places.

Most of the SMEs are located in permanent structures[8]. Access to utilities is much higher for urban enterprises than for those located in the rural areas. Up to 91 percent of the urban enterprises operate round the year. The proportion of rural enterprises operating round the year is lower, due to their agricultural linkage. These data indicate that SMEs are not necessarily only part-time activities carried out on a seasonal basis, or in-between other jobs; most are full-time activities.

The origin of raw materials used by SMEs is varied, according to the type of enterprise. Most manufacturing enterprises use inputs sourced from somewhere in Laos. However, trading companies are more likely to buy Thai inputs (goods bought for resale). Other sources of inputs are China, Vietnam and other countries.

The SME survey of 1995 provided supplementary information on the level of technology used by the sample enterprises (Table 3.11). The results show that less than one quarter of the SMEs used motorised equipment of any kind. The proportion of enterprises reporting large motorised equipment was 15 percent in rural areas, but only 4 percent in urban areas[9]. Almost three quarters of urban enterprises are trading companies, in which motorised equipment is generally not necessarily applicable. By contrast, manufacturing and transport are more important in rural areas. Most rural SMEs reporting large motorised equipment were either rice mills or transport enterprises.

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[7] A tuk-tuk is a covered motorbike used for transporting goods and passengers.
[8] This included home-based enterprises.
[9] The types of activities undertaken in rural and urban areas could explain this.

In summary, it is observed that while the different surveys are generally incomparable with each other, they all show that enterprises in the Laos are labour intensive. They are largely concentrated in food, natural resource and textile activities, and other activities are few. Most operate round the year, more so in urban than in rural areas. The smaller-sized enterprises provide greater total employment than that provided by the larger enterprises. Finally, the overall size of the non-farm sector is small; a fact corroborated by both the establishment surveys and the population/labour surveys.

Table 3.10 Distribution of Enterprises by Type of Technology Used and by Region

Type of technology	Urban	Rural	Total
Hand tools	85.6	75.6	76.8
Power tools	5.4	4.3	4.4
Small motorised	5.2	4.7	4.8
Large motorised	3.9	15.3	13.9
Total	100%	100%	100%
Sample size	551	192	743

Source: MIH-GTZ Small Enterprise Survey, 1995

3.2.5 Labour Productivity

Agriculture is usually categorised as a low productivity activity in most peasant[10] economies, and Laos is no exception. However, do non-agricultural activities offer a higher level of productivity? To check this assumption, productivity across sectors is compared, using data obtained from the surveys mentioned above.

Productivity can be defined in different ways. First, the gross revenue generated per hour of work is calculated. Next, the profitability rate is calculated. Last, value added per hour of work is calculated.

Table 3.11 Productivity in Agriculture and Household Business by ISIC, Monthly In kip

ISIC[11]		Value added /revenue	Revenue / labour	Value added /labour
01	Agriculture	0.86	100,924	86,939
02	Forestry	0.83	13,440	11,202
05	Fishing	0.95	28,020	26,580
15-17	Manufacturing	0.44	36,031	15,966
45	Construction	0.28	506,068	141,392
70	Real estate	0.80	146,911	117,529
71-74	Business services	0.60	978,540	587,124
85	Health and social work	0.50	32,788	16,394
92	Recreation, culture and sport activities	0.60	464,497	278,698
93	Other household services	0.70	4,704	3,293

Source: LECS 1997–98

[10] The term peasant is used formally here to categorise people who live and work the land in developing countries.

[11] ISIC: International Standard of Industrial Classification

Table 3.12, shows the distribution of economic operations using data obtained from the LECS household survey of 1997–98. The different parameters calculated are, value added per gross revenue, gross revenue per worker, and value added per worker. By far, the highest gross revenue and value added per labour is generated in Business Services. Likewise, transportation and recreation activities generate relatively high value added per labour input. The lowest value added is created in hotels and restaurants, forestry and manufacturing. Interestingly, agriculture is not the lowest productivity option. This implies that the full potential of agriculture is yet to be fully exploited, and that agriculture is still in a position to provide sustainable livelihoods. Some sectors, though, are far more productive than agriculture. Since many non-farm and off-farm jobs are undertaken to complement agriculture rather than to substitute it, their position should not be underestimated, when based only on current productivity. It has to be borne in mind that some of the entries in Table 3.12 are based on a very small number of observations and may not be reliable. Therefore, caution should be exercised in drawing any definitive conclusions.

According to the Large and Medium Manufacturing Establishment Survey of 1999, mentioned earlier, the average rate of wages and salaries *per annum* was estimated at 2.5 million kip ($360). Wages paid in mining and quarrying sectors are higher compared to those paid in manufacturing, according to this data. The lowest average annual salary was reported in the wood and brick industries (1.4–1.9 million kip) where a large number of seasonal workers were employed.

Table 3.13, examines the different productivity ratios by industrial sectors. The value added/output ratio was estimated at 38 percent for the whole of industry from these data. The ratio was 45 percent in mining and quarrying and 38 percent in both manufacturing and utility sectors. The highest value added ratio was observed in food and beverages and tobacco industries. In contrast, the result from the survey showed that the value added to output ratio was extremely low in some sectors such as wood and wood products, paper and paper products, electrical machinery and equipment and collection and distribution of water. A similar comparison of the value added/labour and value added/output ratios shows that industries in food processing have a higher productivity. These ratios show the comparative advantage of enterprises in food processing and related activities.

The average capital-labour ratio for large and medium-scale establishments is 3.8 million kip. A typical capital-labour ratio for a modern large-scale enterprise in a developing country is $10,000 per worker or 10 million kip per worker.[12] This indicates that establishments in Laos are labour intensive.

The average value added per worker is 29.8 million kip per year and average compensation per worker is 3.5 million kip per year. Within industrial sectors, the

[12] GTZ, The result of a national wide survey on small and medium enterprise in Lao PDR, 1995:43

value added per worker ranges between 1 million kip in the paper and paper products industry, to 112.8 million kip in production and distribution of electricity. The diversity is therefore large.

Table 3.12 Value Added, Compensation, Output, Capital Per Worker and Capital-Labour Ratio for Large and Medium-sized Manufacturing Establishments, 1999 (million kip)

Industrial sector	Value added per worker	Compens-ation per worker	Output per worker	Value added output ratio	Capital-labour ratio/ per worker
Mining and quarrying	20.9	5.8	46.8	0.45	3.75
Mining of coal	36.7	5.6	91.1	0.40	10.80
Other mining and quarrying	13.8	5.8	26.8	0.52	0.56
Manufacturing	14.3	2.9	38.1	0.38	2.31
Manufacturing of food and beverages	69.4	2.8	102.6	0.68	14.07
Manufacture of tobacco products	65.7	3.2	87.5	0.75	5.34
Manufacture of textile	7.4	3.0	12.9	0.57	0.83
Manufacturing of wearing apparel	6.6	2.8	27.0	0.24	0.94
Wood and Wood products	2.5	2.8	27.7	0.09	0.96
Paper and Paper products	1.0	2.2	17.5	0.05	6.62
Publishing and printing	12.1	2.6	30.3	0.40	2.53
Chemical and chemical products	17.4	5.1	43.4	0.40	2.75
Rubber and plastic products	13.6	2.4	46.4	0.29	3.54
Non metallic and mineral products	14.6	2.1	23.6	0.62	2.18
Basic metals	21.2	4.6	41.0	0.52	1.39
Fabricated metal products	57.1	4.3	169.3	0.34	4.32
Machinery and equipment	10.8	4.4	42.9	0.25	0.54
Electrical machinery and apparatus	6.7	2.0	58.7	0.11	-
Manufacture of vehicles	26.3	3.7	81.0	0.33	2.35
Other transport	69.3	6.2	178.0	0.39	0.60
Other manufacturing	16.4	2.3	26.6	0.61	2.34
Electricity and water supply	95.4	3.2	250.0	0.38	3.79
Production and distribution. Of electricity	112.8	3.5	293.8	0.38	1.22
Collection and distribution of water	3.5	1.4	18.4	0.19	17.34
	29.8	3.5	74.2	0.4	3.8

Table 3.13 Value Added, Compensation, Output, Capital per Worker and Capital-labour Ratio for Small Manufacturing Establishments, 1999 (million kip)

Industry	Compensation per worker	Output per worker	Value added per worker	Value added output ratio	Capital-labour ratio
Food and beverage	0.1	5.8	2.2	0.38	0.23
Grain mill products	0.0	5.2	1.9	0.37	0.22
Manufacturing of tobacco products	0.2	4.6	1.0	0.21	-
Manufacturing of textile	0.9	11.2	4.6	0.41	0.00
Manufacturing of wearing apparel	0.4	10.0	5.4	0.54	0.02
Wood and wood products	0.5	6.2	3.0	0.49	0.49
Paper and paper products	-	7.3	4.8	0.65	-
Publishing and printing	-	4.5	1.1	0.24	1.11
Chemicals and chemical products	-	47.2	21.2	0.45	-
Rubber and plastics products	0.4	1.5	0.9	0.62	-
Non metallic mineral products	0.5	5.4	2.2	0.41	0.07
Manufacture from base metals	0.6	11.1	7.3	0.65	0.96
Fabricated metal of products	-	2.3	1.4	0.60	-
Machinery and equipment	-	11.4	2.6	0.23	-
Electrical machinery and apparatus	-	1.1	0.5	0.42	-
Other transport equipment	1.6	4.7	2.8	0.59	-0.05
Furniture and other manufacturing	1.7	30.0	22.1	0.74	0.10
Average	0.4	10.0	5.0	0.5	0.21

Source: MIH, Small Establishments Survey 1999.

Table 3.14 shows the ratio of value added, compensation of employees, output per worker and value added/output ratio for small establishments, as obtained from the Small Industry Establishment Survey of 1999. The average value added per worker is 5 million kip per year, and the average compensation per worker is 400,000 kip per year. The value added output ratio is higher in paper and paper products, rubber and plastic products, manufacture of basic metals and fabricated base metal (more then 0.6). In contrast, the value added output ratio is lower for the manufacture of textiles, wearing apparel, wood and wood products, electrical machinery and apparatus, and other transport equipment. Manufacturing of tobacco products, publishing and printing and machinery-equipment have the

lowest value added output ratio (0.2), while the highest is in furniture and other manufacturing (0.7). These figures are somewhat different from those seen from the survey of large and medium establishments. It appears that the operations and comparative advantage of small and large establishments are different.

Table 3.14 Average Annual Value of Main Indicators by Type of Enterprise, 1995

	Value added per worker (kip/worker)	Capital/worker ratio (kip/ worker)
Region		
Urban	632 616	1 918 745
Urban markets	603 856	938 721
Industrial	484 621	1 444 902
Peri-Urban	414 669	632 873
Rural Mekong	316 215	925 081
Other rural	463 055	1 074 164
Sector		
Manufacturing	295 275	675 398
Food processing	363 479	683 179
Textile	269 001	658 038
Wood/grass/cane	237 261	900 632
Metal products	252 279	403 284
Other	200 417	401 889
Construction	805 148	15 325 000
Commerce	402 385	1 033 201
Vending	278 353	326 606
Retail	378 232	802 930
Wholesale	2 701 893	4 891 351
Hotel/Restaurant	1 343 332	12 059 754
Transport	1 678 772	3 156 194
Other service	456 138	1 403 744
Repair	371 196	872 963
Other	505 507	1 694 989
Number of workers		
1 worker	466 534	927 430
2–9 workers	405 441	1 110 630
10–29 workers	610 812	8 395 205

Source: MIH GTZ Small Enterprise Survey, 1995

The capital-labour ratio is 0.21 kip per worker for small size enterprises in the 1999 survey, which is much smaller than that seen for large and medium enterprises. The capital-labour ratio indicates the capital requirement to create one job. The results indicate that all enterprises are labour intensive, and small enterprises are more labour intensive than the larger ones. However, these data need to be interpreted with care, since the value of fixed assets might be over or under recorded in surveys of small enterprises.

According to the Small and Medium Establishment Survey of 1995, (Table 3.15) enterprises in urban areas have higher value added per worker than businesses in other regions. This could be explained by the fact that the wage levels are higher in cities than in rural areas. In turn, the differences in income levels are partly a result of higher levels of physical capital (machinery and other

assets) and human capital (education and skills) in urban areas. Data from this survey also indicates that capital intensity is the highest in the urban and industrial areas.

The value added per worker, seen in Table 3.15, is the lowest for enterprises employing between two and nine persons compared to firms of other size groups. The highest figure is seen in larger enterprises, employing 10–29 workers. The explanation is probably found in the fact that one-person enterprises consist of just the owner, while the 29 person firms have additional workers who could be less productive, or are paid a low wage. In either case, the value added per worker is reduced. For the medium-sized enterprises, this effect is offset by the much higher capital intensity. With more machinery and equipment, the labour productivity is higher in relatively larger enterprises.

In summary, the analysis of productivity according to different surveys suggests that productivity in agriculture is lower than productivity in household business. The data also indicates that enterprises in Laos are generally more labour intensive than in other countries. The average compensation for those who work in large and medium enterprises is higher than for small enterprises. The average compensation of employment in the small enterprises is 0.4 million kip per year, while in the large and medium enterprises it is 3.5 million kip a year. Lastly, there are some comparative advantages seen in food and related industries, but the result is more visible in the larger and medium enterprises.

3.3 Rural Off-farm and Non-farm Employment: Result from Small Sample Field Studies

One of the major objectives of this study is to gain an understanding of the internal functioning of non-farm and off-farm activities. For this purpose, a field survey was undertaken. The purpose of the field survey was to calculate and understand the time allocated to the activities being considered, the capital and technology base, value-added, marketing, finance, and forward and backward linkages. The information collected could help formulate policies for up scaling as well as promoting activities in the non-farm and off-farm sector.

3.3.1 The Survey Methodology

The field survey was conducted by interviewing rural industry owners in four selected provinces, by activity. The interview questionnaires were mainly structured and contained closed questions. The survey was conducted with small samples of enterprises in four districts and focussed on four industries: weaving, sugar cane processing, bamboo handicraft, and fishing and fish processing. The reason for choosing these activities is that they are typical, traditional non-farm and off-farm activities in rural Laos, which contribute to job and incomes

generation. As there was no sample framework, the identification of village activities and the location of these villages, were based on discussions with the district officers who work in the Statistics and Industry and Handicraft Office. The sample focused on the village where most people were undertaking the relevant activities.[13]

In total there were 240 households/enterprises and 10 traders surveyed.[14] Table 3.16 presents the sample details for the 60 self-employed persons/ households in each activity.

3.3.2 A Short Description of the Industries in the Study

In Laos, rural industries typically consist of small-scale operators. They do not have a formal structure or organisation and most of them deploy family labour. All activities are also under family ownership. In rural areas, non-farm activity is an additional activity undertaken by households, and many workers are engaged in vocations other than the rural industry in question, usually farming. Household enterprises are labour intensive and use low productivity techniques for production. They use primitive tools and traditional technology. The four activities under study (weaving, sugar cane processing, handicraft activities, fishing and fish processing) have existed for a long time and have often continued from one generation to the next. Data in Table 3.17, however, suggests that apart from fishing, the total number of enterprises (in this study) are of recent origin. This is a reflection of the expansion of the Laos economy since the country launched the New Economic Mechanism (NEM) in 1986.

Weaving: Weaving in Laos has had a long and remarkable history. Hand weaving activities are performed in every part of the country. Ethnic women in the highlands are extensively engaged in embroidery work. The traditional skills of weaving in Laos have been passed on from one generation to another in the villages. The characteristics of Lao textiles reflect the origin of designs and sources of inspiration. They show their richness in the great variety of designs and sophistication of weaving techniques. The common motifs in Lao textiles are classical geometric configurations and the main designs are created by Lao weavers themselves, or drawn from natural things around them. The other main source of inspiration and imagination for these motifs is mythical creatures, about which weavers have learnt through written legends, manuscripts, religion, and oral traditions like 'Nak' (a giant river snake). Regarding patterns, each ethnic group, village, belief and location, have their own different pattern.

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[13] As this case study was conducted with a small sample size, it is not necessarily a representative sample of the whole country.

[14] A household is treated as an enterprise in this study and the two terms are used interchangeably

Table 3.16 Sample Information

Activity/ industry	Province	District	Villages	Area, infrastructure access	Household/ enterprise	Number of trader
Weaving	Luang-prabang	Pakseng	Soab cheak[15]	Rural, road access for both seasons, No market	60	1
Bamboo handicraft	Vientiane Municipality	Naxaithong	Num kieng tay Numkieng nuea Nongkhankhou	Suburban Road access for both seasons, Electricity, and local market	20 20 20	3
Fishing and Fish processing	Vientiane	Keoudome	Donexayoudom	Rural, with road accesses for both seasons, Water transport	60	3
Sugar cane processing	Xieng khouang	Kham	Phai	Rural, road access for both seasons, No market	20	3
			Nhoomchong Dung	Rural Cannot reach in the wet seasons, no market	20 20	
Total	4	4	8		240	10

Table 3.17 Distribution of Enterprises by Industry, and Number of Years since the Enterprise Began Operation

	Before 1980	1980–1990	1991-till date	Total
Weaving	3	18	39	60
Handicraft	2	17	41	60
Fishing and Fish processing	17	21	22	60
Sugar cane processing	13	6	41	60

From the field study, it was found that though some looms were installed in one location of the village, the looms belonged to different households. Most looms are located in people's homes. The equipment used in weaving is produced manually by family members who make them, using local products. In general, there are two types of loom: the floor loom and the back-strap loom.

[15] The survey team visited another four villages: Huakeng, Hateum, Saking and Napho.

Weaving materials are different qualities of silk and cotton. Weaving enterprises use many different sources for obtaining their raw material and as a result, village traders, intermediaries, and creditors, have control over sources and contacts, or the open market. Weavers in the case study often incurred some costs for fuel and transport.

Bamboo handicraft. Bamboo handicraft making activities require bamboo trees of approximately 5 mm to 5 cm in diameter, though Bamboo used for making bamboo furniture is of 10 cm diameter. After removing the thin bark, the bamboo trunk is cut into thin strips. Anti-worm and anti-fungus processing is then carried out through smoke treatment of the semi-finished products. Many products, however, do not go through this process, causing the products to degenerate and a clear indication of this can be the existence of worms inside the strips. Ticks may also affect the quality of many products.

Enterprises covered in the field survey, reported that their inputs are bamboo, rattan and other wood as well. They also use nylon rope. Except for these, they use very little other material inputs. The main suppliers of inputs are intermediaries and the open market. Some inputs and raw material are self-provided as well.

There are many bamboo craftspeople spread throughout the country. Many farmers produce bamboo products for both personal and agricultural use. These types of production are family based. Men are engaged in manual labour activities like collecting the raw material from the forest and transporting it to the village, cutting and carving, while women are mainly engaged in basketry. Production skills have been inherited through generations and traditional processing methods are followed. The products are mainly distributed in local markets.

Fishing and fish processing: Although Laos is a landlocked country; it is very rich in water resources. The primary sources of fish are the rivers, natural ponds, and dams. Fishing activity is largely seasonal, and carried out after the harvesting of the wet season crop, though in the recent years there are many people who fish round the year. This was the case in the village studied. The technology for fishing is very conventional; anglers use traditional boats, some of them with engines but some with oars. People also use different types and sizes of fishing nets.

Currently, fishing is still a low labour-productive activity and a majority of the anglers do not earn much more than subsistence. Most raw materials for fishing come from households' own resources, from other anglers, or from village traders. The input is mostly in different kinds of fishing bait, in addition to fuel and maintenance expenses.

Fish processing has been practised in Laos for a long time, though fish processing is carried out as a home-based activity and the technology used for fish

processing in the villages is fully traditional. Lao people, not only those primarily engaged in fishing, like to reserve dried, salted or sour fish for their family. In addition, fish are also smoked (during the wet season) and fermented and used to process fish sauces. Processed fish is marketed locally as well as in cities.

Sugar cane processing/ Raw sugar: Although sugar cane processing has existed for a long time it was never a prominent industry, since much of the sugar cane has historically been domestically processed for domestic consumption purposes only. Sugar cane processing households are usually those who are also engaged in growing sugar cane. The principal raw material used in the production of raw brown coloured sugar is the cane itself, but the enterprises also incur transport and maintenance costs. The cane comes from households' sources and from other farmers.

The means of production are very conventional; though there is slight variation, depending upon the variety of sugar cane. Sugar processing is a seasonal activity and the period of processing is just two months after the sugar cane crop been harvested. During the field survey, it was found that many former producers of raw brown coloured sugar have now stopped their activity. Instead, they have switched to growing other cash crops; this is related to profitability and the availability of markets.

3.3.3 Employment and Allocation of Working Time

Weaving: Table 3.18 shows that an average weaving household employs around two persons. None of the 60 units in the survey uses any hired employees. All the working persons are family members. The usual (modal) frequency of employment in weaving activity is one worker, followed by two to three workers. There are no units with more then three workers. In addition to full-time workers, there are part-time workers[16] in some households, although most workers (up to 95 percent) are engaged full-time (Table 3.19).

Not much difference can be seen between the dry and wet seasons in terms of the number of persons employed and the hours worked per day. On average, a household works for 22 days per month in the dry season, and 18 per month in the wet season. The maximum number of working days is 28, while the minimum number is between 3 and 10 days per month, (in the wet and dry seasons, Table 3.20). These statistics suggest that weaving provides full-time work to those employed, though there is some seasonal variation.

[16] In the calculation of total workers for this survey, part-time workers were counted as 0.25 of a worker; so four part-time workers were equivalent to one full-time worker. This principle is applied for all activities.

Table 3.18 The Distribution of Household Business/ Enterprises by Size of Employees

Activities	Size of employment			Mean	Maximum	Minimum	Standard Deviation
	1	2–3	4+				
Fishing and fish processing	37	21	2	1.6	5	1	0,81
Handicraft (Bamboo)	35	25	0	1.5	3	1	0,65
Sugar cane processing	2	51	7	2.6	6	1	0,86
Weaving	53	7	0	1.2	2	1	0,33

Handicraft: The distribution of household business/ enterprises and the number of working days per month in handicraft activities is very similar to the pattern found in the weaving activity. Households with only one person and households with two to three persons engaged, account for 59 percent and 41 percent of the total sample enterprises, respectively. There are no household enterprises with three or more workers. The total number of workers engaged in the sample is 90, of which full-time workers accounted for almost 90 percent. The mean employment size per enterprise is less than two persons.

Fishing and fish processing: There are a few households/operators in fishing activities that hire outside workers (Table 3.19). The proportion of hired workers is about 10 percent of the total employment. Table 3.18 indicates that an average fishing household employs less than two persons. Most households employ only one worker, which is similar to the employment situation in handicraft and sugar cane processing activities. On average, anglers spend more than four months in each season on fishing activities. Fish processing is a household/cottage industry, performed in households engaged in fishing activities. The wife is usually engaged in fish processing and works seasonally when the fish catch is abundant. However, fermenting of fish is carried out over more months of the year than fishing.

Sugar cane processing: Sugar cane processing is a household enterprise where more than 85 percent of the enterprises employ three workers or less (the average number of persons engaged is 2.6 workers). On average, they spend 1.7 months in the dry season sugar processing, and 2.5 months in the wet season.

The scale of surveyed household enterprises is small, and the proportion of hired workers is very small. Workers are mainly owners and members of the family. Among the four activities that have been surveyed, sugar cane, and fishing and fish processing hire labour, though even in these two industries, hired labour is a very small proportion; the other two industries rely almost exclusively on personal household labour. The average wage paid is much lower in fishing than in sugar cane processing, 5000 kip a day for the former, and 15,000 kip a day for the latter. In sugar cane processing, hired labourers only work for an average four hours a day.

Table 3.19 Number of Workers in the Sample (Part-Time and Full-Time)

Items	Total	Number workers Full-time	Number workers Part-time	Mean	Standard deviation	Maxi-mum	Minimum
Fishing and fish processing	96	88	8	1,60	0,81	5	1
Own account workers only	86	78	8	1,43	0,53	3	1
Have hired employees	10	10	-	1,67	1,21	4	1
Handicraft	92	82	10	1,53	0,60	3	1
Own account workers only	92	82	10	1,53	0,60	3	1
Have hired employees	-	-	-	-	-	-	-
Sugar cane processing	159	143	16	2,65	0,86	6	1
Own account workers only	157	141	16	2,61	0,84	6	1
Have hired employees	2	2	-	2,00	-	2	2
Weaving	70	67	3	1,17	0,33	2	1
Own account workers only	70	67	3	1,17	0,33	2	1
Have hired employees	-	-	-	-	-	-	-

3.3.4 Acquisition of Skills

Table 3.21, presents data on how workers (including those self-employed) acquired their skills. Data indicated a large majority of the workers in each household business, for all four activities, acquired their skills by self-study, and learning from family members, friends and relatives. A very small number of workers acquired the knowledge they needed for their work through formal schooling, though a few workers have been exposed to training courses. It is interesting to find that promotion by the government or international organisations mainly reached those engaged in fishing and fish processing activities, implying that international agencies have begun to selectively help the decentralised sector.

Table 3.20 Time Allocation by Activities

	Mean	Standard deviation	Max	Min
Handicraft				
Household worker in dry season				
Days per month	21,4	7,0	30	3
Hours per day	7,7	2,3	15	4
Month per period	4,2	1,4	6	1
Household worker in the wet season				
Days per month	17,9	6,5	30	2
Hours per day	7,4	1,8	12	4
Month per period	3,5	1,5	9	1
Weaving				
Household worker in the dry season				
Days per month	22,0	4,5	28	10
Hours per day	6,1	1,7	10	2
Month per period	4,5	0,8	6	2
Household worker In the wet season				
Days per month	17,5	5,0	28	3
Hours per day	5,8	1,7	9	1
Month per period	3,6	1,0	6	1
Sugar cane processing				
Household worker in the dry season				
Days per month	8,8	7,1	29	2
Hours per day	7,0	1,6	9	2
Month per period	1,7	1,0	7	1
Household worker in the wet season				
Days per month	3,7	2,0	8	2
Hours per day	-	-	-	-
Month per period	2,5	2,0	8	1
Worker from outside				
Days per month	6,0	-	6	6
Hours per day	4,0	-	4,0	4,0
Fishing				
Household worker in the dry season				
Days per month	21,2	5,3	30	10
Hours per day	5,3	1,8	10	2
Month per period	4,2	1,1	6	2
Household worker in the wet season				
Days per month	20,6	6,2	30	5
Hours per day	5,3	1,9	10	2
Month per period	4,3	1,5	12	2
Worker from outside				
Days per month	16,9	10,4	30	5
Hours per day	-	-	-	-
Month per year	8,0	4,7	12	3

Table 3.21 Distribution of Enterprises by Industry, and the Source by which Workers Acquired their Skills.

Source of knowledge	Fishing and Fish processing	Handicraft (Bamboo)	Sugar cane processing	Weaving
Learned from family members	11	19	25	49
Learned in school	2	3	2	4
Learnt through training course	5	4	0	7
Self studies	22	25	13	29
Learned from friends / relatives	22	47	15	18
Promoted activity by government	32	1	1	12
Promoted activity by international organisation	29	0	0	1
Promoted activity by non-government	0	1	0	0
Promoted activity by private	17	1	2	3
Promoted activity by individual	21	0	1	8
Total sample	60	60	60	60

3.3.5 Capital Structure

Data on the size of capital deployed can be seen in Table 3.22. The fishing industry has the largest number of enterprises with the smallest amount of capital (*i.e.* fixed capital less than 5 million kip) and 89 percent of all fishing enterprises have a fixed capital of less than 10 million kip. The corresponding figure for the sugar cane industry is 77 percent. Moreover, all weaving enterprises have a fixed capital of below 10 million kip.

The weaving industry operates with specific equipment for weaving, like weaving looms, etc. Most enterprises have the same type of equipment. The fishing industry uses equipment, like fishing boats, nets and hooks, lines and sinkers. In bamboo handicraft very few tools are used, frequently only knives.

In the sugar cane industry, almost two thirds of the enterprises are using some special machinery. This industry also uses transport equipment, like two-wheel carts, tractors and motorbikes. However, this equipment is not used for sugar processing alone.

The value of operating capital (fixed assets) was by far the highest in the sugar cane industry, but there are significant differences between enterprises. Fixed assets in highly labour intensive industries like weaving and bamboo handicraft are quite low: they are using mainly skilled labour.

Table 3.22 Distribution of Household Enterprises by Size of Fixed Capital

Size of capital (million kip)	Number of enterprises	Percent
Fishing and fish processing		
Less than 5 million kip	43	72 percent
5 – 10 million kip	10	17 percent
10 – 15 million kip	4	7 percent
15– 20 million kip	1	2 percent
Greater than 20 million kip	2	3 percent
Bamboo handicraft		
<= 5 mill. kip	56	93 percent
5 – 10 mill kip	2	3 percent
10 – 15 mill, kip	1	2 percent
15– 20 mill. kip	1	2 percent
Sugar cane processing		
<= 5 mill. kip	34	57 percent
5 – 10 mill kip	12	20 percent
10 – 15 mill, kip	9	15 percent
15– 20 mill. kip	3	5 percent
>= 20 mill kip	2	3 percent
Weaving		
<= 1 mill kip	16	27 percent
1–2 mill kip	26	43 percent
2 – 5 mill kip	16	27 percent
5 – 10 mill kip	2	3 percent

Field studies undertaken here, suggest that the fishing industry is the only activity that has some degree of mechanisation (Table 3.23). In the sugar cane industry though, households have some machinery for the process of extracting raw brown coloured sugar from sugar cane, and transport purposes. These are used in other auxiliary activities, however, and cannot be termed as machinery specifically for sugar processing. The weaving and bamboo handicraft industries, revealed processes that solely use traditional tools and hand tools.

Table 3.23 Distribution of Enterprises by Mechanisation.

Items	Fishing and Fish processing	Handicraft	Sugar cane processing	Weaving
Traditional tools /hand tool or utensils	54	57	59	60
Modern hand tool or utensils	33	0	0	0
Portable power tools & electrical appliance	42	0	0	0
Small fixed motorised equipment	54	0	0	0
Large fixed motorised equipment	3	0	0	0
Total	186	57	59	60

Fishing, followed by sugar production, has the highest capital/ labour ratio. However there are very big differences between the enterprises in the study, as revealed from standard deviation values and the maximum and minimum values (Table 3.24). It has already been established that both weaving and bamboo handicraft are labour intensive and accordingly have low capital-labour ratios.

To summarise it is found that the capital needs of entrepreneurs and enterprises in these sectors are small, and that one job can be created for as little as an average $5–6 in bamboo handicraft, $20 in weaving, $200 in sugar extraction, and $460 in fishing and fish processing. However, the variations across enterprises are large, implying some dissimilarity between enterprises, even when they are undertaking the same activity.

Table 3.24 Capital-Labour Ratios

Activity	Mean	Standard Deviation	Maximum	Minimum
Fishing and fish processing	3,871,109	7,861,136	60,580,000	105,300
Handicraft (bamboo)	36,914	67,053	508,000	2,000
Sugar cane processing	1,995,819	2,278,212	7,665,000	2,500
Weaving	158,807	72,017	24,500	364,000

3.3.6 Output, Value Added and Earning

Of the enterprises in the study, the fishing and fish processing enterprises have the highest sales value (Table 3.25). As many as 17 enterprises (28 percent) each sold more than 20 million kip worth of goods *per annum*. Weaving enterprises sold between 5–20 million (more than 90 percent of the enterprises), while the bamboo craft industry typically sold 10–15 million kip worth of goods per enterprise. A third of the sugar cane enterprises sold less than five million kip a year.

There is a big discrepancy between the highest reported sales and the lowest in all the industries. In fishing and weaving, for example, the highest sales figures are more than 100 times greater than the lowest. These differences reiterate the inter-enterprise differences found in the data on capital structure.

Value added is calculated as output (sales) minus intermediate consumption (material input). The value added also shows a very big discrepancy between the highest and lowest values in all the four industries. Some enterprises in sugar cane industry and weaving even show negative value added (Table 3.26). This is quite plausible, as all inputs are not necessarily paid for — they are self-provided. This aspect, nevertheless, has to be studied further before any firm conclusions can be drawn.

Table 3.25 Distribution by Sales (Gross Output — million kip)

Sales	Fishing and fish processing		Handicraft (bamboo)		Sugar cane processing		Weaving	
	Number of HHs enterprises	Percent	Number of HHs enterprises	Percent	Number of HHs enterprises	Percent	Number of HHs enterprises	Percent
<= 5 mill.kip	14	25	18	30	20	33	4	7
5 mill – 10 mill.kip	14	23	8	13	25	42	18	30
10 mil – 15 mill.kip	13	22	23	38	11	18	28	47
15 mill– 20 mill.kip	2	3	8	13	4	7	9	15
>= 20 mill. kip	17	28	3	5			1	2
	60	100	60	100	60	100	60	100
Descriptive indicators								
Sum	894,419,500		195,437,289		107,331,000		204,500,100	
Mean	14,906,992		3,257,288		1,788,850		3,408,335	
Std Deviation	14,178,399		3,336,507		1,652,997		2,963,963	
Maximum	64,080,000		15 288,000		7,200,000		20,280,000	
Minimum	576,000		264,000		75,000		400,000	

In this sample, the mean value added in fishing is almost 10 times as high as the value added in sugar cane processing, and seven times as high as in weaving. These are typical inequalities between enterprises and sectors in rural areas, which suggest that the rural non-farm sector is neither homogeneous, nor uniform.

Table 3.26 Value Added by Industry

	Mean	Standard Deviation	Maximum	Minimum
Fishing and fish processing	13,403,646	13,229,605	63,387,480	494,500
Handicraft (bamboo)	2,347,668	2,378,551	10,734,445	99,400
Sugar cane processing	1,565,120	1,676,952	7,035,000	-120,000
Weaving	1,873,368	2,687,927	17,878,400	- 3,000

To identify the rate or amount produced by a worker, a machine, or a factory, it is necessary to measure productivity. Productivity can be measured through output/labour or value-added/labour ratios. High labour productivity ratios suggest a high capability of entrepreneurs to best utilise their resources to produce income. As discussed in the Cambodia paper, fixed resource requirements for generating production are determined by capital output ratios. These, along with the capital-labour ratio discussed in Table 3.27, are critical in planning for investment, choosing technologies and creating jobs.

Table 3.27, presents calculations for the four household-activities in the sample. The first two columns present kip per worker, while the third is a ratio (a

pure number). Of the total enterprises in this sample, the fishing enterprises, on average, show by far the highest productivity, both measured as output per labour and value added per labour. Sugar production shows relatively low productivity, although it has a high capital/output ratio. However, as discussed previously, sugar production is a secondary activity of the entrepreneurs who undertake this work, and the capital equipment is used for other activities as well. The capital-output ratios in weaving and bamboo handicraft are very low, implying that with very small doses of capital, large output turnover can be expected.

Table 3.27 Labour Productivity (kip) and Capital Output Ratio

Activities	Output labour ratio	Value added labour ratio	Capital output ratio
Fishing and fish processing	9,341,196	8,399,152	0.8
Handicraft (bamboo)	2,227,938	1,632,728	0.04
Sugar cane processing	676,101	591,541	6.0
Weaving	2,921,430	1,605,744	0.08

3.3.7 Material Inputs and Total Costs

The input/output ratios are low, which could be expected since the output is essentially generated through labour processes. However, there are large differences between enterprises. Even though some weaving enterprises reported low input costs, these enterprises have the highest average input cost. As a result, the ratio of input to output is high in weaving. This might be a result of high competition, leading to low output prices. It could be because some weavers operate as pure contract workers and have no material costs.

Table 3.28 Material Input/Output Ratios

Material input /output ratio	Mean	Standard Deviation	Maximum	Minimum
Fishing and fish processing	0.17	0.18	0.75	0.004
Handicraft (bamboo)	0.29	0.23	0.86	0.001
Sugar cane processing	0.25	0.35	0.9	0.01
Weaving	0.56	0.26	1.00	0.00

3.3.8 Share of Income and Profits

The enterprises in the study were asked about the share of total earnings that came from their particular activity. The results are presented in Table 3.29. It can be seen from the table that fishing households have the lowest share of income from other sources. Seventy-three percent of their earnings came from fishing. The situation was the opposite for sugar cane processing households; only 26 percent of their earnings came from sugar processing. For these households sugar processing is a secondary activity. Both bamboo handcrafting and weaving industries earned more than half of their income from the activity under consideration. All households earn some amounts from agriculture.

Table 3.29 Share of Earnings from Principal Activity

Activity	Share of earning
Fishing and fish processing	72 percent
Handicraft (bamboo)	63 percent
Sugar cane processing	26 percent
Weaving	63 percent

Table 3.30: Profitability by Activity of Household Enterprises

Activity	Profit/ output ratio	Profit/ capital ratio	Profit/ value added ratio
Fishing and fish processing	0.6	7.1	0.7
Handicraft (bamboo)	0.7	70.5	1.0
Sugar cane processing	0.7	11.1	0.9
Weaving	0.4	11.7	1.0

In this study, profits are defined as the returns to the owner after all costs of material inputs, employee costs and depreciation are deducted. Because operating capital is relatively high, the profit-capital ratio is the lowest in fishing and fish processing (Table 3.30). The share of profit in value added is also low in fishing, because there is a high depreciation of equipment. The mean profit to output ratio is comparably low in the weaving industry and this is because of the high costs of material inputs. In the weaving industry, the mean ratio of profit to value-added equals one, which implies no labour costs, (no hired labour) and no depreciation cost.

3.3.9 Credit Situation

The survey investigated the credit situation faced by the enterprises and responses are outlined in Table 3.31. Responses suggest that fishing enterprises are the major credit takers: 82 percent of the enterprises have been borrowing money. They mostly borrow from intermediaries and traders. Weavers borrow from banks, and almost 40 percent of the enterprises have taken bank loans. In contrast, sugar cane producers report no borrowing at all.

Table 3.31 Distribution of Enterprises by Source of Credit

Source of credit	Fishing and fish processing	Handicraft (bamboo)	Sugar cane processing	Weaving
Borrow from friend / relative	6	4	0	1
Borrow from micro finance institution	4	1	0	0
Borrow money from Bank	3	0	0	23
Borrow money from Middle men	18	2	0	0
Borrow money from Trader	14	2	0	0
Borrow money from other people	4	0	0	0
Total	49	9	0	24

Across the entire sample, only five enterprises have borrowed from micro finance institutions, even though credit is reported to be an important impediment in the growth of these activities.

3.3.10 Problems Encountered by Business Operations

It was important to consider the types of problems that the enterprises might experience in the operation of their businesses (Table 3.32). Most problems were reported by the fishing industry. They reported several problems with procurement of inputs, mainly related to raw material. They also had problems with finance, equipment, and markets. To some extent, they also had problems with unclear economic laws and policies concerning fishing, a problem not fully relevant to the other industries.

Table 3.32 Problems in Business Operation (by Enterprise)

	Handicraft (Bamboo)		Weaving		Sugar cane		Fishing, fish processing	
Problems	**Starting Up**	**Current**	**Starting Up**	**Current**	**Starting Up**	**Current**	**Starting Up**	**Current**
Number of Enterprise reporting problems	30	33	31	31	40	47	44	50
Input/raw materials supplies problems	21	33	14	11	0	2	26	20
Location problems	4	5	0	1	11	10	13	13
Lack of labour	13	11	9	8	28	27	19	21
Lack of skill labour	17	8	5	1	12	17	22	12
Finance (stability of finance)	16	5	14	14	4	5	34	40
Borrowing (credit)	7	6	10	13	1	6	23	29
Lack of energy to use	5	1	2	2	15	18	17	16
Lack of information	10	7	13	11	8	10	25	24
Lack of appropriate equipment	8	5	5	3	18	19	28	28
Lack of raw materials	17	27	12	10	6	2	17	20
Market	9	6	23	19	20	30	22	36
Unclear economic laws	3	3	0	0	10	7	14	18
Policy to business	5	0	1	1	10	6	15	17
Others	2	0	1	1	1	8	3	9
Total	60	60	60	60	60	60	60	60

Bamboo handicraft makers reported their main problem was with raw materials, they had particular problems with procurement of inputs, the inputs being insufficient or too expensive. They also reported problems with hiring the right workers.

Most problems in the weaving industry were of a financial nature, with the weavers reporting problems relating to the availability of credit. More than half of the weaving enterprises also experience problems with raw material, which is too expensive and unavailable in sufficient quantities. They also faced problems with marketing their products.

The sugar cane industry's major problems were the lack of supply of inputs (good quality sugar cane). It is not available locally, and the transport expenses are too high to bring it from long distances. In addition, they reported a lack of appropriate equipment, a lack of (skilled) labour, and market problems.

3.3.11 Marketing Characteristics and Linkages

3.3.11.1 Markets and Mode of Payment

Producers use many different methods to market their products (Table 3.33). Most producers use more than one channel. Fishing and the producing industries are more diversified in the context of marketing, and the most commonly used channels are intermediaries and village traders. Bamboo handicrafts are most often sold through village traders, while weaving products are typically sold to intermediaries. With sugar cane processing, however, merchandise is most often sold directly to the consumer.

Table 3.33 How Products are Marketed (Percent Distribution of Enterprises)

Main output takers	Handicraft	Weaving	Sugar cane processing	Fishing
Intermediary	10	77	6	25
Village trader	52	-	-	25
Creditor	1	3	1	18
Open market	2	11	63	9
Other producers	22	3	1	9
Directly sell to consumers	10	4	28	9
Others	2	1	1	5

The reasons why the distribution channels are varied was investigated and responses are outlined in Table 3.34. Many producers answered that there was 'no market', and quite a few answered that they did not know any other way. In some cases, there was no choice, while in others, there were obligations from creditors or intermediaries to sell through particular channels. There were several suggestions made to market products in a better way, with most enterprises desiring a greater number of sales options and access to larger markets.

There are also different ways payments are received by the household enterprises for their products. As presented in Table 3.35, most of the producers are paid immediately, in cash. However, some of them, particularly in the handicraft and weaving activities, received their payment in the form of smaller periodic payments (by cash, but staggered). In addition, the fieldwork also revealed that there is a mode of payment in the form of adjustment against past loans. The highest incidence of payment adjusted against past loans is found in the fishing enterprises, while little is found among those engaged in sugar cane processing.

The same question regarding the mode of payment was asked of selected traders and intermediaries during the interviews. The findings from the traders, concerning payment, support that found on the producer side. Additionally, there are also different ways by which traders received payments from customers/consumers when they sell products on (Table 3.36).

Table 3.34 Why the Particular Purchaser of a Product Was Chosen

	Handicraft	Weaving	Sugar cane processing	Fishing
No market	36	38	42	28
Obligation of borrowing/ lending condition of creditor	6	8	5	20
Do not know any other way	31	23	32	22
Reduce the cost (saving)	21	11	18	27
Obligation from intermediaries/traders	6	20	4	3
Suggestions for better marketing				
Wider market	15	21	18	15
Should be more options to sell	15	17	14	14
Better transport conditions	11	9	13	10
Better other infrastructure conditions	13	9	14	13
No idea	14	13	14	13
Better access to information on prices, production	13	12	12	14
Better access advise, promotion and marketing	14	17	13	14
Other suggestion	5	2	3	7

Table 3.35 Mode of Payment to Enterprise

Item	Handicraft	Weaving	Sugar cane processing	Fishing
Immediate cash payment	50	50	57	60
By cash, but staggered	25	37	2	13
Adjusted against past loans	12	9	1	25
Exchange goods	1	4	2	11
Other	6	5	2	7
Total	94	105	64	116

Table 3.36 Mode of Payment to Traders /Intermediaries (When Selling Products On)

Item	Bamboo handicraft	Weaving	Sugar cane processing	Fishing and fish processing
Immediate cash payment	42,9	60,0	100,0	75,0
By cash, but staggered	28,6	40,0	0,0	0,0
Adjusted against past loans	28,6	0,0	0,0	25,0
Exchange goods	0,0	0,0	0,0	0,0
Other	0,0	0,0	0,0	0,0
Total	100,0	100,0	100,0	100,0

3.3.11.2 Forward and Backward Linkages

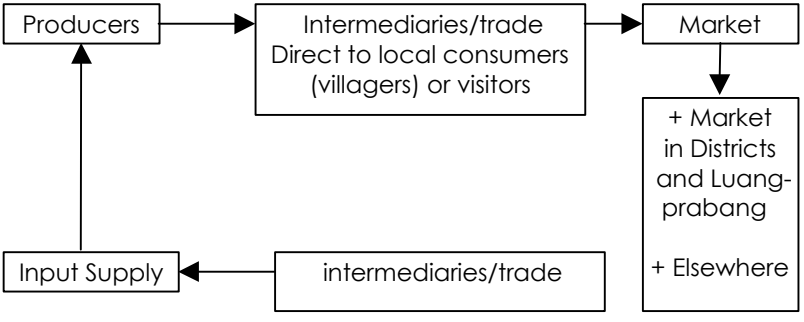
Most small and rural producers are handicapped by the fact they do not get a reasonable price for their product. In some instances, the markets are far away from the producers, and in some instances, markets are far from perfect. Often it is a combination of the two. Answers to queries on the nature of the market chains, and who controls the prices, help in formulating effective policies for supporting small producers.

Although this study does not allow a full investigation of every input and output linkage, an attempt is made to provide a picture of the processes in the four activities wherever possible. The manufacturing units in Laos are quite small in the sectors that are studied. Household members, who constitute the main workers, also perform many other activities that are related to production; they transport raw material and transport the finished products to market, for example. In some cases, households are simultaneously both producers and input suppliers. Equipment and tools used in the production process are partly imported, but mainly produced locally. The products are often sold in the local market, by traders, or sold directly to the consumers in the villages.

(i) Weaving

Weaving is an activity undertaken by women in Lao villages. The activity is carried out using personal funds. The equipment and tools are also provided from domestic sources. In Soab Cheak village (Pakseng district in Luangprabang province) where the study was carried out, most weaving equipment is inherited from one generation to another. Households use different sources of material inputs, as mentioned in earlier sections. Figure 3.3 below, demonstrates the basic linkages between the producer, trader and consumer.

Figure 3.3 Linkages of Weaving Activities



The production process comprises of many steps, starting from producing the yarn and dyeing it. In Soab Cheak, intermediaries provide the producers with ready dyed yarn. The main source of weaving material is imported from Thailand, China and Vietnam. The market for the final produce is in urban areas, mainly Luangprabang and the Vientiane Municipality.

As mentioned earlier, weaving products are typically sold to intermediaries or traders. The producer sells a silk skirt '*May thou lea'*, at an average price of 39,700 kip. They could get a higher price if the product is sold directly to a consumer (45,000 kip apiece). The input cost in producing one product was about 26,300 kip. The trade margin is 13,440 kip per unit when the product is sold to the intermediary. The trade margin was 19 percent higher in the case of the producer selling directly to the consumer. However, very few household businesses can often market in this way.

The trader/intermediary buys the product from the producer and transports it to the market or elsewhere. However, transport cost data were not easy to identify.[17] The intermediaries sell a silk skirt made from '*May thou lea'* for the price of 50,000 kip while they pay the producer 39,700 kip. In this case, the trade margin (for the trader/intermediary) for this particular product is approximately 11,000 kip. The intermediaries often sell their products directly to consumers.

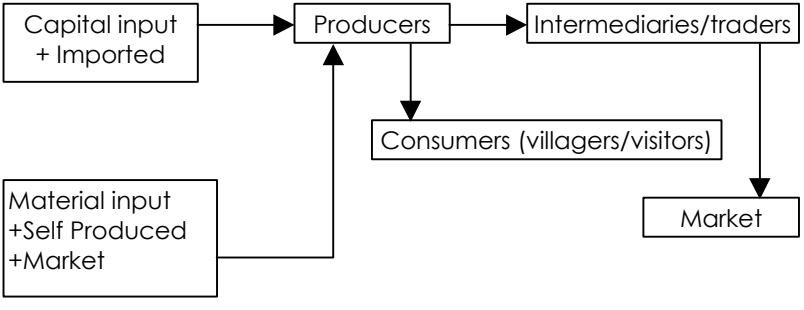
[17] This was the case for all activities.

However, at times they also sell the products to another trader. Of course, the trade margin at the final market is much higher. The final trader[18] (retailer) will sell the produce for at least 70,000 kip a piece in Luangprabang market.

(ii) Sugar Cane Processing

Most sugar cane processors are also sugar cane farmers (*i.e.* they provide their own input). The input cost is, therefore, relatively low and under their control. This is in contrast to the situation in other industries, where producers have no control over the market. The producers are engaged in all steps in the production and transport of the raw, brown coloured sugar. The most important means of production are large vessels and power machines for pressing sugar cane. The final products are marketed to villagers and middle traders in local areas.

Figure 3.4 Linkages in Sugar Cane Processing



Unlike weaving activities, the majority of household enterprises surveyed in sugar cane processing market their products on the open market, and direct to consumers. Only some of them sell to intermediaries. Intermediaries then sell the products to other traders in the form of retail rather then wholesale. The total input cost for producing 1kg of brown coloured sugar *'Num ooi'* is 1,550 kip. Producers offer different prices per kg for intermediaries (2,350 kip), consumers (2,870 kip) and 2,840 kip when they sell them direct on the open market. The margins are therefore dependent on whom the products are marketed to.

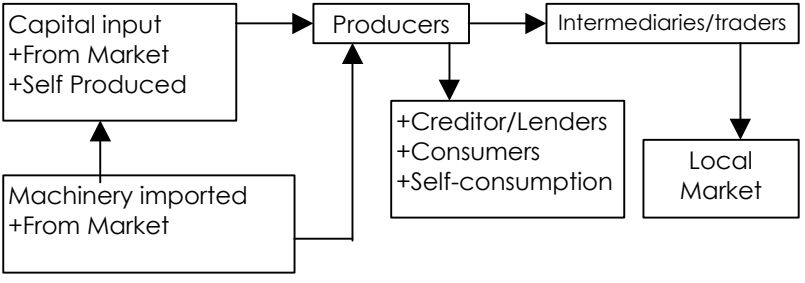
The intermediaries /traders sell 1 kg of raw sugar at 3,500 kip. So they gain 1,250 kip as a trade margin per kg. As expected, the traders get a higher trade margin compared to the producers. The price for each kilogramme of raw brown sugar in the city market (Phonsavane, Xiengkhouang province) is approximately 60 percent higher than the selling price that traders or intermediaries offer.

[18] The person who owns the shop in the market.

(iii) Fishing and Fish Processing

The figure below presents the fishing operation process. Fishing and fish processing operations are similar to sugar cane production. The producers construct the boats themselves with some assistance from other villagers, while the boat engines are imported. The households engaged in fishing, process the fish products for both sale and personal consumption.

Figure 3.5 Linkages in Fishing Operations



Anglers market the fish catch mainly to intermediaries, creditors and lenders, and direct to markets and consumers. Creditors and lenders purchase fish at lower prices than the other buyers do. For example, 1 kg of fresh fish costs 4,100 kip to intermediaries, while the price to creditors is 3,900 kip per kg. There is not much difference between the unit price offered to intermediaries and creditors for 1 kg of smoked and dried fish. When sold directly to the markets and consumers, the fish is priced more than 30 percent higher than the price paid by intermediaries. When producers sell directly to local markets, the price is 5,600 kip per kg for fresh fish and 15,800 kip per kg for smoked or dried fish. Anglers, selling their fish catch direct to consumers, obtain prices of 4,600 kip and 14,250 kip per kg, for smoked and dried fish, respectively. In general, the margin for producers is 1,100 kip per kg of fresh fish and 3,200 kip for dried and smoked fish.

Unlike traders in sugar cane processing activities, here the intermediaries and traders market most of their products wholesale rather than retail. The differences between wholesale and retail prices per unit are in the range 900–1,200 kip per kg.

Intermediaries and traders deliver the fish to the market and receive 5,800–6,000 kip per kg. The price (at source) received by producers when they market their fish to intermediaries and village traders are 4,100 kip per kg. However, it was evident from interviews with traders/intermediaries that they buy fish at 4,900 kip per kg[19], and as a result, the trade margin of traders is 1,000–1,700 kip per kg.

[19] It might be the case that intermediaries/traders consider the 800 kip difference in prices represents transport and other costs (like ice to keep the fish cold) as additional to the price of the original producer.

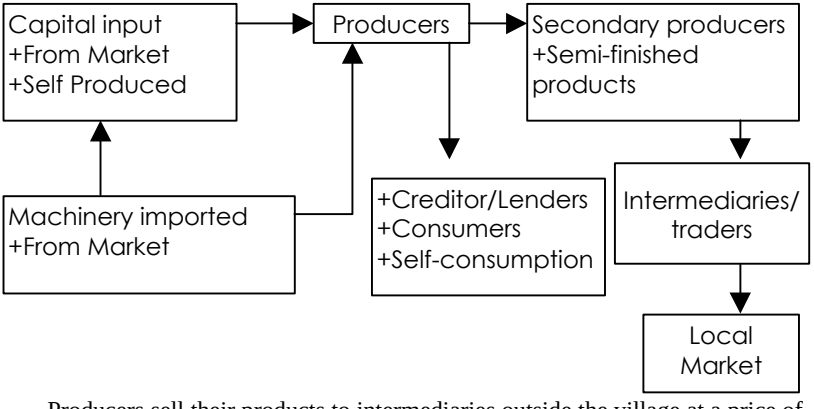
In this case, the final market price of fish would generally be 10,000–15000 kip per kg.

(iv) Bamboo Handicraft

Bamboo handicraft activities, as with weaving, are more labour intensive processes than fishing or sugar cane processing. Production is carried out manually with the help of primitive tools. There is a dealer in the village that supplies material inputs for the producers.

Bamboo handicraft is an activity with the lowest external material input in the sample. In Namkieng and Nongkhankhu villages, the producers produce only semi-finished products. Other producers or intermediaries collect the products and provide the final changes to the product for sale to consumers or traders. Final products are sold in markets in the Vientiane Municipality.

Figure 3.6 Linkages in Bamboo Handicraft Activities



Producers sell their products to intermediaries outside the village at a price of 3,300 kip per unit and to the village traders at 2,800 kip. Surprisingly, producers sell their products to other producers at a higher price of 3,800 kip per unit.

Interviews with traders indicated that, on average, a trader buys a basket made for sticky rice at 2,850 kip per unit and sells it at 3,300 kip. The final price in the market is between 5,300–5,500 kip per unit. Producers, gain 200 kip per product, while the traders gain 450 kip. The market margin of the final trader is 2000 kip per unit.

As illustrated above, the intermediary/trader plays an important role, not only in marketing, but sometimes also by providing input material. Regarding prices, they influence the producer's prices and the market price. For some products, such as weaving products, the trader fixes the prices for the producer. Often, these margins are fixed through negotiation, but they cannot be considered as equal negotiations between the parties. The intermediaries have a stronger position than

that of producers, who often have no alternative but to deal with the intermediaries.

The gap between the price received by producers and traders is more than 70 percent for handicrafts, 29 percent for weaving, and 45 percent for fish products. There is also seasonality in the price of the product, both because of the product cycle and because of demand. The price gap is higher in the case of handicrafts, partly because the producer markets semi-finished products, and final changes are provided by others in the product-market chain. (The trader pays only 1,700 kip to the producer for one sticky rice basket, while the basket finally sells for 2900 kip).

For sugar making and weaving, the product prices do not differ significantly between seasons. Producers' prices for sticky rice baskets are 50 percent higher in the dry season than the in wet season. Prices of processed fish are higher during the dry season but the trade margin is higher in the wet season, both nominally and percentage wise.

Table 3.37 Producers Prices and Market Prices in the Dry and Wet Seasons

	Dry season prices		Wet season prices	
	Producer	Market	Producer	Market
Handicraft				
Sticky rice basket (small size)	1,700	2,900	1,100	2,800
Weaving				
Silk skirt ' *May thou lea*'	39,900	48,200	39,500	51,300
Sugar cane processing				
Brown colour sugar	2,700	3,500	2,000	-
Fishing				
Fresh fish	4,000	5,800	3,900	5,800
Processing: Smoking and dry	7,900	9,100	5,500	7,200

The small list of products in Table 3.37 suggests that market margins are large. As transport or perishability factors do not appear vital in this list of items, market margins increase the traders' profits. In this regard, if market channels were smoother (*e.g.* better information and transport channels), product viability would increase.

3.4 Review of Government Policy Framework Related to Off-farm and Non-farm Employment and Activities

A policy framework, supporting particularly non-farm and off-farm activities, or small and medium enterprise (SME) development does not yet exist in Lao PDR. However, numerous socio-economic policies at central as well as provincial levels might influence the non-farm and off-farm sector both directly and/or indirectly. The major objective of government policies is poverty alleviation through human resource development, rural development and people participation. Government

policies that can be related to non-farm and off-farm activities and employment are as follows:

3.4.1 National Development Objectives and Strategies

Lao PDR's development vision for the next 20 years focuses on poverty eradication and improving the standard of living. To achieve this the government has determined the main objectives of the long-term development strategy as follows:

1) To sustain economic growth with equity at a rate of about 7 percent, which is considered the main locomotive for tripling the *per capita* income of the multi-ethnic Lao population by the year 2020.

2) To reduce the existing poverty incidence in half by the year 2005 and to fundamentally eradicate poverty by the year 2010.

3) To totally eliminate opium by 2005 and put an end to slash-and-burn cultivation by 2010.

To attain these objectives, the government of the Lao PDR has outlined the following strategies:

1) Maintain an appropriate level of population growth compared to the economic growth rate for the medium and long-term period. Human resource development through education, particularly basic education at all levels, including the formal and informal sectors.

2) Develop and modernise social and economic infrastructures so as to facilitate economic development in each region and to push Laos into regional and international economic integration.

3) Electricity access to all areas and regions of the country in order to foster other sectoral economic development in the region through development of transmission line access from the north to the south and to the economic development zones.

4) Promotion of construction manufacturing materials and agro-processing industries, utilising domestic natural resources in order to increase value-added products for domestic and regional markets. Small and medium-sized enterprises (SMEs) and local industries and handicrafts must also be promoted.

5) To develop and promote all economic sectors in order to expand their business opportunities so that they can compete in the domestic, regional and international markets, with an emphasis on export oriented potential and sectors that have a location advantage.

6) To create favourable conditions and mechanisms for improving financial institutions and further capital market development.

7) To promote foreign economic cooperation as well as cross-border cooperation so as to push the Laos into economic integration within the region and the world.

According to the long-term policy framework that was formulated in the vision for 2020, the Lao government has been enthusiastic in implementing eight priority programs for public investment as follows:

1) *Food production programme:* The aim of this priority programme is to provide food for self-sufficiency. The remainder can be sold in cross-border regions and used in the food processing industry.

2) *Commercial production programme:* This programme focuses on the production of goods for all significant sectors, the domestic market, and for export to the regional and international markets.

3) *Shifting cultivation stabilisation programme:* The aim is to prevent watershed, forestry and ecological degradation particularly in mountainous areas.

4) *Infrastructure development programme:* This programme focuses on road rehabilitation and development, telecommunication and post development and social infrastructure, as well as schools and health care facilities.

5) *Rural development programme:* The main purpose of this programme is to alleviate poverty in rural areas through income generation and rural infrastructure improvement.

6) *Human resource development programme:* The aim of this programme is to implement the political concept of strengthening "self-mastery, self-reliance and self-building'' of the Lao people. To attain this idea people are considered as the centre of development goals and they must be armed with enough education to enable them to develop and manage the country.

7) *Service development programme:* This programme is aimed at developing new potential sectors such as tourism; transit transport, and trade based on location advantages.

8) *Foreign economic relation development programme:* The aim is to use global opportunities as much as possible to develop the economy of the country, promote FDI, and improve economic cooperation with foreign countries and international institutions.

From the visions, strategies and priority programmes mentioned above, it is

clear that economic reform and development in Laos will be further reinforced with a focus on minimising the gap between agriculture-based rural areas and industry-based urban areas.

3.4.2 Macroeconomic Policy Framework

To achieve the objectives of the fifth five-year Socio-Economic Development Plan (2001–2005) adopted by the VIIth Party Congress, the macroeconomic framework has been set as follows:

To achieve an average GDP growth rate of about 7–7.5 percent per year, of which:

1) Agriculture and forestry will increase by 4 – 4.5 percent;
2) Industry will increase by 10–11 percent;
3) Services will increase by 8–9 percent;
    - To limit inflation to under 10 percent (Single digit);
    - To reduce the fiscal deficit to no more than 5 percent of the GDP by increasing budget revenues to 18 percent of the GDP by the year 2005;
    - To reduce the external trade deficit to no more than 6 percent of GDP by the year 2005, by increasing exports by 12 percent and imports by 8 percent per year;
    - Public investment covers 12–14 percent of the GDP and public savings reach 12 percent of the GDP in the year 2005;

By the year 2005, the population will increase to an estimated 5.9 million, and GDP *per capita* will be about $500–$550.

However, it is relatively hard to realise these targets. The real GDP growth rate in 2001 was only about 7.5 percent, of which 3.8 percent is for agriculture, 9.7 percent for industry and 5.7 percent for services.

3.4.3 National Rural Development Policy

In March 1994, the government of Lao PDR adopted a resolution on rural development. This resolution highlighted the strategic importance of rural development for the Lao PDR. The objectives of the Rural Development Programme of the Lao Government are to:

1) Alleviate poverty among rural populations in remote areas;

2) Provide food security;

3) Promote commercialisation of agriculture production;

4) Eliminate shifting cultivation;

5) Improve access to development services.[20]

The Rural Development Programme 1996–2000 planned to establish 87 focal sites with an expected average investment of 30.8 billion kip per year. This expectation has not been met. Actual expenditure was 1.1 billion kip in 1995–96 and about 9.76 million kip in 1996–97. The Lao Committee on Rural Development carried out activities for focal site development using local funds, which was not enough and resulted in only 59 focal sites being developed as of February 2001. Some of the infrastructure development objectives of focal sites included irrigation facilities, school buildings, health facilities, feeder roads, and water supply facilities. Besides the 59 focal sites, provincial governments are using funds allocated to them by the central government to implement other similar rural development activities. However, reliable data and the status of progress on these projects are unavailable.

Two rural development programmes are being developed. One of these includes an Area-based Integrated Rural Development Programme, which would be implemented within the ongoing focal site framework with a focus on the improvement of social and economic infrastructure in selected poor villages. The other is a Programme for Village Initiative Agriculture Development in Remote Rural Areas, which is aimed at promoting market-driven agriculture development in rural areas with market potential. Priority areas are based on land, water and human resources availability. Agriculture extension, feeder roads, and credit services would be provided, and commercial products would be promoted. The target number of villages for these two programmes is 3000 over the next 19 years.

In March 2001, the government of Lao PDR again stressed the importance of rural development as follows:

> *" As for rural development, on the one hand we have to enhance higher self-reliance spirit among people in order to look for and utilise all on the spot potentials by setting family and village plans, organising rural development fund, and establishing village service cooperative in various appropriate forms. According to the availability of each area, we should have projects. On the other hand, the state must have a fair policy to support and promote economic sectors in rural development. Hence, for mountainous and rugged areas and in the former revolutionary bases, technical skills should be provided, and people encouraged to participate into economic activities. In*

[20] Resolution of the Government of Lao PDR on Rural Development, 1994

addition, those local areas should develop themselves by increasing on spot force and using aid funds effectively."[21]

3.4.4 Promotion of Family Economy

The category 'Family Economy' as a component of the Lao economy has been significantly stressed in the political document of the Lao government. However, there is no clear definition regarding the size of each economic family unit. In many cases, it is difficult to distinguish between a family economy and a business unit/enterprise.

In general, 'Family Economy' is a production unit, operated by a household at micro or small-scale level, for which it is not necessary to be registered. The investment capital and revenue of a family economy are on a relatively small size. In developing countries like Lao PDR, the family economy plays a significant role for the whole economy, because the majority of Lao people are self-employed farmers. Under the NEM, the Lao government strongly encourages all households to produce for self-sufficiency and for the market, in order to improve their living standards. This was strongly stressed by the Central Committee of the Lao People's Revolutionary Party, at the VIIth Party Congress. The policy objective of promoting the family economy is to encourage people to work harder and to generate incomes based on their own potential. This 'potential' includes the skill, capital, land and available materials, in order to improve living standards and to gradually eradicate poverty. The Lao government has implemented numerous strategies and policies such as basic infrastructure development, skill training, and financial support in the form of micro credit, to promote and strengthen the family economy. These have a direct effect on promoting non-farm and off-farm employment and activities.

3.4.5 Income Generation Activity Project

During 1996–97, an income generation project for the provinces of Sayaboury and Oudoumsay was formulated with the principal purpose of supporting the national and UNDP prime objective of poverty alleviation in the country. The Lao government and UNDP jointly signed the document. It is the first national, provincially-executed project for Sayaboury and Oudoumsay. The development objectives of the project are to contribute to eradication of poverty among the rural poor in Oudomsay and Sayaboury through the provision of skills and ongoing support necessary to develop viable and sustainable income generating activities. The main activities are to provide skill training programmes such as weaving (colour combinations, practising intricate patterns, Lao style broad loom, and improved textures), and food processing (transportability, perishability issues,

[21] Political Report of the VIIth Party Congress, March 2001

quality, and taste). The objective of the project is to help villagers make better use of their agricultural products by processing them and to add more value. They could be used either for personal use, or for sale outside the province. This has been done in the form of customised training, where the participants learn the technical and economical aspects of potential processing activities, followed by the participants establishing their own marketing channels so they could continue production in an independent and sustainable manner. Normal processing operations are divided into procurement, processing and marketing.

3.4.6 Rural Finance

The Agriculture Promotion Bank (APB), set up in 1993, is the main provider of rural finance, which extends credit at relatively low interest rates. APB also provides credit for non-farm activities, such as weaving, pottery, and wood handicrafts. However, the interest on loans for non-agricultural activities is higher than that for agricultural production. APB uses a group loan approach with a 'group guarantee' as collateral. For individual loans, it uses a substantial collateral approach. The government, as well as other donor credit agencies, provide about 80 percent of the money. A household finance survey was conducted for rural people, which showed a broad distribution of savings throughout the rural population. Ninety-one percent of the households have disposable savings, but these savings have not been converted into deposits, since only 1 percent of the households have bank deposits.

The Lao micro finance system is currently in its infancy. It has five different types of suppliers. First as discussed previously, is the Agricultural Promotion Bank. This Government owned policy bank, focuses mainly on the agricultural sector, and handicraft (weaving and wood handicrafts). The APB promotes specific subsectors and lends at subsidised rates. Second, Lane Xang Bank, SOCB, started micro lending recently with a focus on micro traders. Third, are the Village Revolving Funds (VRF): there are approximately 1,600 VRFs, mostly donor funded with limited outreach. Fourth, three micro finance initiatives[22] with about 2,500 active borrowers have each been undertaken. Fifth, numerous moneylenders offer loans at (high) usury rates. The Lao micro finance industry integrates lessons learnt and best practice benefits from the formal financial sector.

Despite a large demand for micro finance services, in particular for depositing savings, the number of such services remains low. Estimates show that only 25 percent of potential micro finance borrowers and potential micro depositors have access to micro finance services.

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[22] Cooperative de Credit de Soutien aux Producteurs(CCSP); Micro finance Project(MFP); Project de Development Decentralise de Phongsaly(PDP).

Table 3.38 Actual Micro Borrowers and Micro Depositors (2000) [23]

Supplier	Estimated borrowers	Estimated depositors
Money Lenders	25,000	Nil
Lane Xang Bank	2,000	8,000
Agricultural Promotion Bank	30,000	120,000
Village Revolving Funds	8,000	3,000
Micro finance Institutions	5,000	6,000
Total	70,000	137,000

Efforts have recently been made to raise awareness about the potential of micro finance, and in 1997, the government established the Micro finance Coordinating Committee (MCC). The MCC trains officials and organises several study tours. A national micro finance training centre was recently established to train practitioners in best practices. However, only three micro finance initiatives of significant scale have been set up since 1996, with the active participation of the government, donors and NGOs. Three projects are now reaching a stage where they are trying to transform themselves into fully-fledged institutions. The environment, however, has yet to become supportive.

Regarding the nature of support, micro financing institutions essentially finance small trade and working capital (poultry, cash crops and small handicrafts). In the provinces of Oudomxay, Sayaboury and Vientiane, four micro finance units have been established with the aim of developing them into viable formal sources of micro finance and providers of micro finance services.[24] These service units provide six-month loans and charge 4 percent interest per month. Borrowers receive 1.8 percent per month on the compulsory deposits mobilised.

The largest rural credit sources remain family, friends, and household-to-household loans. In these, the sizes of the loans are small and no collateral or interest rates are involved. Next, informal arrangements, in particular the VRFs have grown significantly in the last eight years. VRFs cover about 15 percent of all Lao villages. These micro finance/credit units are outside the formal financial sector, funded by government, international donors, domestic and foreign NGOs and are not taxed or regulated. Their financial service focuses on the extension of credit (about $5 million in 1996) as well as a saving mechanism. The terms, conditions and methods for loan disbursement vary widely from one project to another. For livestock production, farmers borrow young cows, piglets, and hens from an in-kind animal bank. Most of these development project components, however, do not plan for sustainability since they often offer large subsidies.

In the recent past, the Lao government has initiated and promoted a concept called District Development Funds and Provincial Development Funds, which are similar to the VRFs to provide financial services for people in local areas.

[23] The Bank of Lao PDR, ADB, WB,
[24] This is also under the UNDP/UNCDF micro finance project.

However, the implementation of this concept is not yet satisfactory. Only a few provinces and districts have begun to develop this concept.

3.4.7 Subsidies

Currently, the Ministry of Industry and Handicraft is drafting a policy document on subsidies on bank interest rates for handicraft production.

3.4.8 SME Promotion

The fifth, five-year Socio-Economic Development Plan, emphasises the need to develop SMEs and to mobilise people's resources for investments in agro-processing, consumer goods manufacturing, handicrafts exports, and other industrial subsectors, based on locally available input material such as construction material, agricultural tools, and service industries such as tourism, transportation and packaging.

The Industrial and Handicraft Development Strategy from the Present to 2010 and the Development Plan for 2001–2005 (Ministry of Industry and Handicrafts) recommends the following SME development measures for implementation by the Government:

1) Establishment of laws and regulations to manage and facilitate small and medium size industries;

2) Establishment of agencies and institutions to provide services to investors through provision of training, advisory services, information, assistance in conducting product research, and development and transfer of technology;

3) Provision of development funds for private investors;

4) Acceleration of human resources development through training of workers and managers of SMEs;

5) Incorporation of entrepreneurship and business management training into vocational education.

Further, short-term recommendations of the Ministry of Industry and Handicrafts consist of reduced tax rates for the manufacturing sector, making market expansion and promotion expenses for these enterprises tax deductible, and implementation of measures for the protection of domestic producers until 2008, when Laos is expected to integrate fully into AFTA. In the long-term, SME funding with preferential rates is recommended for productivity and quality improvements, research and development, technology improvements and environmental protection.

3.5 Development Perspectives for Off-farm and Non-farm Employment

3.5.1 Challenges

Developing countries, like Lao PDR, face numerous barriers that depress the development of rural off-farm and non-farm activities. This survey identified problems related to:

1) Poor and limited transport infrastructure;
2) Undeveloped market systems;
3) Lack of skilled manpower;
4) Undeveloped rural savings and credit systems; and
5) Poor communication.

3.5.2 Potentiality

To develop and promote appropriate non-farm and off-farm activities in the Lao PDR, it is important to examine carefully the potentiality and advantages based on which households, and SMEs could be developed and strengthened.

The appropriate non-farm and off-farm activities, which could be promoted, are as follows:

3.5.2.1 Small Agro-and Forest Based Industry

As mentioned in Section 1, the agriculture sector accounts for the largest share of GDP comprising crops, livestock, fishery and forestry. These provide the most important raw materials for household, small and medium-sized agro-processing industries such as food processing, based on rice, maize, fruits, and sugar cane. Agriculture also supplies wood and bamboo handicrafts, silk processing, silk-reeling, cotton spinning and hand weaving based on sericulture and cotton growing; fishery and fish processing. In particular, hand weaving is an important culture of the Lao people. Agriculture in Laos is mostly based on environmental friendly production (non-chemical) for which there is relatively high demand in the world market.

Forest covers 47 percent of Laos. Based on this, wood handicraft, in particular furniture for housing can be well developed. In the next ten years, local sawmills should be converted to produce wooden components through employment of high precision sawing and planing technology for export to Europe, the US and Japan. This process can be realised with the help of partners in joint venture. There is a consistent demand for wood products such as doors, window frames, pillars and beams, as well as furniture, in the markets mentioned above.

3.5.2.2 Small Mining and Mineral Processing Industry

Laos is rich in mineral resources such as tin, gold, iron, limestone, clay soil, and sand, most of which has not yet been exploited. Based on this resource, mining and mineral processing could become well developed. In particular, rural people could exploit the good quality clay soil using simple technologies for producing pottery and bricks. These could be developed and should be promoted. The demand for cement is also expected to increase. The cement plant, in particular at Vangvieng (Vientiane Province) and the proposed cement plant in Khammouan, could promote non-farm and off-farm employment in those areas.

3.5.2.3 Small Tourism Industry

The Lao culture, as well as Laos' historical and environmental sites, create an excellent opportunity for attracting tourists. The success of tourism is related closely to the policy for developing agriculture and manufacturing industry, as mentioned earlier. The development of tourism is not only a source of foreign currency, but also promotes and develops other sectors such as developing food production, the expansion of processing industries and handicrafts, and service activities including hotels, guest houses, restaurants, resorts, sports complexes and even cultural halls, for example.

3.5.3 Determining Factors

3.5.3.1 Infrastructure

The main supply-side factor, which has an important bearing on the prospects of rural non-farm and off-farm activities, in rural industrialisation, is rural infrastructure. It is generally believed that the development of infrastructure in the countryside (electrification, transport network, and communications) creates conditions conducive to the development of the rural non-farm sector.

In fact, the importance of infrastructure has been stressed as one of the eight national priority development programmes. Over the past 10 years, important progress has been made in the construction of physical and social infrastructure that has contributed to the development of the non-farm and off-farm sector. The government of Lao PDR has made great effort to invest large amounts in the infrastructure sector (50 percent of total public investment in 1995, and 56.4 percent in 2000–01).

The majority of rural people still lack access to electricity, roads and communication. In 1998, only about 8 percent of rural people had access to electricity, more than 35 percent of all villages are more than 6 km from the main road, only 4 percent of all villages are within 1 km from the nearest market, and over 15 percent of the villages are more than 10 km from a trading centre. These aspects need addressing.

3.5.3.2 Education

One of the determining factors in the promotion and development of non-farm and off-farm activities is the expansion and improvement of basic education. A second strategy is the creation of skilled personnel in communities, in which vocational and technical levels of education can play an important role. Because rural areas possess only a few technical and vocational schools, new facilities should be set up in these areas. However, the biggest constraint is the budgetary shortage. Creating self-supporting systems in technical schools should be considered. This implies that schools should generate their own income for management through some profitable activities, even if donors support school construction.

The third strategy is strengthening linkages between education and the community, where educational activities provide some benefits to the community. For example, students studying in technical schools in cities should return to serve the community after completion of their study. In addition, schools should become information and resource centres for the communities. Whenever people have technical questions, the schools should be able to provide adequate advice.

The fourth strategy is community revitalisation. The community should also implement some income-generating activities with support from educational institutions and skilled personnel. With agreement of people in the community, some activities such as weaving, and producing handicrafts should be promoted. Experience with income generating projects, such as those implemented in the Oudomsay and Sayaboury provinces, should be replicated.

3.5.3.3 Marketing

Rural non-farm products rely mainly on the domestic market. Only a few products can be exported. There is a limited, systematic market information service available for producers and consumers. Intermediaries, therefore control the market price. Large price gaps (between producer prices and market prices) also result from poor road networks, lack of market information, lack of purchasing power of local consumers, and taxes imposed on goods moving through the provinces.

In order to provide opportunities to non-farm employment in rural areas, urban-rural linkages should be explored. Rural producers need to be integrated within urban markets; urban producers need to be able to trade with rural populations, and both rural and urban populations need to have easy access to international markets. This will require investment in the infrastructure in small towns. Workforce skills need to be developed to match market demands and quality standards. Through well-planned infrastructure, rural areas with concentrated populations can provide the economies of scale necessary for the competitive development of commercial businesses.

3.5.4 Micro Finance

A wider understanding of the advantages of sustainable micro finance operations is needed to improve the policy environment. About 90 percent of people in rural areas do not have access to formal banking services. The Micro finance industry has only started to develop in the last four years, and is still less developed than in other countries in the region.

To strengthen the micro finance system, three major strategies are proposed:

Improving and strengthening the current existing micro finance institutions: One of the micro finance institutions recently initiated in some local areas is the local development fund or revolving fund. The village revolving fund, district development fund and provincial development fund are all concepts that should be further promoted and carefully developed, involving for example, financial management regulations, and organisation and structure.

Promoting private micro finance or commercial banks: Until the late 1990's there were a few credit unions (both collective and privately owned enterprises), which then went into bankruptcy because of dramatic losses during the Asian financial crisis. It is necessary to promote credit unions and integrate them into the banking system of the Lao PDR.

Special Financial Support for SMEs: Currently there is no particular financial support system for SMEs. The government of Lao PDR is considering a draft decree on SME promotion including financial support and the institutional framework. To support the activities of SMEs, such financial measures as introducing a refinance system[25], establishing a Credit Guarantee Organisation, and Mutual Financing Organisation should be studied. A Mutual Financing Organisation will also help SMEs gain wider access to borrowing.

3.5.5 Support Policies

In order to promote non-farm and off-farm activities and employment, it is important to continue to improve the existing policy framework. It is important to consider an appropriate strategy for rural industrialisation that will facilitate local people to produce high quality commercial goods at reasonable prices based on their potentialities and advantages. To stimulate non-farm and off-farm activities any policy framework will have to specifically consider aspects of investment, taxation, trade, finance and production.

[25] A refinance system is a short-term financial support measure of the Bank of Lao PDR to SMEs by rediscounting bills issued by SMEs and held by commercial banks.

3. 6 Conclusion

The data and information available for the study of non-farm and off-farm employment activities in Lao PDR is still limited. This causes some difficulty for a detailed examination of non-farm and off-farm employment and activities, particularly the consideration of their *size* and *contribution* to growth, income generation and poverty reduction.

However, based on recent macroeconomic structural development and changes, growth in non-farm and off-farm employment and activities can be discerned. The industry and service sectors, including non-farm and off-farm activities, have been developed at a rate more rapid than that of the agriculture sector and their shares to GDP have been gradually growing while agriculture's share has been declining.

The findings of the study indicate that most rural households engage in a wide variety of non-farm and off-farm activities including hunting, forest gathering, animal breeding, sericulture, handicraft, and trade. All these are closely combined with farming activities. Most non-farm and off-farm activities can be generally characterised as small-scale family enterprises. The productivity of household businesses are generally higher than that for agriculture. They have generated income, particularly in the case of fishing and fish processing, handicraft and weaving, that accounted for more than half of total income. Nevertheless, productivity is still lower than that of medium and large-scale establishments. Most enterprises are generally labour-intensive rather than capital intensive. This case study shows that households dealing with weaving, fishing and handicraft spend even more then half of their working time on these activities. However, those households engaged in sugar cane processing, spend less time running their activities compared to other activities, as production is seasonal.

A general conclusion could be that non-farm and off-farm employment has significantly contributed to the improvement of livelihood of Lao people in rural areas. In particular, it provides employment for a growing labour force in rural areas; contributes to economic growth, slows rural-urban migration and helps control urban congestion and pollution, and promotes an equitable distribution of income and contributes to the alleviation of poverty.

The study found out that there are a number of constraints and challenges, particularly poor and limited transport infrastructure, underdeveloped market systems, a lack of market information, a lack of skilled manpower, underdeveloped rural savings and credit systems, and generally poor communications. Most local producers have no market information. In addition, most household enterprises faced problems with the procurement of inputs. The case study shows that there is a relatively big gap between producer prices and market prices. The major profits were gained by intermediaries /traders.

These constraints, critically depress non-farm and off-farm activities. However, Laos possesses relatively significant advantages and potentialities, on which non-farm and off-farm employment and activities could be developed. These are the small agro-and forest based industries, small mining and mineral processing industries and the small tourism industry.

Despite no specific policy to promote non-farm and off-farm employment and activities, the Lao PDR government has formulated and implemented numerous policies to promote private sector rural development, household economies; and a policy framework for the promotion of SMEs is currently being considered. This encourages direct and indirect promotion of non-farm and off-farm employment.

However, in order to more efficiently promote and develop rural non-farm and off-farm employment and activities, policy recommendations are made below:

1) Sectoral non-farm development strategies need to be considered precisely.

2) Appropriate policy and institutional frameworks are to be improved.

3) Urban-rural linkages could be further explored. Rural producers need to be integrated with their urban counterparts, and urban producers need to be able to trade with rural populations. Both rural and urban populations need to have easy access to markets. This will require investments in the infrastructure of small towns and their infrastructure links to city markets.

4) Workforce skills need to be upgraded to match market demands and quality standards.

5) Market information systems should be developed and expanded to rural and remote areas.

6) Well-planned infrastructure, in rural areas with concentrated populations, can provide the economies of scale necessary for competitive development of commercial businesses.

Appendix I

Table 1: Principal Indicators for all Establishments (Large and Medium)

	Number of establishments	Number of persons engaged	Number of employees	Million kip					
				Compensation of employees	Gross fixed capital formation	Change in stock	Groos output	Intermediate consumption	Total value added
Mining and quarrying	14	715	696	4124	2683	777	33471	18511	14960
Mining of coal	2	223	218	1251	2408	814	20310	12132	8178
Other mining and quarrying	12	492	478	2873	275	-37	13161	6379	6782
Manufacturing	410	32677	31951	93994	75391	95640	1243517	775244	468273
Manufacturing of food and beverages	74	2276	2062	6262	32013	12228	233439	75579	157860
Manufacture of tobacco products	8	853	850	2687	4552	1425	74670	18640	56030
Manufacture of textile	5	375	367	1116	313	242	4836	2078	2758
Manufacturing of wearing apparel	44	15227	15121	42371	14310	29501	411566	311454	100112
Wood and Wood products	79	6819	6728	19277	6569	15085	189024	171837	17187
Paper and Paper products	5	311	304	684	2059	1259	5438	5139	299
Publishing and printing	8	386	385	993	978	695	11705	7047	4658
Chemical and chemical products	23	732	682	3703	2010	4935	31755	19016	12739
Rubber and plastic products	11	536	514	1300	1900	6310	24849	17582	7267
Non metallic and mineral products	97	2473	2358	5156	5382	5770	58355	22266	36089
Basic metals	4	583	574	2693	811	1157	23875	11499	12376
Fabricated metal products	9	257	242	1113	1110	8202	43515	28840	14675
Machinery and equipment	7	218	207	952	118	467	9342	6987	2355
Electrical machinery and apparatus	2	104	103	209	0	1184	6108	5412	696
Manufacture of vehicles	9	864	837	3226	2029	3154	69990	47240	22750

Other transport	4	181	167	1123	109	2744	32226	19689	12537
Other manufacturing	21	482	450	1129	1128	1282	12824	4939	7885
Electricity and water supply	**5**	**3683**	**3683**	**11745**	**13945**	**54330**	**920678**	**569324**	**351354**
Production and distribution of electricity	3	3097	3097	10944	3786	53050	909907	560596	349311
Collection and distribution of water	2	586	586	801	10159	1280	10771	8728	2043

Source: MIH, Large and Medium Industrial Establishment survey, 1999

Note: Total compensation of employee included Wage and salaries, Other benefit, employer's contribution to social security

Table 2: Value Added, Compensation and Output per Worker, 1999 (Large and Medium), million kip

	Value added per worker	Compensation per worker	Output per worker	Value added output ratio	Capital output ratio	Capital labour ratio
Mining and quarrying	20.9	5.8	46.8	0.45	0.08	3.75
Mining of coal	36.7	5.6	91.1	0.40	0.12	10.80
Other mining and quarrying	13.8	5.8	26.8	0.52	0.02	0.56
Manufacturing	14.3	2.9	38.1	0.38	0.06	2.31
Manufacturing of food and beverages	69.4	2.8	102.6	0.68	0.14	14.07
Manufacture of tobacco products	65.7	3.2	87.5	0.75	0.06	5.34
Manufacture of textile	7.4	3.0	12.9	0.57	0.06	0.83
Manufacturing of wearing apparel	6.6	2.8	27.0	0.24	0.03	0.94
Wood and Wood products	2.5	2.8	27.7	0.09	0.03	0.96
Paper and Paper products	1.0	2.2	17.5	0.05	0.38	6.62
Publishing and printing	12.1	2.6	30.3	0.40	0.08	2.53
Chemical and chemical products	17.4	5.1	43.4	0.40	0.06	2.75
Rubber and plastic products	13.6	2.4	46.4	0.29	0.08	3.54
Non metallic and mineral products	14.6	2.1	23.6	0.62	0.09	2.18
Basic metals	21.2	4.6	41.0	0.52	0.03	1.39
Fabricated metal products	57.1	4.3	169.3	0.34	0.03	4.32
Machinery and equipment	10.8	4.4	42.9	0.25	0.01	0.54
Electrical machinery and apparatus	6.7	2.0	58.7	0.11	-	-
Manufacture of vehicles	26.3	3.7	81.0	0.33	0.03	2.35
Other transport	69.3	6.2	178.0	0.39	0.00	0.60
Other manufacturing	16.4	2.3	26.6	0.61	0.09	2.34
Electricity and water supply	95.4	3.2	250.0	0.38	0.02	3.79
Production and distribution of electricity	112.8	3.5	293.8	0.38	0.00	1.22
Collection and distribution of water	3.5	1.4	18.4	0.19	0.94	17.34
	29.8	3.5	74.2	0.4	0.1	3.8

Appendix 2

Table 1: Estimated Value Major Indicators of Small Manufacturing Establishments by ISIC 1999

	Number of establishments	Number of persons engaged	Number of employees	compensation of employees	Gross fixed capital formation	Gross output	Intermediate consumption	Total value added	Value added output ratio
Food and beverage	17795	31075	1137	1859	7095	181163	111919	69244	0.38
Grain mill products	16516	28004	516	727	6225	146835	92577	54258	0.37
Manufacturing of tobacco products	64	320	64	49	0	1483	1178	305	0.21
Manufacturing of textile	1005	3036	1416	2667	1	34130	20232	13898	0.41
Manufacturing of wearing apparel	141	231	40	91	5	2299	1047	1252	0.54
Wood and wood products	521	1312	273	639	645	8110	4149	3961	0.49
Paper and paper products	9	17	0	0	0	124	43	81	0.65
Publishing and printing	18	36	0	0	40	161	122	39	0.24
Chemicals and chemical products	5	10	0	0	0	472	260	212	0.45
Rubber and plastics products	25	50	25	18	0	76	29	47	0.62
Non metallic mineral products	509	1858	815	959	123	10083	5923	4160	0.41
Manufacture of basic metals	353	760	174	445	733	8470	2935	5535	0.65
Fabricated metal of products	13	13	0	0	0	30	12	18	0.60
Machinery and equipment	25	49	0	0	0	557	428	129	0.23
Electrical machinery and apparatus	223	498	0	0	0	543	314	229	0.42
Other transport equipment	120	460	315	720	-22	2155	890	1265	0.59
Furniture and other manufacturing	934	2998	1571	5121	311	89812	23651	66161	0.74
Total	**38276**	**70727**	**6346**	**13295**	**15156**	486503	**265709**	**220794**	

Source: MIH, Small Industrial Establishment survey, 1999

Table 2: Value Added, Compensation, Output per Worker for Small Manufacturing Establishments, 1999(million kip)

Industrial classification (ISIC)	Compensation per worker	Output per worker	Value added per worker	Value added output ratio	Capital output ratio	Capital labour ratio
Food and beverage	0.1	5.8	2.2	0.38	0.04	0.23
Grain mill products	0.0	5.2	1.9	0.37	0.04	0.22
Manufacturing of tobacco products	0.2	4.6	1.0	0.21	-	-
Manufacturing of textile	0.9	11.2	4.6	0.41	0.00	0.00
Manufacturing of wearing apparel	0.4	10.0	5.4	0.54	0.00	0.02
Wood and wood products	0.5	6.2	3.0	0.49	0.08	0.49
Paper and paper products	-	7.3	4.8	0.65	-	-
Publishing and printing	-	4.5	1.1	0.24	0.25	1.11
Chemicals and chemical products	-	47.2	21.2	0.45	-	-
Rubber and plastics products	0.4	1.5	0.9	0.62	-	-
Non metallic mineral products	0.5	5.4	2.2	0.41	0.01	0.07
Manufacture of basic metals	0.6	11.1	7.3	0.65	0.09	0.96
Fabricated metal of products	-	2.3	1.4	0.60	-	-
Machinery and equipment	-	11.4	2.6	0.23	-	-
Electrical machinery and apparatus	-	1.1	0.5	0.42	-	-
Other transport equipment	1.6	4.7	2.8	0.59	- 0.01	- 0.05
Furniture and other manufacturing	1.7	30.0	22.1	0.74	0.00	0.10
Average	0.4	10.0	5.0	0.5	0.03	0.21

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Chapter Four
Off-farm and Non-farm Employment in Thailand

Srawooth Paitoonpong and Yongyuth Chalamwong [1]

4.1 Introduction

The financial crisis in 1997 that plunged many of the Asian economies into recession had many implications for employment in Thailand. The total proportions of unemployed (to the workforce) in rural areas increased from 2.4 percent in February 1997 to 5.3 percent in February 1999. Underemployment also increased by a similar amount, from 2 percent to 3.7 percent of the labour force. The largest impact of the financial crisis on rural communities has been the loss of off-farm employment and income, arising from a retrenchment of community enterprises at the village level, and a severe reduction in employment and wages for migrant workers in urban areas.

The Labour Force Survey (LFS) of February 1998 indicated that the unemployment rate in villages increased from 1.3 percent in the dry season of 1997 to 4.4 percent in the same season of 1998. As agricultural employment did not fall, the decline is attributable to a reduction in local off-farm employment. Although unemployment increased drastically after the 1997 crisis, in the countryside the problem was high levels of *underemployment*, a significant rise in out-migration from villages for livelihood, and high rural poverty levels. It is in the light of all these facts that job-creation in off-farm and non-farm activities assume crucial importance.

In the past, Thailand achieved considerable economic development and experienced high growth in almost double digits. Moreover, the composition of Gross National Product (GNP) has shifted rapidly from being predominantly agricultural to one that is more diverse. The share of agriculture in GNP has

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fallen from over 30 percent to less than 15 percent in less than two or three decades. Nevertheless, about half of the population and workforce are still engaged in the agricultural sector and Thailand is still considerably rural in character. In this context, the promotion of rural non-farm and off-farm employment (RNOFE) and diversification of income are desirable policy objectives because they give individuals and households more options to improve livelihood security and to raise their living standards. Research has shown the general importance of RNOFE, mainly with regard to poverty alleviation, economic growth, rural development and increasing the potential sustainability of natural resources, gender, food security, and prevention of rapid or excessive urbanisation (Pfluger 1999).

In fact, RNOFE is not new to Thailand. Research, concerned government and non-government agencies, and public policies have all dealt with the issue for some time. For example, small-scale enterprises were first targeted by the Fourth Social and Economic Development Plan (1977–81). In spite of much advocacy and lengthy implementation, however, it has been asserted that the approach has been relatively ineffectual and its impact has been minimal (Arghiros and Moller 2000). Consequently, there is a need for more, up to date research in this direction to examine the present nature and extent of RNOFE as well as the policy interventions necessary to strengthen it.

The purpose of this collaborative research emerges from the need to create more and diversified jobs in participating countries with a view to alleviate poverty, unemployment and underemployment. The main instruments for this are promotion of dispersed industrialisation and the development of private sector initiatives in rural areas of the DAN countries.

The broad objectives of the Thailand case study are:

1) To establish the historical, factual basis of off-farm and non-farm activities in Thailand;

2) To analyse public policy and support for the decentralised sector in Thailand;

3) To make an assessment of the size and diversity of the off-farm and non-farm, decentralised sector; and

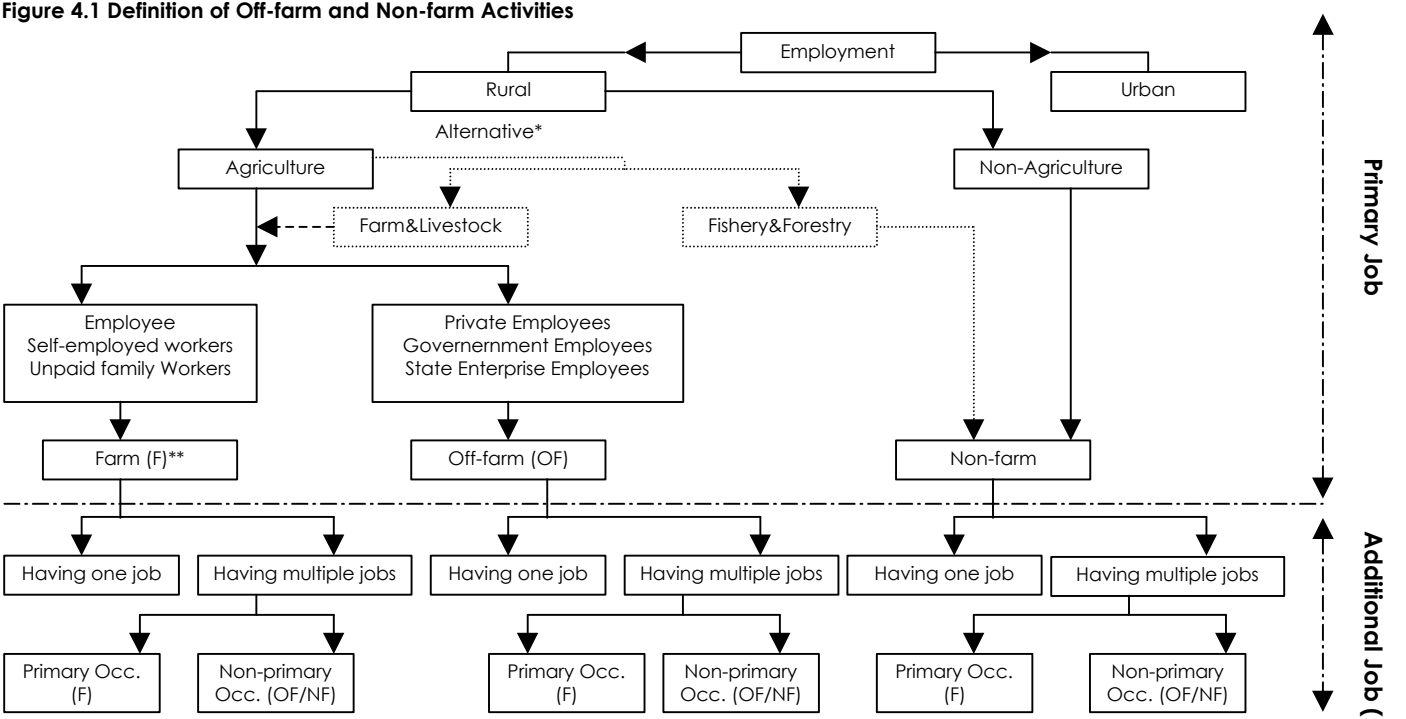
4) To analyse the dynamics of how the sector functions internally.

There are three major parts and approaches in this study. In Section 4.2, the existing literature is reviewed to find out what research has been done and what are the findings about the past extent and nature of RNOFE as well as the development of the rural non-farm sector. In Sections 4.3 and 4.4, a set of descriptive statistics to assess the recent size and diversity of RNOFE, rural non-farm industries as well as public policy and support for the sector are presented.

In Sections 4.5, a few case studies have been conducted to analyse the dynamics of how the rural non-farm sector functions internally.

For the purpose of measurement — utilising the official surveys and census data — this study defines off-farm activities and employment as activities of persons in *agricultural households* allied to agriculture. For example, agro-processing or food processing, and off-farm activities includes *all* work outside the person's own farm. Under this definition, off-farm activities can be divided into agricultural off-farm activities and non-agricultural off-farm activities. Non-farm activities refer to non-agricultural activities of persons in agricultural households that could be undertaken at the person's household or elsewhere. Figure 4.1, demonstrates the definition of off-farm and non-farm employment. To simplify problems of precise identification in this figure, agricultural households take the same meaning as rural households, or households in rural areas. Moreover, because neither the Thai labour force surveys nor population censuses classify areas by rural and urban, the areas are classified into municipal and non-municipal areas. This study uses the municipal definition for urban areas.

Figure 4.1 Definition of Off-farm and Non-farm Activities



(*) Depending on research and policy purposes as well as the availability of data, agriculture may be further classified into agriculture (farming and livestock), fishery and forestry. As such, fishery and forestry may be considered 'non-farm' activities.

(**) Assuming that people in 'Farm' activities work for wages in their non-primary occupation(s).

4.2 Investigating the Off-farm and Non-farm Sector in Thailand

4.2.1 Introduction

Literature on off-farm employment in Thailand is considerable, much of it dating from the 1980s. Widespread seasonal underemployment in agriculture, wasting both land resources and labour, was identified in the Second National Economic and Social Development Plan 1967–71 (Fuhs and Vingerhoets 1972, i) as an obstacle to overall economic development, and a major cause of growing income disparity between rural and urban people The study on Rural Institutions and Rural Employment in Thailand by Fuhs and Vingerhoets in 1969 could be considered as the beginning of interest in this area.

4.2.2 Past Studies and the Profile of Off-farm and Non-farm Employment in Thailand

4.2.2.1 Early Major Studies

Fuhs and Vingerhoets (1972) reviewed the structure of production and employment in the agricultural sector including unemployment, underemployment and labour utilisation. They concluded that non-agricultural employment opportunities are needed if seasonal underemployment is to be reduced, or even eradicated, and if the growing labour force is to be accommodated.

In the 1980s, major studies on the subject included the report of the 'Thailand: Rural Growth and Employment' project undertaken by the World Bank mission in collaboration with National Economic and Social Development Board in 1981 (NESDB; World Bank 1983). A further two reports included the project on 'Rural Off-farm Employment Assessment Project' (Narongchai *et.al.* 1983), and the proceedings of a conference in Chiang Mai, in August 1983 on 'Off-farm Employment in the Development of Rural Asia'. As there is a high degree of interrelation and repetition, among the papers in these three studies this section only touches on Narongchai's Rural Off-farm Employment Assessment Project (ROFEAP).

The ROFEAP research was divided into two phases of survey. Phase I covered the municipal areas of four provinces: Chiang Mai, Khon Kaen, Roi Et and Suphan Buri. The data generated for the study areas include the number of establishments in each economic subsector, characteristics of employment, distribution of farm sizes, physical characteristics of establishments, and a general overview of the composition of each subsector. The Phase II survey drew a sample of 147 firms from the Phase I town enumeration, and added a number of others from the Phase II village survey (Narongchai *et.al.*1983:4).

4.2.2.2 Rural Non-farm Employment and Income: Determinants and Consequences

Utilising ROFEAP survey data, Tongroj and Yongyuth found that the rural poor heavily relied on non-farm and off-farm employment and income, and low-income workers worked harder than high income ones. In addition, the landless and the small households depended on non-farm and off-farm work. A policy implication was that wage rates (*e.g.* a minimum wage rate policy) would have more impact on these workers than the larger farmers. Moreover, their labour supply model for off-farm and non-farm work indicated that both males and females spent less time off-farm, when farm wages and farm sizes increased. The problem of high seasonality of demand for labour in all areas was also found. Non-farm enterprises seemed to offer the best potential for increasing the return to family labour (Narongchai *et.al.* 1983:45). It was cautioned, however, that the survey data were not useful for the analysis of future trends because Thai villages were extremely complex and heterogeneous with respect to the levels and patterns of rural income and employment (Narongchai *et.al.* 1983:61).

Yongyuth (1982c; 1983:261) examined the factors determining off-farm labour supply by using average hours of work of adult males and females as dependent variables. The models for both males and females showed a significant relationship that supply was positively related to the multiple cropping index, the number of adults in the family, and the number of dependants, and was negatively related to farm earnings, farm size and education.

Banno (1982) extended Yongyuth's earlier analysis by testing for differences in off-farm labour supply in wet and dry seasons. It was not surprising to find a lower off-farm labour supply in the wet season when cropping intensity and demand for farm labour were at their greatest. The results, in general, are not helpful in examining significant differences in the behaviour of labour supply between the two major seasons in Thailand. The results seem to show the significance of factors other than wages and income in explaining off-farm work. Age, education, location, commuting distance and the existence of non-farm enterprises within villages appear to be important variables. Their importance may be greater for females than males engaging in off-farm work (Yongyuth 1983:262).

Wichaiwattana (1982) developed separate models for each region and employed a direct measure of hours-worked in off-farm and non-farm activities during the year. *Per capita* net farm and non-farm income were adjusted by the ratio of males and females who actually participated in these enterprises within each village. This approach was expected to reflect the true opportunity cost of males and females engaging in these activities. The results were that major variables such as personal-wage rate variables were positive and significant in

all regions for both operators and spouses. Farm income was always negatively associated with both operator and spouse labour and the variable was significant in most of the models. A number of other variables such as the numbers of adult members and dependent members, were consistent with theory but frequently had an insignificant coefficient (Ibid. 262).

In another study, Tongroj and Yongyuth (1983:200), found that non-farm income was found to be quite significant in all regions especially in the south, northeast and north, and trends in rural income and employment in Thailand indicated that non-farm and off-farm employment and income would become increasingly important in all regions. The push factor was dominant for the increase in rural, off-farm employment. However, the pull factor might become important if the current policy of rural industrialisation was effectively implemented. Further, with the increasing participation of the rural population in non-farm and off-farm employment, rural workers needed the necessary skills for operating, managing and/or working in off-farm enterprises. Training or non-formal education was required to prepare them for this work. Non-farm enterprises also needed good management and skilled labour in areas such as handicraft and furniture. Tongroj and Yongyuth pointed out that the promotion of non-farm enterprises must cover all levels and all range of products. Assistance from private and public agencies was required for their development and growth (1983:228–29).

Statistically significant factors for off-farm labour supply included, household income, wage rates, educational levels, the ratio of family members aged 11–30 years to those aged 11–60 years, and experience in farming (Yongyuth 1983:261). The level of significance, however, varied by regional sub-models — the models for the central plains explained relatively more than the northeast models. The models generally did a better job of predicting male than female labour supply.

Factors explaining the growth in rural non-farm employment, the benefits from rural non-farm employment, and measures that poor rural areas derived to alleviate rural poverty were studied by the World Bank (1983). Utilising the Socio-Economic Survey (SES) of 1975–76 and the Survey of Farmers, of the Office of Agricultural Economics, the Bank found that the growth of rural non-farm employment was predominantly linked to the growth of agricultural activity — agricultural growth had powerful linkage effects for rural development. Furthermore, there was relatively little scope to intervene with direct measures to generate more rural non-farm employment. Because of the continued existence of pockets of rural poverty, it was appropriate to develop programmes specifically designed to meet their problems through judicious investments in physical and social infrastructure. Lastly, the anti-rural bias of agricultural price policies and industrial protection policies had not been offset by specific agricultural or non-agricultural programmes in rural areas. The

primacy of Bangkok must be partly attributed to these distortions.

In 1986, a comparative study of rural employment in three sample villages in Chiang Mai was conducted (Luechai, Suwarat, and Thongchai 1986). The study focussed on the efficiency of the allocation of family labour in various income earning activities, the magnitude and function of hired labour in changing the agrarian structure, and the pattern and direction of development of non-farm sectors. The study also included the impact of institutional and technological changes on labour demand and supply-structure, and the nature of non-crop, non-agricultural activities. The study villages were divided into low agricultural growth areas, high agricultural growth areas, and local industrial areas or close to commercial areas[2]. The findings included; first, the rural labour force spends a considerable time on non-farm activities; second, the activities are significant sources of secondary earnings for small and landless farmers during the slack agricultural seasons — contributing more than 60 percent of total household earnings in the northern region of Thailand; third, non-farm employment is positively related to agricultural growth in the study areas — households in the high agricultural growth areas earned higher income from both farm and non-farm activities than households in the low agricultural growth areas; and finally, employment in the rural-industrial areas was more stable than in the agricultural areas.

4.2.2.3 Aggregate Measurements

At the national level, a study by the World Bank (1983) utilised data from the 1975–76 Socio-Economic Survey to provide an occupational break down in three different areas — municipal areas, sanitary districts, and villages. By defining rural non-farm employment as employment in non-agricultural activities in the non-municipal areas, the Bank found that rural non-farm employment was 13 percent in village areas and 43.2 percent in the sanitary districts. The largest proportion of rural non-farm employment in villages was production and transport while in the sanitary districts it was the sales sector (World Bank 1983:26). In terms of households, it was found that about 17.3 percent of total households in villages were non-farm households. The majority (82.7 percent of the village households) were farm households, while in the sanitary districts 52.8 percent of households were farming households (World Bank 1983:36).

4.2.2.4 Demographic Characteristics of Rural Employment

The average family size among study households varies from 4.6 persons to 6.9

[2] One of the study villages was in San Kamphaeng district, which the present study also selected for a case study.

persons (Narongchai *et.al.* 1983:25; Luechai *et.al.* 1986). For the whole Kingdom, the labour force survey in 1977, 1980, 1990, and 2000 shows that the overall averages family size have been declining from 7.8, to 6.6, 5.8, and 5.8, respectively. The total distribution of males and females were almost the same. The sex distribution patterns were similar across the provinces. The proportion of persons between one and ten years of age ranged from 14–20 percent, while the distribution of the oldest was also small. Family members of working age (11–60) were approximately 80 percent.

4.2.2.5 Working Hours

The actual working time (the percentage of hours actually worked to total hours available) was about 85, though, the actual hours varied during the planting and harvesting seasons. Household family members allocated their work time among a variety of farm and non-farm activities.[3]

Farmers adjusted themselves very well during the dry season, substituting farm activities with both non-farm and off-farm activities. Off-farm and non-farm work for both males and females was quite stable throughout the year. During the peak seasons, non-farm and off-farm hours were not reduced much, indicating that labour was not fully employed year round. On average about 40 percent of 1,795 hours of males and 44 percent of 1,399 hours of females were contributed to activities other than farm production. The peak hours of males during July and December were about 206 and 187 hours, while the average hours of work declined to 125 hours in February, which was the slack season. This was similar for females; the average hours of work were the most during the peak season and dropped down to 92 hours in the slack season.

The total number of hours worked in each province fluctuated and tended to decrease with farm size. The distribution of work time among different activities also varied. The landless farmers worked on more off-farm and non-farm activities. As farm size increased, time spent on non-farm work was roughly the same, but off-farm work declined sharply. This was evident for most of the provinces. For males, as farm size increased, more hours were spent on farm work, while time spent on non-farm work was approximately the same, but time on off-farm work reduced sharply. For females, farm work was regularly the same, non-farm work rarely decreased, but as with males, off-farm work evidently declined.

[3] The ROFEAP study classified economic activities into three categories; on farm production of agricultural products, (farm work), on farm production of non-agricultural products (non-farm work), and off-farm production of agricultural and non-agricultural products (off-farm work).

The rural poor depended heavily on non-farm and off-farm employment and income for their livelihood. The landless and small households also depended greatly on non-farm and off-farm work. It was also found that low-income people worked harder than the richer ones. This was indicated by the total number of the hours worked during the year, 1,812 for male and 1,754 for female in low-income villages as compared with 1,548 for male and 1,560 for females in the high-income villages. Males tended to spend more time on-farm than off-farm (42 percent as compared with 24 percent of total hours worked). Nevertheless, females spent about 48 percent of total hours working on off-farm activities. Finally, employment in non-farm and off-farm work was also slightly greater than in non-farm activities among the high-income villages.

4.2.2.6 Unemployment

The average monthly unemployment rates were about 6.9 percent for adult males and 9.2 percent for adult females, when all areas in the four provinces were combined. [4] The high unemployment rates for males are normally lower than for females. The rates for both males and females are lowest in the northeast provinces, and highest in Suphan Buri. The percentage of males reporting work of less than 20 hours ranged from a low of 11 percent in December to a high of 44 percent in November. For females, the percentage ranged from 14 percent in March to 30 percent in October. The rates were quite different among various provinces.

The seasonal character of agricultural activities was commonly found, especially among those households where crops were their major farm enterprise. The peak of demand for farm labour occurred during planting and harvesting seasons followed by little or no demand for agricultural labour. For all areas, males reporting weekly working hours of 40 or more, reported a low of 28 percent in April to a high of 43–44 percent in July, November and December. Seventeen percent of females reported more than 40 hours of work in April, and the percentage rose to a peak over the same period as for of males.

4.2.2.7 Non-farm Income

The incomes of rural households in the different surveys are classified into farm income and non-farm income. Non-farm incomes are further divided to include wage income from other sources. Non-farm and wage incomes for all provinces

[4] Unemployment was defined as those persons seven years of age and over, who did not participate in any economic activities during the survey week; and this continued for a month even if they wanted to work. Twenty hours of work was chosen as an arbitrary norm for underemployment.

in ROFEAP's study accounted for 49.5 percent of total net income. Farm-income in those provinces was about 35.5 percent of total net income. In 1978–79, the income from non-farm sources accounted for 43 percent of the average total income of farming households in Thailand (World Bank 1983:41). It was difficult to identify the source of income in poor villages. The poor rural villages showed a great variety in the ways by which people earned income. Some poor villages rely on farm income while some depend on non-farm income. However, six of the seven villages earn more than half of their total income from farm sources. Therefore, non-farm and wage incomes are quite significant in most cases.

In 1983, there was no clear indication of the pattern of income sources among the rich villages. In some villages, farms constituted the largest proportion of family income. However, non-farm and wage incomes were very significant in several villages. Wage income was quite significant in several of the surveyed provinces. Generally, incomes of rural households in Thailand depended on the seasonal nature of farm production. In short, income from non-farm sources contributed in a very significant way to an improvement in the general welfare of the Thai village.

4.2.2.6 Rural Industry

The potential for increases in income and employment of the rural people through expansion of rural manufacturing enterprises has been examined (Pradit 1983:232). The analysis includes the labour intensity, returns from labour, and the potential for production expansion of household manufacturing in Chiang Mai, Khon Kaen, Roi Et and Suphan Buri. The study also examined the extent, composition and characteristics of rural manufacturing enterprises and policy and development programmes for household manufacturing as well as rural small-scale industries. The study concluded that village industry could alleviate seasonal unemployment among rural people.

The operational characteristics of village industry, production patterns, markets, sales, and seasonality in production and sales have been studied by Pradit (Narongchai *et.al.* 1983:65). The study indicated that cottage industry had been practiced in farm households in many areas in Thailand. However, the types and concentration of manufacturing varied among the study areas. The differences among those areas were related to four major factors; local raw materials, the characteristics of agriculture, local markets and the skill levels of workers. In addition, households operated most types of village industries.

Family labour was a major component in all types of village industry. Skills of workers in village industries were very low. Most products of village industry were produced for local markets. Therefore, the promotion of industrial

activities in rural areas should take into consideration such factors as the availability of raw materials and a labour force, as well as income and consumption patterns of rural residents. Furthermore, production and sales increased during the slack periods of agricultural production, but decreased during the planting and harvesting seasons implying that village industry can absorb seasonal unemployment (Narongchai *et.al.* 1983).

In 1980, most industrial activities were highly concentrated in Bangkok and the surrounding provinces in the central region, though manufacturing production and employment in Thailand had expanded at a high rate over the previous two decades. The concentration of industries resulted in many social and economic problems including income inequality in the rural areas and pollution in Bangkok and nearby provinces. A study by Somsak (Narongchai *et.al.* 1983:97), provided an overview of town-based industrial activities, town industry covered in the ROFEAP survey, and operational characteristics of town industry including production and marketing, entrepreneurship, management and finance. In addition, the study identified problems faced by town-based industry, which included an erosion of the advantageous position of rural industry, storage and unstable supply of raw materials, problems with labour, management, technology, shortage of funds, problems with marketing and policy implications. Town industry had both forward and backward linkages with the agricultural sector. The increase in income of farm households, either due to improved productivity or an increase in the price of their agricultural products, would not only provide additional savings for investment in non-farm activities, but also generate additional demand for products produced by town industries. On the other hand, the growth of town industries would generate additional employment opportunities for farm households and additional demand for farm products, which were used as raw materials.

4.2.2.9 Public Policy and Measures

The government's agricultural development policy has been specifically designed to increase return by means of water resource and other natural resources development, product diversification, free marketing, and encouraging initiatives in the private sector (Section 4.2, discusses this in further detail). Industrial development promotion activities and measures included product and production information, entrepreneurship development, feasibility of enterprise development, promotional privileges, assistance with enterprise implementation, and assistance for setting up industrial zones and estates. Narongchai *et al* (1983), reviewed industrial skill training, which had been provided by many institutions. These included: the Institutes for Skill Development of the Department of Labour; the Industrial Service Institutes of the Division of Industrial Promotion in Bangkok and Chiang Mai; the Thailand Management

Development and Productivity Centre of the Division of Industrial Promotion; and the Division of Industrial Promotion Textile, Cottage Industry, and Thai Handicrafts Promotion Divisions. The study also reviewed industrial skill training among the General Development Agencies such as the Community Development Department; the Accelerated Rural Development Office; the Public Welfare Division; the Population and Community Development Association; and the Department of Vocational Education-Technical Schools.

In addition, there were several institutions involved in financing and credit for rural industry, for example, the Small Industry Finance Office, the Industrial Finance Corporation of Thailand, other government sources, commercial banks, and private sources. The purpose of these financial institutions was to give long and medium-term loans to small-scale industries in the private sector at a low rate of interest.

Trends in government policy showed that regional and rural development was accorded an increasing degree of significance in the overall national development scheme, which should have a favourable effect on rural income and employment. Nevertheless, because of the centre-periphery problem, the government's efforts at the promotion of rural income and employment had yielded small results in relation to the magnitude of the problem. Although industrial policy has been changing its orientation towards rural industry, the existing location bias in favour of Bangkok was, however, so strong that any rural industrialisation programme continued to face an uphill struggle. Most importantly, the government still lacked an effective promotional programme, as well as the appropriate institutional infrastructure to implement the programme (Narongchai *et.al.* 1983:137).

The impact of industrial policies, provincial manufacturing and its characteristics were also reviewed by the World Bank (1983). The review includes an analysis of the regional impact of industrial policies that were protecting manufacturing, Board of Investment activities, and special regional incentives. The impact of agricultural price policies, which were rice taxation, rubber taxation, revenue issues and policy alternatives for the rural economy were reviewed. The study found that most of the Board of Investment activities as well as rice-export taxation were discriminating against rural industry (World Bank 1983:137–157).

In terms of policy intervention, both marketing assistance and production assistance were recommended by Pradit (1983). For marketing, the promotion of subcontracting arrangements between town producers and rural household producers should be promoted in areas where potential for subcontracting work exists. Pradit indicated that tax reductions on subcontracting work and the provision of long-term credit for town firms might be an incentive to promote subcontracting arrangements. The programme should aim to increase the role of

the private sector in household manufacturing development. The government should provide marketing assistance at the provincial level where subcontracting arrangements are not available. Moreover, a campaign for domestic consumption of household manufactured products should be a regular feature, and local government should financially support annual fairs for such products. For production, extension service centres should be set up at regional and provincial levels. Extension workers through groups of village producers should deliver technical assistance and skill development. This means that producer groups should be promoted on a specialisation basis, and subcontracting work can be provided to the group of producers. To support a policy on raw material production, a development programme of crop production should be implemented by the Ministry of Agriculture and Cooperatives and the provincial government (Pradit 1983:253).

Other policy recommendations made by the ROFEAP study, suggested that policy for village industry and for town industry should have a different emphasis. For town industry the policy should be to create investment opportunities, this in turn would create rural employment. For village or cottage industry, what is needed more than investment opportunity is sales opportunity. Therefore, government policy should concentrate on sales promotion or marketing (Pradit 1983:177).

4.2.2.10 Studies on Rural Non-farm Employment in the 1990s

In the 1990s, Rief and Cochrane (1990:683) studied off-farm employment in Chiang Mai. The study explored the characteristics that disposed households and individuals to supply labour off the family farm, and the extent to which off-farm labour was working outside the agricultural sector. A principal focus of the analysis was the influence of education on the occupational structure of the labour force. The analysis confirmed past studies that off-farm employment played an important role in expanding income for households constrained by limited land and water availability and with larger numbers of residents. The distance of the household from the main road also played a significant role in determining which households supplied off-farm labour in some specifications.

In 1991, Pradit and Chaiwat studied rural industrialisation in the northeast, where one third of the total population lives. They are characterised by the lowest *per capita* income and the highest rate of seasonal unemployment and underemployment. The general objective of the study was to identify the growth patterns of rural industries and to determine measures for promotion of rural household manufacturing, which would enhance income and employment opportunities for rural people. The study covers six groups of rural industries in villages and small rural towns in the northeast, Khon Kaen, Klasin, Roi Et, and Buri-Ram. The industries studied included silk reeling, silk fabric weaving and

silk products, cotton weaving and garments, gem cutting, mat making, and bamboo product making. The primary data was obtained from two phases of field surveys — a village survey and a household survey. The study provided a profile of rural industries in the northeast, and analyses of production, income and employment generation, product market and marketing management of household manufactures, an analysis of growth patterns, and sustainability of rural industries.

In 1993, Pradit also studied the industrial development in the west (the central region) of Thailand. The objectives were to study the structure and distribution of industries in the west, to study the measurement of industrial development, to determine type of industries for promotion, and to determine policy implications. The study covered registered manufacturing industries and household industries in village in 10 provinces; Chai Nat, Sing Buri, Ang thong, Phetchaburi, Suphan Buri, Samut Songkhram, Ayutthaya, Kanchanaburi, Prachuap Khri Khan, and Ratchaburi (Pradit 1993).

In 1993, a seminar on Non-farm Employment for Rural Poverty Alleviation was organised by the United Nations ESCAP. Thailand was brought forward as a mixed success case in non-farm employment promotion (United Nation, 1993). The Thai case study was undertaken in Khon Kaen during 1987–88 and 1989–90. The implementing agencies included the Community Development Department, the Department of Industrial Promotion, the Agricultural Extension Department, Kasetsart University, the Bank for Agriculture and Agricultural Cooperatives, and the Small Industrial Financial Office. The project involved experimenting and evaluating off-farm activities in the province, such as cubic zirconia polishing, chicken raising, silk worm raising, plastic awning making and fish breeding. The project provided both the necessary funds and training (through learning-by-example) with close monitoring and evaluation. It was found that a number of the non-farm activities were successful while some faced problems. Generally, this project is considered successful in creating skills, income and job opportunities for rural people.

However, because of confusion between various government policies, rules and regulations, and the various agencies' policies — resulting in difficulties in making decisions in relation to business operations — it was decided that government agencies would be needed at the provincial level to provide information and training for vocations and skills. ESCAP recommends that the government should also emphasise policy that includes the four groups of the business cycle: farmers as producers; government agencies providing technological support; financial institutions; and marketing and private sector support (United Nations 1993:46).

Since 1993, there appears to be some paucity of research on off-farm and non-farm employment, in spite of their continuing significant role in

employment and income generation. The current lack of research on off-farm and non-farm employment particularly relates to assessing changes in their direction, their extent, structure and role in employment creation, and potential income generation especially in the event of a financial crisis.

4.2.2.11 Past Successes and Failures of Off-farm and Non-farm Employment

Agricultural development was found to be key in the process of developing rural areas. Before 1980, policy makers did not pay attention to the promotion of non-farm activities for rural people. However, rural people in some areas were engaged in non-farm activities such as cottage industries, services, trade and other manufacturing activities during the dry season. Low income and a lack of employment was a problem in rural areas in Thailand. Farmers, who were mainly rural people, had low incomes, averaging about 46 percent of the usual income of those living in urban areas.

The United Nations found mixed success in non-farm employment promotion in Thailand. Cubic zirconia polishing and chicken raising failed because of lack of training and motivation. On the other hand, silkworm raising, fish breeding and plastic awning making were successful; especially the latter which workers found attractive as it did not interfere with their main occupation of farming. In addition, the workers/members were trained to improve their skills.

In conclusion, past findings indicate that villages in Thailand are extremely complex and heterogeneous with respect to their levels and patterns of rural income and employment. Thai villages had no clear income and employment patterns. However, income from non-farm sources was very substantial for both rich and poor villages with the latter relying considerably on non-farm and off-farm income. Off-farm employment among the rural households in Japan, Taiwan and Korea, for example, changed drastically over time with farm incomes of rural households decreasing significantly in relation to non-farm and off-farm income. Based on these experiences, and as Narongchai maintains, income and employment trends in non-farm and off-farm activities will be increasingly significant, with the reverse being true for agricultural income and employment (Narongchai 1983:60).

4.3 Public Policy and Support for Rural Non-farm Industries

4.3.1 Introduction

Rural industrialisation essentially means a diversification of the rural economy through the introduction and promotion of small-scale manufacturing enterprises (Islam 1987). In general, rural industries are considered as the manufacturing

production of provincial (town) and village industries (*e.g.* cottage industry, home-based industry, and small manufacturing enterprises).[5] Rural industries are located in a rural area and have linkages with agriculture and the rural economy. Accordingly, the literal interpretation of rural industries is usually taken to refer to the places where villagers have access to employment opportunities available in rural areas (Islam 1987; Johanssaon and Ronnäs 1996). Many studies on Thailand describe rural industries as particularly those located outside Bangkok metropolitan areas, producing a variety of agricultural products (Tambunlertchai 1990; Wiboonchutikula 1990). 'Rural non-farm industries', on the other hand, have a broader coverage to include all non-farm economic sectors such as services, commerce and construction. As such, the discussion in this section considers two types of rural activity; one is rural industry, while the other is rural non-farm economic activity.

4.3.2 Past Policies on Rural Non-farm Industries

As noted in the previous section, ROFEAP conducted a review of past public policy and the role of the government in off-farm income and employment up to the period of the Fifth Development Plan (1982–86). The review was conducted in the context of the overall role of the government in rural or regional development. As the overall system is strongly centralised and flows from top to bottom, a problem includes the fact that the capacity for planning at the local and regional levels is severely limited with a lack of coordination to ensure effective feedback from the periphery to the centre and from the sectoral planners to the overall planners. Hence, the task of promoting off-farm income and employment has always been difficult (Narongchai 1983:119).

In the Fifth Development Plan, the issues concerning rural income and employment were much more prominent than in earlier plans. First, the structural adjustment plan aimed to increase economic efficiency, to improve agricultural productivity, to make the industrial sector more export oriented, to diversify rural areas and to conserve energy. Second, the plan to restructure and broaden the delivery of social services was aimed at improving the livelihood of the rural people, making it possible for them to earn a higher income. Third, the Fifth Plan introduced a new approach to the eradication of poverty, *i.e.* an area-specific or target mapping approach. In addition, the government was continuing and intensifying its rural job-creation programme. In terms of policy trends, more and more attention was given to regional and rural development. The industrial development policy was based on a realisation that the industrial sector must be able to absorb more employment, due to a rapid increase in the

[5] According to Islam (1987), rural industry excludes large industries, which do not have backward linkage with agricultural or rural economy, especially in terms of entrepreneurs.

labour force, and an increasing difficulty for the agricultural sector to provide sufficient employment opportunities.

Later plans continued the efforts in industrial development. The Sixth Plan (1987–91) aimed to increase the diversification of industrial production. There was a greater emphasis on import substitution and entrepreneurs were urged to use local raw materials. The private sector was encouraged to reduce the obstacles among industries of different production sizes. Priority was given to engineering, agricultural, and small-scale industries throughout the region. The Seventh Plan (1992–96) was designed to give overall support to the industries. There was a policy to improve infrastructure to serve the needs of industry. Training programmes were proposed to improve labour skills. Moreover, there were measures to improve product quality to international standards, and diversify industries into the provinces. Many provinces were designated to serve as regional centres of industrial development. Nevertheless, there was still a high degree of industrial concentration in Bangkok and its periphery. In addition, small and medium enterprises (SMEs) were not given due government support and promotion (Thammawit *et.al.* 2002).

4.3.3 Current Policy on Rural Non-farm Industries

In the Eighth Plan (1997–2001) there seems to be a clear commitment to promote rural enterprises. The plan adopts a 'people-centred' approach for economic and social development. In this respect, it calls for partnership and joint action between the state, businesses, NGOs, and local communities. The private sector is encouraged to participate in community business. State agencies are required to encourage joint investment between communities and private business, to create fiscal incentives to encourage private business to provide local communities with training, and for business to help promote markets for locally produced goods (NESDB, 1997, IV, 2:3.1). Important measures include the promotion of household industries and local business; non-farm activities in villages; the promotion of agro-industry and food processing; and the development of industrial networks. Other support measures for rural non-farm industries are the training of local entrepreneurs; the relocation of industries from Bangkok and its periphery; the involvement of the private sector in investment of industrial estates and their development along the border. In the wake of the Thai economic crisis in 1997, however, the industrial sector was badly affected by the financial crash. Investments as well as consumption slowed and the government had to adjust the plan and redouble its faith in rural enterprise promotion.

A number of stimulus policies and measures were formulated and implemented. Examples included cash aid to assist the rural poor in the north and northeast that had been affected by declining employment opportunities, and

returnees from the urban industrial and construction sectors. Support was provided to rural enterprise development, micro credit and community saving schemes, community-based water reservoirs, skill training of youth and women, and training of village committee members and local officials to improve the management of poverty alleviation projects. There was a lending and investment support to small and medium-sized enterprises with a special focus on high-potential industries, such as tourism and agri-business. Other outstanding programmes include the industrial village project, which selects villages that have a good potential for industrial production by providing such support as management skill development, marketing and credit.

Current long-term policies are indicated in the Ninth Plan (2002–06). In response to the economic crisis, the Plan emphasises strategies for economic recovery and social development. The philosophy of the 'Sufficiency Economy' has been adopted stressing the middle path as the overriding principle for appropriate conduct, which applies to all level of individuals, families, and communities. The implications of this policy on rural non-farm industries can be interpreted in terms of the strategy of integrated rural development where non-farm activities are more seriously considered as a means of survival for rural people. The development of rural non-farm industries are driven by a commitment to basic levels of well-being among the population, a recognition of self-sufficiency safety nets, benefits, and as the key to sustainable economic development.

A greater emphasis on growth and income distribution aims to strengthen the rural sector, giving local administrative organisations more power to manage budgets and resources. It is expected that, with sufficient funding, local organisations will be able to develop their potential and play an active role in boosting the economy. The most important policy measures that have bearing on rural non-farm sector include the promotion of SMEs and the One-*Tambon*[6]-One-Product project.

4.3.4 Promotion and Support for Rural Non-farm Industries

Many actors are involved in planning and implementing the rural industrialisation policy from the national to the local and community level. This section provides a brief review of the role of Government concerning the development of rural non-farm industries, including promotion measures, skill training, finance, credit, and marketing support.

Promotion measures include the following:

a) The establishment of one-stop services (OSS) for SMEs.

[6] A Tambon is a district within a province, normally a group of villages

b) The promotion of SMEs networking in order to increase bargaining power and reduce the cost of raw materials and marketing, etc. Examples of SMEs networking include the buyers-meet-producers project and the establishment of a sale and distributions centre.

c) Facilitating the decentralisation of community stores outside Bangkok.

d) Tourism promotion.

e) The promotion of technological transfer based on conditions of investment in which transnational companies must support Thai industries.

f) Technological support for product improvement. The Government agencies that provide technological consultation include the National Science and Technology Development Agency, the Thailand Institute of Scientific and Technological Research, the Thailand Research Fund, the Innovation Development Fund and the Department of Intellectual Property.

g) Taxes and other incentives. Examples of these measures include the cancellation of 1.5 percent value added tax for SMEs whose annual income ranges between 600,000 baht and 1,200,000 baht, and the reduction of corporate income tax for SMEs with registered capital less than 5 million baht.

The Government agencies responsible for planning and development of rural non-farm industries include the Ministry of Industry, the Office of Industrial Economics, the Industrial Estate Authority of Thailand, the Office of the Board of Investment, the Department of Skill Development, the Ministry of Science, Technology and Environment, the Department of Industrial Promotion, the Community Development Department, the Cooperatives Promotion Department, and the Department of Agriculture Extension. Two examples of collaborative government efforts at the present are briefly described below.

Small and Medium Enterprises, as defined by the Department of Industrial Promotion, are enterprises with assets up to 200 million baht and/or employing no more than 200 people. SMEs include enterprises in manufacturing, commerce, and services. In 2000, SMEs accounted for 42 percent of GDP and employed 6.6 million workers or about 39 percent of employment in the non-agricultural sector. Before 1999, SMEs were relatively weak — the problems confronting this sector include a shortage of capital, a lack of appropriate production technology and good management, and a lack of market access. In 1999, about 38 percent of manufacturing SMEs were in Bangkok and its vicinity, with 29 percent of SMEs operating in the service sector (OSMEP 2003). About two-thirds of SMEs are, therefore, rural non-farm sectors.

The promotional plans offer financial assistance, production expertise and marketing. An SME fund of 5 billion baht was established under the bill in the beginning of 1999. An executing office, the Office of Small and Medium Enterprises promotion, has been established to coordinate the work of related agencies, which include the Small Industrial Finance Corporation of Thailand, the Small Industry Credit Guarantee Corporation, the Government Savings Bank, the Bank for Agriculture and Agricultural Cooperatives, the Government Housing Bank, and the Export-Import Bank of Thailand.

4.3.4.1 One Tambon One Product Project

The One-*Tambon*-One-Product project *(OTOP)* is another important Government project encouraging rural people to be self-sufficient. The aims of the project are to revitalise rural economies, to create jobs during the slack agricultural season, to raise household income, to develop local capability and strengthen rural economies. It is also aimed at promoting rural products and entrepreneurship. Community-specific skills, whether in handicrafts, food products or furniture are promoted using financial, technical and marketing assistance from the government. This project brings out the best of each *Tambon* whether it is a commodity, a unique culture, local heritage, or a visitor destination. The different government agencies, which have previously been involved in promoting a variety of local products in each village, are also taking part in OTOP. These are the Departments of Community Development, Industrial Promotion, Cooperatives Promotion, and Agriculture Extension.

There are three stages of project implementation. The first-stage involves the learning and creativity of rural people. There is support for creative activities with information, public announcement, training, and awards given by Government bodies. The second-stage entails the product development process. The targeted product and its production plan are set by researching consumer behaviour, local image, existing production techniques, machinery, packaging, product distribution and registration. This is followed by the formation of production, equipment, product development and quality control. The third-stage involves marketing, advertisement, demand estimates and selling techniques. Measures implemented include displaying and selling the product at trade fairs, local markets or cultural events. Promotion is usually undertaken through a variety of media, in order to get attention from the public. Marketing supports have been made through projects such as Public Rest Areas or Road Stations run by the Highway Department and the Tourism Promotion Industrial Village run by the Tourism Authority of Thailand.

On the management of OTOP, the Government appointed a central committee to set out strategic plans of action. It also assists and provides linkages to the rural community via a subcommittee chaired by the heads of the

provinces and districts. There are five levels of management and authority according to the main responsibilities of the project. First, the *Tambon* level is responsible for polling, to select its best product corresponding to local expertise, raw materials and production plans. Second, the district level is responsible for selecting and awarding the *Tambon* products, developing the production plan and preparing for budget support. Third, the provincial level is responsible for selecting and awarding the district products, developing the production plan and preparing for budget support. Levels four and five are organised by the central committee whose responsibility is to set out a strategic action plan and standard, to register the awarded products and to give recommendations to the Government to support production of these products.[7]

At the end of 2001, there were 6,340 projects registered under the OTOP (*Bangkok Post*, 9 November 2001). Some difficulties for OTOP resulted from the ineffective community development plan. For example, private companies already sell many of the products proposed by community groups. There was a lack of coordination among agencies related to the programme, and this delayed the implementation. Some were rushing to show results before carefully checking whether the proposals met established guidelines. There were duplicated products, such as foodstuffs and handicrafts. In addition, various critics have argued the programme failed to properly screen products proposed by different *Tambons* to ensure true market demand.

4.3.4.2 Finance and Credit

Government supports in this regard includes:

a) *Village funds.* The Government has allocated revolving funds of one million baht each to 70,000 villages nationwide over the next four years starting from June 2001. The programme is implemented through the Government Savings Bank (GSB) with an aim to provide a funding source to help jumpstart new entrepreneurs and businesses. It is expected that the funds would expand the rural economy from a grassroots level.

b) *Three-year moratorium period for farmers*. The Government initiated the farm debt suspension programme that gives farmers who owe the Bank for Agriculture and Agricultural Cooperatives (BAAC) a three-year break of debt repayment. The three-year suspension began in April 2001 and will end on 13 March 2004. It is argued that the

[7] Two selection criteria of OTOP include; first, from the product itself and; second, the strength of community based on local raw materials, uniqueness, the production process, development, market orientation, accounting practices, group management and networking. For cultural and heritage groups, the selection criteria is based on the Tourism Authority of Thailand (TAT) standard.

programme will ensure their ability to repay debts while they enroll in a job training facility. The programme implicitly aims to increase non-farm employment so that farmers are more capable of repaying their debts.

c) *People's Bank*. The People's Bank is a micro credit scheme of the Government Savings Bank (GSB) offering first-time borrowers loans of up to 15,000 baht. Payments are scheduled over 13 months, at interest rates of 1 percent a month. The programme is targeted at low-income borrowers typically unable to obtain bank credit due to a lack of sufficient collateral and steady salaries or a previous bad-credit history. Members of the People's Bank scheme must open a deposit account before applying for a loan. Payments are deducted automatically from the account, a condition aimed at minimising the risks for the state-owned GSB.

d) *Market for Alternative Investment*. This is aimed at providing SMEs with access to long-term capital by issuing Initial Public Offering. There were three registered companies in 2001. At present, the access to this market is relatively restricted by the high cost of registration, eligibility criteria, and inadequate information for investment prospects.

In addition, there are specialised financial institutions that provide finance and credit for rural non-farm industries as follows:

a) The BAAC provides low interest credits to farmers and agricultural cooperatives. Since early 1998, BAAC offered the credit programmes to three branches in the rural sector, with 10 million baht of revolving credit funds granted by the German government.

b) The GSB offers various savings schemes, ranging from ordinary deposits to premium bonds and savings certificates. In practice, the GSB allocates most of its tapped funds to the Government, Government agencies and state enterprises in accordance with the Government policies. One such example is a micro credit scheme called the People's Bank.

c) The Industrial Finance Corporation of Thailand (IFCT) is one of the specialised financial institutions providing short, medium, and long-term loans to rural and small-scale industries for financing fixed assets and permanent working capital. It offers credit lines ranging from one million to 20 million baht. There are also other support services such as loan and letter of credit guarantees, international trade finance, venture capital and investment in promissory notes and bills of exchange.

d) SMEs and People Financial Advisory Centre (SFAC) provide consulting services for manufacturing and sources of fund for SMEs and other rural non-farm industries.

e) The Small Industry Credit Guarantee Corporation (SICGC) provides credit guarantee for entrepreneurs who have insufficient collateral for bank lending so that they can better access sources of funds.

What's more, most of commercial banks have participated in the SMEs promotion, and various programmes have been made available for rural non-farm industries.

4.3.4.3 Marketing Support

Recently, the Government has provided marketing support through institutions including the Department of Export Promotion, the Department of Internal Trade, and the Department of Foreign Trade. Important measures include:

a) *The establishment of product distribution centres.* This helps secure and distribute agricultural and agro-industrial products throughout the country.

b) *The improvement of packaging standards.* There is a promotion of package design, brand name and advertisement at both the domestic and international level.

c) *The development of information systems and e-commerce*. For example, the OTOP has established web sites such as ThaiTambon.com. and onetambononeproduct.com to provide Internet marketing. The purposes of Internet marketing are to construct a comprehensive database system, which accommodates necessary information from every *Tambon* in Thailand, to promote local Thai products, and to bring Internet technology to villages.

Apart from the national policies, there are rural development projects under Royal patronage that significantly help promote the rural non-farm industries. Several Royal projects were initiated to address the problems faced by farm households — their exclusive dependence on farm income and consequent lack of off-season livelihood sources. The activities have been continually integrated with those undertaken by the Government. For example, the Foundation for the Promotion of Supplementary Occupations and Related Techniques (SUPPORT) which is a Royal project, established in 1976 for the promotion of folk arts and crafts for farmers. The principal objectives of this project are: to promote a second source of income for households in rural areas; to establish cooperatives; offer the use of materials and equipment; to train Thai women in cottage industries; to revive and sustain ancient Thai folk arts and crafts; to safeguard product quality and to distribute the marketable products. In 1987, there were

more than 9,000 artisans in two hundred villages involved in this project. Second, there are the Royal development study centres that serve as research, planning and learning centres in different regions. They are designed to stimulate farmers' intellect and disseminate information to the public. The centre also conducts research and planning, and demonstrates how the development of a particular area can be undertaken consistently with local conditions.

4.3.5 Concluding Remarks

An important element of the rural non-farm industrial policies during the 1980s and 1990s has been the increase in the number of rural industries and the intention to distribute income to rural areas. The clearest commitment to promoting rural enterprises was given in the Eighth Plan (Arghiros and Moller, 2000). The recent development plans have increasingly stressed the importance of targeting less advantaged areas and population groups with reference to grass-roots development. Current policies on rural non-farm industries have a clearer perspective on rural development than those in the past. The promotion of SMEs and the One-*Tambon*-One-Product project are regarded as a means to build strong and sustainable communities. The concept of using local materials and local intellect is practical, since it makes the communities less dependent on outside economic forces. The approach implemented is relatively decentralised by giving autonomy to rural communities along with training and funding sources so that they can decide their own best products and be more self-reliant.

However, the results of developmental programmes have so far been mixed. The 1993 study by ESCAP found that the reasons for success from the villagers' perspective were the revolving funds, the cooperation among members, and existing market demand. Furthermore, the four successful factors: good basic knowledge of the villagers; skill training; funds; and marketing of the products did not interfere with their farming activities. The less successful projects were partially due to at least five constraints: inefficiency of committee membership; lack of coordination between agencies; difficulties in adopting new technology; insufficient instruments and funds; and lack of market information and sales opportunities.

Similar findings have been reported elsewhere (Arghiros and Moller 2000). First, there is a large degree of overlap between the responsibilities and projects of various departments and divisions in different — and sometimes even the same — ministries. For example, the different government agencies, which have been involved in promoting a variety of local products in each village, are the Community Development Department of the Interior Ministry, the Cooperatives Promotion Department, and the Department of Agriculture Extension of the Agriculture and Cooperatives Ministry. The unclear obligations of the establishment have compounded the problems. Second, the development plans

did not state a clear objective. A failure to explain and relay a clear message to local officials and communities about the objectives and ultimate goals, as well as the process of the project, led to confusion and a waste of time. For example, the explicit guidelines as to how to select one product for one *Tambon* were not given before initiating the project. As a result, products were simply assigned to the project without any concern over their market potential. Finally, there has been no measure to guarantee the success of the plans when they are implemented. It should also be noted that the national development plans lack statutory enforcement and are not binding in terms of budget allocation.

There are several entry points where policymakers can help promote growth. First and foremost is the need for policies that are implemented to have a long lasting effect. The development plan should inspire rural communities with the belief that they could benefit from knowledge and skill learning through the process of full participation. For example, different approaches can be used to introduce the One-*Tambon*-One-Product project to different communities, because of different lifestyles and living standards. Training can be imparted alongside problem-solving processes to provide an understanding of how the project could benefit rural people.

Second, it is important that the policies are systematically implemented. This is to avoid the potential conflict between government agencies. Meanwhile, it is imperative to ensure true market demand for the promoted products. In other words, research is needed to determine whether selected industries can become profitable enterprises for the rural population. In addition, research and technological development in rural non-farm industries are critical if rural communities are to profit from the expanded production of certain commodities. For instance, it is possible to develop a simple technology to support traditional silk weaving production.

Finally, rural non-farm industrial policies should foster the development of all types of rural products. It is often perceived that policymakers have showered manufacturing products with preferential tax, subsidies, and regulatory benefits as well as with targeted and subsidised credits. These policies have typically favoured capital-intensive enterprises, neglecting small labour intensive enterprises, and informal household services such as traditional massage. More importantly, it is useful to evaluate the effectiveness of policies that are implemented, to determine the success of their targets. Policymakers need to be more inclusive in order to promote non-farm industries to become competitive in the market.

4.4 Size and Diversity of Rural Non-farm Industries and Rural Off-farm and Non-farm Employment

4.4.1 Introduction

This section provides an assessment of the size and diversity of rural industry and employment in 2000 and trends between 1990 and 2000. The data used in the study is obtained from the Labour Force Survey (LFS), the 2000 Industrial Survey, and the 2000 Population and Housing Census, undertaken by the National Statistical Office and National Economic and Social Development Board. Quarterly data from the LFS is used to capture seasonal variations of employment. For simplicity, data in the first quarter is used to represent the dry or slack season and data in the third quarter to represent the wet or peak agricultural season. In some cases, only data for the peak season is presented.

4.4.2 Size and Diversity of Thailand's Rural Industry

4.4.2.1Village Industry and Town Industry

As discussed in the previous section, rural industry is defined as an industry located in rural villages and in provincial towns other than Bangkok and its immediate vicinity. Therefore, by our definition, rural industry includes village industry and town industry[8]. In this study the division between town industry and village industry is based on the municipality. Towns refer to municipal areas, while village or rural areas take the same meaning as non-municipal areas. The village industry includes cottage industries and other manufacturing enterprises of rural households in non-municipal areas while town industry involves industrial establishments located within municipal areas outside Bangkok and its vicinity.

In 2000, the total number of rural industries was 16,226 enterprises, consisting of 10,146 village enterprises and about 6,080 town enterprises (Manufacturing Industry Survey, 2000). The production pattern of rural industry varies across locations. In the south and the north, wood processing and wood products are more commonly found than in other regions because of the abundant raw materials, market orientation, and local skills. For example, high quality woodcraft is one of the famous industries of Chiang Mai. This is because of the abundant wood in that area, high demands from foreign tourists, and high labour skills in woodcarving.

[8] However, in this study, rural non-farm employment refers to employment of the decentralised or non-farm sector in the rural areas, exclusive of employment in town industries in municipal areas.

4.4.2.2 Distribution by Industry and Region

In all regions, the major types of rural manufacturing enterprises include food, beverages and tobacco, and metallic and non-metallic mineral products. Other important manufacturing activities were textiles, wood processing and wood products, transportation equipment, and furniture and other manufacturing goods as per the Survey conducted in 2000 (Table 4.1).

Table 4.1 Manufacturing Enterprises in Rural Industry in 2000, Classified By Industry (Two-Digit Level), Size, and Region

Rural Industry	Central	North	Northeast	South	Total
Total (enterprises)	7,900.58	2,781.52	2,499.50	3,044.59	16,226.19
(percent) share	100.00	100.00	100.00	100.00	100.00
1.Classified by Industry					
Food, Beverages, and Tobacco (enterprises)	1,608.60	836.53	846.92	813.82	4,105.87
(percent) share	20.36	30.07	33.88	26.73	25.30
Textiles (enterprises)	1,000.51	303.94	296.81	91.32	1,692.58
(percent) share	12.66	10.93	11.87	3.00	10.43
Wood Processing and Wood Products (enterprises)	462.29	298.36	140.91	333.27	1,234.83
(percent) share	5.85	10.73	5.64	10.95	7.61
Energy (enterprises)	29.50	5.00	0.00	100.00	134.50
(percent) share	0.37	0.18	0.00	3.28	0.83
Chemicals and Chemicals Products, Rubber, and Plastic (enterprises)	1,163.40	85.95	90.18	474.02	1,813.55
(percent) share	14.73	3.09	3.61	15.57	11.18
Metallic and Non-Metallic Mineral Products (enterprises)	2,005.62	727.29	674.95	839.98	4,247.83
(percent) share	25.39	26.15	27.00	27.59	26.18
Machinery (enterprises)	412.13	48.71	56.00	12.20	529.04
(percent) share	5.22	1.75	2.24	0.40	3.26
Electrical and Electronic Instruments (enterprises)	333.47	26.33	44.75	13.00	417.55
(percent) share	4.22	0.95	1.79	0.43	2.57
Precision Instruments (enterprises)	134.00	10.00	8.33	1.00	153.33
(percent) share	0.02	0.00	0.00	0.00	0.94
Transportation Equipment (enterprises)	427.58	166.90	173.13	114.93	882.55
(percent) share	5.41	6.00	6.93	3.78	5.44
Furniture and Other Manufacturing Goods (enterprises)	323.48	272.51	167.53	251.05	1,014.57
(percent) share	4.09	9.80	6.70	8.25	6.25
2.Classified by size					
Small (enterprises)	2,975.76	1,913.67	1,913.78	2,197.96	9,001.17
(percent) share	37.67	68.80	76.57	72.19	55.47
Medium (enterprises)	2,288.65	563.79	374.21	618.38	3,845.02
(percent) share	28.97	20.27	14.97	20.31	23.70
Large (enterprises)	2,636.17	304.07	211.51	228.25	3,380.00
(percent) share	33.37	10.93	8.46	7.50	20.83

Source: The 2000 Manufacturing Industry Survey, National Statistical Office

All types of manufacturing enterprises were found in every region, except in the northeast where there was no energy manufacturing enterprise. Manufacturing enterprises in the energy sector were found in the south while a relatively small number of these were in the centre and the north as well. The availability of raw material supplies, and labour skills could be explanatory factors.

About 7,901 enterprises, or 49 percent of the total manufacturing enterprises in rural areas, were in the central region because of its comparative advantages in physically accessing Bangkok, and abundant raw materials. There were about 3,045 rural manufacturing enterprises in the south, 2,782 in the north, and 2,500 in the northeast.

Table 4.2 Distribution of Employment in Village and Town Industry in 1990 and 2000, Classified by Gender, Age and Education

Rural Industry	Village Industry		Town Industry	
	1990	2000	1990	2000
Total				
(thousand persons)	1,487	2,042	634	2,025
(percent)	(100.00)	(100.00)	(100.00)	(100.00)
1. Classified by gender				
Male				
(thousand persons)	631	919	334	1,038
(percent)	(42.43)	(45.00)	(52.68)	(51.26)
Female				
(thousand persons)	856	1,123	300	987
(percent)	(57.57)	(55.00)	(47.32)	(48.74)
2. Classified by age				
15–30 years				
(thousand persons)	911	1,111	398	1,009
(percent)	(61.26)	(54.41)	(62.78)	(49.83)
31–45 years				
(thousand persons)	349	648	159	777
(percent)	(23.47)	(31.73)	(25.08)	(38.37)
46–60 years				
(thousand persons)	167	209	60	202
(percent)	(11.23)	(10.24)	(9.46)	(9.98)
61+ years				
(thousand persons)	59	75	17	37
(percent)	(3.97)	(3.67)	(2.68)	(1.83)
3. Classified by education				
Primary or lower				
(thousand persons)	1,222	1,228	441	982
(percent)	(82.18)	(60.14)	(69.56)	(48.49)
Lower Secondary				
(thousand persons)	134	377	93	440
(percent)	(9.01)	(18.46)	(14.67)	(21.73)
Upper Secondary				
(thousand persons)	61	214	37	195
(percent)	(4.10)	(10.48)	(5.84)	(9.63)
Diploma				
(thousand persons)	69	180	53	220
(percent)	(4.64)	(8.81)	(8.36)	(10.86)
University				
(thousand persons)	1	44	9	188
(percent)	(0.07)	(2.15)	(1.42)	(9.28)

Source: Labour Force Surveys 1990 and 2000, National Statistical Office.

The greatest proportions of rural manufacturing enterprises were small (less than 50 workers) comprising 38 percent of all enterprises in the central region and more than 69 percent of enterprises in other regions. The second largest proportions of enterprises were medium-sized (51–200 workers) in all regions, except the central region. The medium enterprises were 29 percent of total enterprises in the central region, 20 percent each in the north and south, and 15 percent in the northeast. The smallest proportions of enterprises were the largest sized ones (more than 200 workers) in every region except the central region. The large enterprises comprised 33 percent of total enterprises in the central region and less than 11 percent in other regions.

4.4.2.3 Rural Industry and Employment

In 1990, village industry employed much more than town industry did, with 1.5 million people compared to 0.6 million. In 2000, employment in village industry increased to 2.04 million but to 2.03 million in town industry (Table 4.2).

The ratio of male to female labour force in village industry increased from 74 in 1990 to 82 in 2000, while the ratio in town industry decreased from 111 to 105 in the same period. This may suggest that women have a greater role in village industry than town industry.

Workers in village industry had less education than did workers in town industry in the year 2000, according to the survey. The proportion of village workers with primary or lower education was 60 percent, decreasing from 82.2 percent in 1990. That of town workers was 48.5 percent decreasing from 69.9 percent in 1990. In 2000, the share of the labour force with diploma and university education was 11 percent in village industry and 20 percent in town industry. The rural labour force was young, mostly in the 15–30 age group, accounting for 54.4 percent of employment in village industry and 49.8 percent in town industry. The second largest group was in the 34–45 age group accounting for 31.7 percent of employment in village industry and 38.4 percent in town industry. The smallest group was in the 61 and over age bracket, about 3.7 percent in village industry and 1.8 percent in town industry.

4.4.3 Rural Non-farm and Off-farm Employment

The working definitions of rural non-farm and off-farm employment have been given in Section 4.1. In this section, the data on rural non-farm and off-farm employment are obtained from the 2000 Population and Housing Census and LFS. The Census has been used particularly in the discussion on employment structure by industry with the break down at a three-digit level. Otherwise, LFS is used to capture the trend and seasonality of employment. The employment

figure may be different due to different reference periods and sampling errors. This study does not attempt to adjust the differences.

4.4.3.1 Structure and Trends of Rural Non-farm Employment

Employment Structure by Industry

According to the census, workers in the rural non-farm sector were about 7.04 million in 2000 (Table 4.3). By industry, the largest proportion of rural non-farm employment was the service sector, about 3.1 million (43.8 percent), followed by the commerce sector (21.1 percent), the manufacturing sector (20.6 percent), and the construction sector (9.3 percent). In the service sector, about 0.7 million persons (23 percent) were in community, society, and personal services working more or less in the public sector.

Table 4.3 Rural Non-farm Employment and Share by Industry, 2000

Rural Non-farm	Employed Persons(Million Persons)	Share (percent)
Service	**3.08**	**3.80**
Hotel and Restaurant	0.28	8.99
Intermediaries for Money	0.05	1.68
Immovable Property, Letting and Other Businesses	0.07	2.25
Official Administration and Defence Including Social Insurance	0.57	18.33
Education	0.46	14.84
Health and Social Welfare	0.15	4.69
Community, Society and Personal Service	0.71	22.93
Personal Household Employees	0.08	2.64
International Organisations	0.00	0.01
Other	0.73	23.63
Commerce	**1.48**	**21.08**
Sale and Maintenance Motor Vehicles and Motorcycles	0.20	13.62
Wholesale	0.09	6.24
Retail Sale	1.19	80.15
Manufacturing	**1.45**	**20.64**
Food, Beverages and Tobacco	0.29	19.87
Textiles	0.39	26.87
Wood Processing and Wood Products	0.14	9.76
Metallic and Non-Metallic Mineral Products	0.18	12.26
Others	0.45	31.24
Construction	**0.65**	**9.26**
Transportation	**0.31**	**4.34**
Electricity, Gas, and Water	**0.04**	**0.53**
Mining and Quarrying	**0.02**	**0.35**
Total	**7.04**	**100.00**

Source: The 2000 Population and Housing Census
Note: Employment by industry was conducted during 1 April 1999 to 31 March 2000. The figure does not include town industry. Employment in rural manufacturing sector was only 1.45 million compared to 2.04 million according to the LFS (third round).

Other important types of service industry were official administration and defence including social insurance (18.3 percent), education (14.8 percent), and hotels and restaurants (9 percent). The smallest number of workers in the service sector were found in activities like insurance and pension funds, about 0.05 million (1.7 percent). In Commerce, the largest proportion of employed persons were in the retail trade, 80.2 percent (1.2 million), while 13.6 percent were in sales and maintenance of motor vehicles and motorcycles, and 6.2 percent were in wholesale.

Employment Structure by Gender

In 2000, employment in the rural non-farm sector was about 8 million in the slack season accounting for 26.3 percent of total employment.[9] By gender, the female labour force was 3.5 million, compared to the male labour force of 4.5 million. In the peak agricultural season, employment in the rural non-farm sector decreased to 6.5 million and accounted for about 20 percent of total employment in the whole country. Females accounted for 2.9 million in the labour force, compared to 3.5 million in the male labour force. The share of female to male employment was higher in the peak season, 77.4 percent in the dry season and 81.5 percent in the wet season.

Shifts over Time

Between 1990 and 2000, rural non-farm employment increased significantly from 4.7 million to 6.5 million in the peak agricultural season (Table 4.4). Employment in most major sectors increased over the past decade, except in the transportation, mining and quarrying, sectors. Employment in manufacturing increased from 1.49 million to 2.04 million and in commerce from 1.02 million to 1.68 million. On the other hand, employment in mining and quarrying decreased from 0.36 million to 0.17 million, and in transportation from 0.28 million to 0.23 million.

4.4.3.2 Structure of Rural Off-farm Employment and Trends

Employment Structure by Industry

According to the LFS, the labour force in the rural off-farm sector, in the peak season, grew slowly from about 1.5 million in 1990 to about 1.9 million in 2000 (Table 4.5). In the rural off-farm sector, the major five sectors consisted of farm, agricultural and livestock services, livestock, forestry and fishery.

[9] In 2000, total employment was 30.3 million in the first quarter and 32.8 million in the third quarter (LFS)

Table 4.4 Rural Non-farm Employment and Share in 1990 and 2000, Classified by Gender, Age, Work Status, Education, Hours of Work, Occupation and Industry

Rural Non-farm	1990		2000			
	Employment (thousand persons)	Share (percent)	Employment (thousand persons)		Share (percent)	
	Q3	Q3	Q1	Q3	Q1	Q3
Total	**4,701**	**100.00**	**7,960**	**6,484**	**100.00**	**100.00**
1. Classified by gender						
Male	2,583	54.94	4,488	3,572	56.38	55.09
Female	2,118	45.06	3,472	2,912	43.62	44.91
2. Classified by education						
Primary or lower	3,514	74.74	5,315	3,901	66.78	60.17
Lower Secondary	411	8.73	1,081	977	13.57	15.07
Upper Secondary	169	3.59	549	541	6.89	8.34
Diploma	375	7.97	506	525	6.35	8.10
University	234	4.97	509	540	6.40	8.33
3. Classified by occupation						
Professionals	366	7.78	567	603	7.12	9.29
Administrators	94	2.00	267	243	3.36	3.74
Clerks	229	4.87	348	320	4.38	4.94
Commercial workers	1,030	21.92	1,841	1,553	23.13	23.95
Agricultural workers	36	0.77	89	83	1.12	1.27
Mining workers	12	0.25	7	3	0.09	0.04
Transportation workers	373	7.94	421	360	5.29	5.55
Craftspeople	2,197	46.74	3,882	2,787	48.77	42.98
Service workers	364	7.74	537	533	6.75	8.22
4. Classified by industry						
Mining and Quarrying	36	0.76	29	17	0.36	0.26
Manufacturing	1,487	31.64	2,542	2,042	31.93	31.50
Construction	23	0.49	29	26	0.37	0.41
Electricity, Gas, and Water Supply	652	13.86	1,210	728	15.20	11.22
Commerce	1,018	21.66	1,912	1,678	24.03	25.88
Transportation	280	5.96	310	227	3.89	3.49
Service	1,205	25.64	1,928	1,766	24.22	27.24

Source: Labour Force Survey 1990 and 2000, National Statistical Office

The largest proportion of all rural off-farm employment was the farm sector, about 1.7 million (90.5 percent) in 2000. In agricultural sectors other than farms, 4.2 percent worked in the agricultural services sector, 2.3 percent in livestock, 2.0 percent in forestry, and 1 percent in fishery.

Table 4.5 Rural Off-farm Employment by Industry (three-Digit Level) in the Third Quarter, 1990–2000

Rural off-farm	1990	1992	1994	1996	1998	2000
Farm						
(thousand persons)	1,351.79	1,407.65	1,390.01	1,183.23	1,256.88	1,676.03
(percent)	(87.28)	(83.70)	(84.62)	(84.74)	(88.93)	(90.53)
Livestock						
(thousand persons)	47.02	98.58	53.90	69.79	65.27	42.62
(percent)	(3.04)	(5.86)	(3.28)	(5.00)	(4.62)	(2.30)
Agricultural and livestock services						
(thousand persons)	29.90	39.84	62.51	30.91	33.47	78.03
(percent)	(1.93)	(2.37)	(3.81)	(2.21)	(2.37)	(4.21)
Forestry						
(thousand persons)	37.12	34.30	30.03	42.23	26.01	36.68
(percent)	(2.40)	(2.04)	(1.83)	(3.02)	(1.84)	(1.98)
Fishery						
(thousand persons)	82.94	100.33	106.20	70.18	31.74	18.06
(percent)	(5.35)	(5.97)	(6.47)	(5.03)	(2.25)	(0.98)
Other						
(thousand persons)	0.00	1.02	0.00	0.00	0.00	0.00
(percent)	(0.00)	(0.06)	(0.00)	(0.00)	(0.00)	(0.00)
Total						
(thousand persons)	1,548.77	1,681.71	1,642.65	1,396.34	1,413.37	1,851.42
(percent)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)

Source: Labour Force Surveys, 1990–2000 the third quarter, National Statistical Office

Employment Structure by Gender

The LFS data indicated that in the peak season between 1990 and 2000, the number of females employed in the rural off-farm sector was slightly smaller than that of male employment, about 0.1 million (Table 4.6). Female employment increased from about 0.7 million in 1990 to 0.9 million in 2000. Male employment also increased from about 0.8 million to 1 million. Considering seasonal variations, female employment increased from 0.8 million in the slack season to 0.9 million in the peak season, while male employment decreased from 1.1 million in the dry season to 1.0 million in the wet season. The ratio of female to male employment was higher in the peak season, 73 in the slack season and 90 in the wet season because of the increased demand for a female labour force during the peak agricultural season.

Shifts over Time

Long-term employment trends of the rural off-farm sector (1990–2000) can be seen in Table 4.5. Total rural off-farm employment increased from about 1.5 million in 1990 to about 1.9 million in 2000. During this period, employment in farm and agricultural services sectors showed an increase, while employment in the livestock, forestry and fishery sectors showed a decrease. In addition, the share of employment in the farm sector increased from 87.3 percent to 90.5 percent. Agricultural services employment also significantly increased from 1.9 percent to 4.2 percent. On the other hand, the share of employment in the livestock sector decreased from about 3.0 percent to 2.3 percent, the forestry sector from 2.4 percent to 2.0 percent, and the fishery sector from 5.4 percent to 1.0 percent.

Table 4.6 Rural Off-farm Employment and Share in 2000, Classified by Gender, Age, Work Status, Education, Hours of Work, Occupation, and Industry

Rural off-farm	1990		2000			
	Employ'ment ('000)	Share (percent)	Employment ('000)		Share (percent)	
	Q3	Q3	Q1	Q3	Q1	Q3
Total	1,549	100.00	1,869	1,852	100	100
1.Classified by gender						
Male	825	53.27	1,119	989	59.87	53.40
Female	724	46.73	750	863	40.13	46.60
2. Classified by education						
Primary or lower	1,497	96.65	1,671	1,703	89.40	92.00
Lower Secondary	37	2.38	137	118	7.34	6.38
Upper Secondary	10	0.63	51	25	2.73	1.37
Diploma	2	0.15	8	4	0.41	0.20
University	3	0.19	2	1	0.12	0.04
3. Classified by occupation						
Professionals	1	0.09	1	1	0.04	0.04
Administrators	0	0.00	1	0	0.04	0.00
Clerks	3	0.17	4	1	0.20	0.03
Commercial workers	0	0.00	0	0	0.00	0.00
Agricultural workers	1,527	98.59	1,823	1,834	97.58	99.06
Mining workers	0	0.00	0	0	0.00	0.00
Transportation workers	4	0.25	10	8	0.53	0.44
Craftspeople	10	0.66	27	6	1.43	0.32
Service workers	4	0.23	3	2	0.17	0.11

Source: Labour Force Survey 1990 and 2000, National Statistical Office

4.4.3.3 Skill Levels of Workers

Over the past ten years, the skill level of workers in the rural non-farm sector in Thailand has improved in terms of occupational composition and education

levels. Similarly, skills of workers in the rural off-farm sector have been enhanced with an improvement in the educational levels of workers. However, the occupational composition of workers has not improved much (Tables 4.4 and 4.6).

Non-farm employment

Between 1990 and 2000, the share of the labour force in the non-farm sector who were professionals and technicians increased from 7.8 percent in 1990 to 9.3 percent in 2000 (Table 4.4). The share of employment of administrators and commercial workers also increased from 2.0 percent and 21.9 percent in 1990 to 3.7 percent and 24.0 percent in 2000, respectively. On the other hand, the proportion of artisans and general labourers decreased from 46.7 percent to 43.0 percent, transportation workers from 7.9 percent to 5.6 percent, and mining workers from 0.25 percent to 0.04 percent.

The education level of workers in rural non-farm employment has improved over the past ten years. The proportion of those with primary or lower education decreased from 74.7 percent in 1990 to 60.2 percent in 2000. In contrast, the proportion of the labour force with higher education increased. In particular, employment of the labour force with lower secondary education increased from 8.7 percent in 1990 to 15.1 percent in 2000, and that with upper secondary education increased from 3.6 percent to 8.3 percent. Similarly, the proportion of workers with diploma education increased from 8 percent in 1990 to 8.1 percent in 2000 and of those with university education increased from 5 percent to 8.3 percent.

Off-farm Employment

During the past ten years, the proportion of employment in rural off-farm activities in the peak seasons, by occupation, was relatively stable. The majority of the labour force consisted of agricultural workers, about 98.6 percent in 1990 and 99.1 percent in 2000 (Table 4.6). In other occupations, the proportion of employment was so small, that its change in proportion did not affect the occupational composition of rural off-farm employment. For instance, the proportion of professionals and technicians decreased from 0.09 percent in 1990 to 0.04 percent in 2000, and artisans and general labourers from 0.66 percent to 0.32 percent.

The education levels of rural off-farm employees have generally improved, consistent with economic development. Although the proportion of the labour force with primary or lower education decreased from 96.7 percent in 1990 to 92.0 percent in 2000, the proportion of the labour force with higher education, except university education, has increased. In particular, employment of the labour force with lower secondary education increased from 2.4 percent to 6.4

percent, and of those with upper secondary increased from 0.6 percent to 1.4 percent, during the same period. The labour force with diploma also increased from 0.15 percent to 0.2 percent, but workers with university education decreased from 0.19 percent to 0.04 percent.

4.4.3.4 Multiple Jobholding

The LFS do not provide data on multiple jobholding that refers to different employment over a period of time rather than at a single point in time. Some people may have only one job in each month of a year, but they could also have more than one job in the entire year. The LFS survey emphasises primary employment at the reference period. For this reason, the data from the Socio-Economic Survey (SES) that examine employment status over the entire year are utilised.

Table 4.7 Number of Workers Having One Job and Multiple Jobs in Rural Off-farm and Non-farm Activities in Thailand, 1990–2000

	1990	1992	1994	1996	1998	2000
Rural Off-farm	(Unit: million persons)					
Having one job	0.88	0.97	1.10	0.88	1.08	1.47
	(71.99)	(66.68)	(70.65)	(59.65)	(64.41)	(74.55)
Having multiple jobs	0.34	0.49	0.46	0.59	0.60	0.50
	(28.01)	(33.32)	(29.35)	(40.35)	(35.59)	(25.45)
Total	1.22	1.46	1.55	1.47	1.68	1.97
	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)
Rural Non-farm						
Having one job	3.29	4.03	4.46	5.20	5.71	5.68
	(75.25)	(75.03)	(76.88)	(76.11)	(74.71)	(76.62)
Having multiple jobs	1.08	1.34	1.34	1.63	1.93	1.73
	(24.75)	(24.97)	(23.12)	(23.89)	(25.29)	(23.38)
Total	4.37	5.37	5.80	6.83	7.64	7.41
	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)
Whole Kingdom						
Having one job	18.20	19.37	20.50	21.30	22.74	24.27
	(68.30)	(67.03)	(72.85)	(69.65)	(71.32)	(76.54)
Having multiple jobs	8.45	9.53	7.64	9.28	9.14	7.44
	(31.70)	(32.97)	(27.15)	(30.35)	(28.68)	(23.46)
Total	26.64	28.90	28.14	30.58	31.88	31.71
	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)

Source: Socio-Economic Survey, National Statistical Office Note: Proportions of single/multiple-job holders to all people in corresponding sector are in parentheses.

According to the SES, out of 1.97 million and 7.41 million employed persons in the off-farm and non-farm sectors respectively in 2000, 0.5 million and 1.73 million persons held more than one job (Table 4.7). The proportion of multiple-job holders to total workers is equal to 25.5 percent and 23.38 percent, respectively in off-farm and non-farm jobs. The ratio appears to be higher in the rural farm sector (33.43 percent) but lower in urban areas (8.72 percent). The ratio of multiple jobholding in off-farm and non-farm activity, however,

declined during the 1990's; fewer people are working in secondary jobs now than in the past. In contrast to this decline, agriculture has increasingly become the major secondary job for the remaining multiple-job holders. It might be because the remaining people are those who seasonally switch between sectors. They usually have a background in agriculture, but decide to work in other sectors such as off-farm or non-farm for high earnings, and return to help on farms on a seasonal basis.

In the off-farm sector, about half of the multiple-job holders are males (52.72 percent). Clearly, neither of the sexes dominates multiple jobholding in the off-farm sector (Table 4.8). However people aged 31–45 years in this sector, appear to have a higher probability of working in various jobs over one year (48.91 percent), than other age groups do. Further, as the primary occupations of all are in the agricultural sector, their secondary occupations do not differ greatly from their primary ones. Most of them are still employed in the agricultural sector (82.32 percent) or have the occupation of agricultural workers (81.36 percent). Some of these people would still work for wages in their secondary jobs, but many others return to work on their farms or to help in the farm of their families (as unpaid family workers). Only a few people in the off-farm sector leave agriculture to work in manufacturing (6.44 percent) or construction (5.98 percent).

Table 4.8 Share of Multiple-Job Holders in Rural Off-farm and Non-farm 1990–2000, by Gender, Age, Secondary Work Status, Secondary Occupation and Secondary Industry in Thailand.

	Rural Off-farm						Rural Non-farm					
	1990	1992	1994	1996	1998	2000	1990	1992	1994	1996	1998	2000
1. Classified by Gender	(unit: percent)											
Male	61.7	54.4	56.0	52.2	53.5	52.7	58.8	61.5	61.5	60.8	62.1	58.9
Female	38.3	45.6	44.0	47.8	46.5	47.3	41.2	38.5	38.5	39.2	37.9	41.1
2. Classified by Age Group												
15-29 years	45.9	31.4	30.0	27.6	27.3	27.0	40.3	33.9	31.9	28.7	25.4	23.5
30-44 years	34.3	42.3	45.9	39.7	46.2	46.7	37.7	42.3	46.0	44.9	47.2	48.9
45 years and above	19.8	26.3	24.0	32.7	26.5	26.2	22.0	23.9	22.1	26.4	27.3	27.5
3. Classified by 2nd Work Status												
Private Employees	35.9	32.9	40.0	34.0	36.8	22.0	23.8	19.6	20.5	19.9	22.4	24.1
Government Employees	0.0	0.0	0.8	0.6	0.1	1.6	0.4	1.7	1.7	1.8	1.4	3.1
Employers	6.7	6.2	7.9	9.2	7.8	13.1	11.4	14.6	16.5	19.2	17.9	21.1
Own-account Workers	23.1	26.4	20.1	17.7	19.9	17.9	20.1	21.1	19.0	14.4	14.7	12.9
Unpaid Family Workers	34.2	34.5	31.1	38.5	35.4	45.3	44.2	43.0	42.4	44.8	43.6	38.9
4. Classified by 2nd Occupation												
Professionals, Technicians	0.0	0.6	0.0	0.3	0.3	0.0	0.7	1.0	1.0	0.6	1.0	1.5
Administrative, Executives	0.0	0.0	0.6	0.3	0.1	1.2	0.3	1.2	0.9	1.3	1.0	2.8
Clerks	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.2	0.1	0.4	0.2	1.6
Commercial Workers	4.9	3.9	1.8	3.3	3.5	1.2	4.1	5.5	2.6	3.8	5.0	3.5
Agriculture Workers	74.8	68.2	72.8	73.9	80.8	81.4	77.9	78.3	82.8	81.8	81.3	80.1
Craftspeople and Labourers	12.0	18.4	17.9	17.4	12.0	8.0	7.9	8.3	8.2	8.4	8.7	7.5
Mining Workers	0.4	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0
Service Workers	7.9	8.9	6.3	4.6	3.1	8.3	8.8	5.5	4.4	3.5	2.8	2.9
5. Classified by 2nd Industry												
Agriculture	77.2	69.2	73.0	74.1	81.2	82.3	77.8	78.4	82.9	81.8	81.2	80.4
Mining	0.4	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Manufacturing	5.1	6.6	3.8	3.5	3.3	6.4	4.7	3.7	3.0	3.9	3.7	5.1
Electricity, Gas and Water	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.1
Construction	4.5	6.9	13.1	13.2	7.1	6.0	1.8	1.9	2.3	2.3	2.7	1.7
Commerce	5.5	5.2	3.9	3.9	4.0	1.4	4.9	5.2	3.9	5.2	5.8	5.3
Transportation	0.0	2.0	0.8	1.1	0.7	0.8	0.7	1.8	1.1	1.5	1.2	1.4
Services	7.3	10.0	5.3	4.3	3.7	2.7	9.9	9.0	6.6	5.1	5.2	6.0

Source: Socio-Economic Survey, National Statistical Office

A similar structure of multiple jobholding can be found in the non-farm sector. The proportion of males to all multiple-job holders in non-farm activities (58.86 percent) is slightly higher than that in off-farm activities. Most of the workers who have more than one job are between 31–45 years old (48.91 percent). Interestingly, although the primary jobs of these people are not related to agriculture, their secondary jobs mostly involve agriculture. Approximately 80 percent of people in non-farm activities, who work more than one job, would have their secondary job in the agricultural sector.

Only 690,000 persons were employed as multiple jobholders, out of 32.8 million workers in Thailand, in 2000. The proportion of multiple-job holders was only 2.1 percent of total employment. This figure is believed to be the proportion of workers who actually hold more than one job at a point in time. Only 0.03 million and 0.18 million persons are found to hold more than one job at a time in the off-farm and non-farm sector, respectively, or only 1.7 percent and 2.26 percent of workers in those sectors. Because of the insignificance of the size and non-availability of additional information, this issue will be left out in later discussion.

4.4.3.5 Home-workers

Home-work is another form of rural non-farm or off-farm employment usually not captured by regular labour force surveys. According to the 1999 Home-work Survey, home-work refers to work taken by an individual to perform outside the employer's work place, mostly at home or the house compound. Home-worker refers to an individual of 13 years of age or older who takes work from an employer to produce at home. The main characteristics of the work are as follows:

5) The place of work can be anywhere other than the employer's work place.

6) The home-worker does not produce the goods for his or her sale but must return them to the employer.

7) There is an agreement on the payment between the home-worker and the employer. Either employer or home-worker, or both, can fix the pay rate.

8) The work must be done as required by the employer. Indeed, there are three types of Home-workers as follows:

    a) Contract Workers: refer to those who take work themselves from the employer and produce the work alone or with some assistance. They earn an income from the work as agreed with the employer.

b) Unpaid home-workers: refers to the contract worker's assistants helping contract workers produce the work. They live in the same household, but they do not receive any pay for the work they produce.

c) Subcontractors: refers to those who take work from an employer and give it to Home-workers. Subcontractors do not produce the work themselves, but they earn an income based on the number of items they take for others to produce.

The 1999 Home-work Survey showed that there were 226,473 home-worker households. The home-workers aged 13 years and over were 311,790 in total. The home-workers consisted of 253,137 contract workers (81.18 percent), 55,928 unpaid home-workers (17.94 percent) and 2,725 subcontractors (0.87 percent). By area, the proportion of home-workers in non-municipal areas was much higher than the proportion in municipal areas: that is there were 247,493 home-workers (79.38 percent) in non-municipal areas, while there were only 64,299 home-workers (20.62 percent) in municipal areas. By region, the number of home-workers was the highest in the northeast (89,778 persons) followed by the central region, the north, Bangkok metropolis, and the lowest was in the south (31,464 persons). By gender, 62,250 were males (19.97 percent) and 249,540 were females (80.03 percent). By industry, most home-based work (95.44 percent of total home-workers) came from the manufacturing sector. Since this sector was concerned with production of consumption goods that had to undergo several processes, subcontracting to carry out production outside the employer's work place was most evident. Another sector of home-based work was in the commerce sector (3.30 percent) including mainly professionals and clerks, craftspeople or workers in the production process and laundry workers. Other sectors of home-based work were in the service sector (1.13 percent), agriculture (0.08 percent), transport and communication (0.04 percent) and the construction sector (0.01 percent).

Throughout Thailand, home-workers were found to take up home-work as their primary occupation rather than a secondary occupation. The highest percentage of people taking up home-work as their primary occupation was found in the Bangkok Metropolis (92.26 percent), followed by the central region (82.22 percent), the south (68.54 percent), the north (64.88 percent) and the northeast (51.00 percent). Nevertheless, the highest percentage of those taking up home-work as their secondary occupation was found in the northeast (49.00 percent). Comparison between areas showed that those in the municipal area who were engaged in home-work as their primary occupation outnumbered those in non-municipal area in all the regions.

When examining differential earnings of contract workers, about 42.25 percent of all contract workers had a net annual income less than 10,000 baht, followed by 10,001–30,000 baht (34.95 percent), and 30,001–50,000 baht (9.47 percent). Only 10.13 percent earned more than 50,000 baht annually. In addition, it was found that most contract workers in all the sectors earned lower than 10,000 baht annually. Only in the commerce sector did most contract workers (46.74 percent) have an income of 10,001–30,000 baht a year. The highest income earners were contract workers in the service sector; they earned an average annual income of 38,817 baht.

Next, subcontractors were only found in three sectors: manufacturing, commerce and services. Subcontractors had a higher income than contract workers did. Most of the manufacturing subcontractors (43.25 percent) earned more than 100,000 baht annually, while most subcontractors in the commerce and the service sector earned about 50,001–100,000 baht a year. When the incomes of subcontractors in all the sectors were compared, those in the manufacturing sector were found to have the highest average annual income of 99,376 baht.

4.4.4 Income from Rural Non-farm Activities

4.4.4.1 Income Received by Workers in Different Non-farm Sectors.

According to the SES in 2000, the average income in manufacturing in the rural sector was only 4,400 baht a month, which is the second lowest level among all non-farm sectors. In contrast, workers in sectors like electricity, or the service or transportation sectors received a much higher level of income. The average income of those working in the public utilities sector is the highest among all non-farm sectors at 9,400 baht a month. Workers in the service sector and the transportation sector had a monthly income at 6,800 and 6,100 baht, respectively (Table 4.9).

The data suggest that the financial crisis did not have a sudden impact on the average income of those working in rural non-farm activities. While the crisis took place in 1997, only two sectors could be seen to have a declining average income during 1996–1998 — the commercial sector and the transportation sector. This phenomenon has to be interpreted with care. Stable average income could result from reducing employment together with a similar reduction in total income, therefore keeping the average income constant. Furthermore, this does not mean that other sectors suffered no impact from the crisis, but rather that employment was affected instead of income. Employment in manufacturing and the commercial sector, for instance, declined substantially over the period 1996–98.

Table 4.9 Average Income in Different Rural Non-farm Sectors and Growth Rate, 1996–2000

	Money Income (baht/month)			Growth of Real Income (percent per year)	
	1996	1998	2000	1996–1998	1998–2000
1 Mining					
Income from primary occupation	3,788	7,177	2,795	28.83	-38.17
Income from other sources	92	346	10	81.03	-83.27
Total	3,881	7,523	2,805	30.32	-39.50
2 Manufacturing					
Income from primary occupation	3,692	4,260	4,406	0.55	0.76
Income from other sources	292	405	307	10.27	-13.72
Total	3,984	4,665	4,713	1.29	-0.41
3 Electricity, Gas and Water Supply					
Income from primary occupation	9,274	13,068	9,429	11.12	-15.84
Income from other sources	1,185	647	260	-30.83	-37.24
Total	10,458	13,715	9,688	7.19	-16.73
4 Construction					
Income from primary occupation	2,942	3,775	3,898	6.03	0.68
Income from other sources	318	387	312	3.25	-11.07
Total	3,260	4,161	4,209	5.76	-0.35
5 Wholesale and Retail Trade					
Income from primary occupation	4,507	4,587	5,084	-5.58	4.32
Income from other sources	514	577	732	-0.82	11.62
Total	5,021	5,163	5,816	-5.08	5.16
6 Transportation and Communication					
Income from primary occupation	5,360	5,731	6,119	-3.21	2.38
Income from other sources	377	653	488	23.17	-14.31
Total	5,737	6,384	6,608	-1.26	0.80
7 Services					
Income from primary occupation	5,625	6,823	6,895	3.09	-0.39
Income from other sources	662	1,035	976	17.04	-3.77
Total	6,287	7,858	7,871	4.65	-0.83

Source: Socio-Economic Surveys (various year), National Statistical Office

4.4.4.2 Earnings and Wages in the Non-farm Sector

In 2000, the average monthly wage was 7,612 baht for a worker in the non-farm sector and 3,822 baht for one in the off-farm sector (LFS third-round 2000). Male workers in the non-farm sector had higher monthly wages than female workers did; about 8,090 baht compared to 7,133 baht (Table 4.10). In the off-farm sector, however, male workers received lower wages per month than

female workers did; 3,781 baht compared to 3,862 baht. When classified by age and education, the monthly wage of workers in the non-farm sector increased with age, except for those aged over 60 years; education levels also had an impact on pay. The wage rate ranged from 5,314 baht for non-farm workers aged 15–30 years to 12,104 baht for those aged 46–60 years. The wage rate of non-farm workers also increased with their education levels, ranging from 4,575 baht for workers with primary or lower education, to 12,273 baht for those with university education. In the off-farm sector, the monthly wage of workers did not correlate to their ages, but to their education levels, except for upper secondary levels.

Table 4.10 Monthly Wage and Earning Differentials of Rural Off-farm and Non-farm Employment in the Peak Season, 2000 (unit: Baht per month)

Rural off- farm employment		Rural non-farm employment	
1. Classified by sex		1. Classified by sex	
Male	3,780.96	Male	8,089.91
Female	3,861.61	Female	7,133.33
2. Classified by age		2. Classified by age	
15–30 years	3,239.80	15–30 years	5,313.78
31–45 years	4,605.14	31–45 years	8,826.91
46–60 years	3,585.45	46–60 years	12,104.27
61+ years	2,413.50	61+ years	3,634.19
3. Classified by education		3. Classified by education	
Primary or lower	3,340.04	Primary or lower	4,575.00
Lower Secondary	5,707.14	Lower Secondary	6,252.64
Upper Secondary	3,447.87	Upper Secondary	5,707.64
Diploma	6,027.46	Diploma	8,713.81
University	8,471.91	University	12,272.80
4. Classified by industry		4. Classified by industry	
Farm	3,277.03	Mining and Quarrying	5,800.15
Livestock	3,782.33	Manufacturing	7,146.86
Agricultural and livestock service	4,447.44	Construction	14,912.28
Hunting	0.00	Electricity, Gas, and Water Supply	6,261.78
Forestry	2,976.44	Commerce	4,715.51
Fishery	4,488.49	Transportation	8,119.13
		Service	19,264.92

Source: Labour Force Survey 2000,the third quarter, National Statistical Office

By industry, the monthly wage for non-farm workers varied considerably from 4,716 baht for workers in the commercial sector to 19,265 baht for those in the service sector. In contrast, the wage for off-farm workers who were predominantly in the agricultural sector had a narrow range from only 2,975 baht for workers in the forestry sector to 4,488 baht for those in the fishery sector.

4.4.4.3 Labour Productivity, GDP Per Worker and Wages

Measuring the productivity of labour in rural non-farm and off-farm sectors is difficult because of the lack of data, particularly for GDP broken down by industry and rural-urban location. It is difficult, therefore, to calculate production functions of various industries and to derive labour productivity coefficients. An easier but approximate method of measuring labour productivity in rural non-farm and off-farm employment is to use the average labour productivity; the level of output per unit of labour input, usually measured as value added or GDP per man-hour or man year (United Nations 1990:166). Even this easier method is constrained by data limitation; for example, employment data are usually in terms of the number of employed persons during the survey week and the GDP data is not broken down by rural-urban location. With these constraints, this section has tried to utilise the average labour productivity method for analysis.

The labour productivity of rural non-farm sector can be obtained by dividing the outputs of the rural non-farm sector by the total units of labour input of the sector. Because of lack of data on GDP, or outputs in the rural non-farm sector, an indirect estimate is made by using Gross Provincial Product (GPP), which is classified and grouped into the GPP of rural provinces and urban provinces. Then, GPP (by sub-industry) of all rural provinces are divided by the number of workers in the corresponding sector. The criterion for selecting 'urban' and 'rural' provinces is based upon the concentration of working people in the urban area. The 20 highest concentrated provinces are selected as 'urban' provinces[10] and the rest are referred to as 'rural' provinces. It can be noticed that the size of employment in the 20 urban provinces was about 32 percent of the total employment of the country while the proportion of employment in municipal areas was around 31 percent of the total employment in 2000. Consequently, therefore, the total size of assumed urban employment is at least close to actual urban employment. While, admittedly, it is not possible to tell how close the industrial composition of the estimated rural-urban employment is to the actual composition of rural-urban employment, a simple assumption is that on average, the rural employment structure resembles the structure of rural employment in Thailand. The result of the indirect estimate is presented in Table 4.11 and analysis is outlined in the following subsection.

[10] The 20 'urban' provinces are Bangkok, Nonthaburi, Pathum Thani, Samut Prakarn, Phuket, Chonburi, Samut Sakhon, Saraburi, Phetchaburi, Rayong, Prachuap Khiri Khan, Chanthaburi, Ayudhaya, Ratchaburi, Singburi, Lampang, Surat Thani, Yala, Nakhonpathom, and Songkhla (in sequence of concentration level).

Table 4.11 GPP Per Worker in Rural Provinces in Thailand, 1991–99 (unit: baht in 1988/year/person)

	1991	1996	1997	1998	1999p	Avg.Growth 1991–99 (percent)
1. Rural Farm Sectors	14.66	19.40	19.02	18.55	19.26	3.47
Crops	10.46	13.70	13.51	13.30	14.07	3.78
Livestock	46.72	58.91	65.22	48.88	47.54	0.22
Fisheries	93.52	80.25	89.22	99.95	96.80	0.43
Forestry	54.66	47.24	25.89	19.37	20.63	-11.47
Ag. Services & Simple Ag. Processing	412.07	292.60	354.34	336.91	245.66	-6.26
2. Rural Non-farm Sectors	68.43	70.77	66.56	64.12	66.02	-0.45
Mining and quarrying	455.49	488.04	532.37	585.21	307.44	-4.80
Manufacturing	48.52	66.16	69.06	64.62	71.49	4.96
Construction	53.78	48.28	30.34	28.76	34.13	-5.53
Electricity and water supply	296.91	277.76	285.62	272.90	350.97	2.11
Transportation and communication	92.96	128.71	134.54	126.87	134.09	4.69
Wholesale and retail trade	74.77	79.68	74.55	60.84	59.53	-2.81
Banking, insurance, and real estate	818.91	855.30	665.79	921.72	904.09	1.24
Public administration and defence	94.42	73.94	75.40	75.42	73.41	-3.10
Services	66.37	58.23	57.25	57.07	55.07	-2.31
GPP per Worker in Rural	34.30	45.56	43.49	41.89	42.44	2.70
GPP per Worker in Urban	162.37	212.38	205.78	183.81	190.61	2.02
GDP per Worker in Thailand	74.1	100.7	97.5	89.6	92.6	2.82

Source: National Statistical Office and National Economic and Social Development Board

4.3.4.1 GPP Per Worker in the Rural Provinces

To be precise, the discussion in this section is on the GPP per worker in the rural provinces instead of rural non-farm sectors. This is due to data not permitting analysis of the latter. How much the employment structure of the rural provinces, by industry, resembles the employment of the rural non-farm sectors is a subject for research.

At the national level, the GDP per worker expanded by 2.8 percent a year from 1991–99 (Table 4.11). At the community level, GPP per worker grew by 2.7 percent a year in the rural provinces over the past decade, compared to 2 percent in the urban provinces. However, in terms of level, it is obvious that the GPP per worker in rural areas (42,400 baht/person in 1998) was much lower than that of the urban areas (190,000 baht/person in 1988). It should be noted

that the growth rate of GPP per worker (3.47 percent) in the rural farm sector almost doubles the figure of GPP growth rate of this sector (1.83 percent, shown in Table 4.13), indicating increasing labour productivity.

On the contrary in the rural non-farm sector, though aggregate GPP grew by as much as 3.76 percent a year, GPP per worker fell over the past decade at an average growth rate of minus 0.45 percent a year. This results from the contraction of GPP per worker in almost all sectors except manufacturing, utilities, transportation and banking. In fact, as shown in Table 4.13, the sector that was most affected by the crisis was the construction sector, which had a negative growth between 1991–99.

Unfortunately, the main pitfall of the average labour productivity approach is that it implicitly considers labour as the sole factor of production, while in reality there are many inputs, particularly capital and technology. An unusually high GDP per worker could be seen in some industries, in particular the mining sector and banking sector, where most inputs are capital and technology intensive. In this case, it would be easy to incorrectly assume that labour productivity in these industries is higher when, in fact, it is not. Further, any increase in GDP per worker may not be a result of an increase in the labour productivity alone, but from an increase in other inputs. Therefore, the analysis of GPP per worker must be undertaken or interpreted with caution.

Wage and Labour Productivity

In the rural non-farm sector, a positive relationship between labour productivity and average real monthly wages existed during 1991–98; with an exception of 1989–99 when real wage declined while GDP per worker increased (Table 4.12). This could be due to the delayed impact of the crisis on the average monthly wage through the lowering of wages to maintain employment levels. The increase in GDP per worker could be due to a reduction in the number of workers. In 1999, the growth rate of average labour productivity increased about 3 percent, while the rate of average real monthly wage growth declined by 2.5 percent.

For the rural off-farm sector, the analysis cannot be undertaken because of a lack of data. To shed some light on the sector an analysis on the rural farm sector may be looked at instead. Between 1991 and 1996, both the average labour productivity and the average real monthly wage in the rural farm sector significantly increased by about 32 percent and 35 percent, respectively. In 1997, the average labour productivity decreased by 2 percent, while the average real monthly wage continuously increased by 16 percent. However, the financial crisis resulted in decreases in both the growth rate of average labour productivity (minus 2 percent) and the growth rate of average real monthly wages (minus 16

percent) in 1998. In 1999, the growth rates of labour productivity and the average real monthly wage improved by about 4 percent and 1 percent, respectively.

Table 4.12 Wages and Labour Productivity at Constant 1988 Prices, 1991–99 (unit: thousand baht)

	Farm Sector					Non-farm Sector				
	1991	**1996**	**1997**	**1998**	**1999**	**1991**	**1996**	**1997**	**1998**	**1999**
Real wages/annum	20.85	28.05	32.50	27.46	27.68	39.55	54.07	53.15	53.43	52.09
GPP per worker	14.66	19.40	19.02	18.55	19.26	68.43	70.77	66.56	64.12	66.02

Source: Real wages from National Statistical Office and National Economic and Social Development Board; GPP per worker from Table 4.11.

4.4.4.4 Contribution of Different Non-farm Sectors to the National Income

Analysis of the contribution of different non-farm sectors to the national income is constrained by a lack of aggregate data on income generated from the rural non-farm sector. However, similar to the case of GPP per worker, a proxy of the rural non-farm sector can be derived from the income of the non-farm income of the rural provinces. Based on this approach, during 1991–99 the rural non-farm sector activities accounted for about 20 percent of the total GDP, compared to 8 percent in the case of income from the farm sector. The smallest contribution was in 1997 when it reduced to about 19.4 percent. The first three highest contributions of rural non-farm sectors were from commerce, manufacturing and services. During 1991–99 the contribution of manufacturing was increasing while that of commerce was decreasing and services was fluctuating.

Rural non-farm income accounts for about 71 percent of the total rural income (about 20 percent out of 28 percent of GDP from the rural sectors). This figure is relatively high compared to the figure in the 1980s when rural households accounted for about 43–50 percent of total income. Nevertheless, when considering the past trends of an increasing share of rural non-farm sectors, the comparative level of GDP per worker in this sector, and the rural farm-sector in rural provinces (including 66,000 in the rural non-farm sector against 19,300 in the rural farm sector), this figure is not unreasonable.

Table 4.13 Proportion of GPP in Rural Provinces to the National Income, by Different Non-farm Sectors In Thailand, 1991–1999 (unit: percent)

	1991	1996	1997	1998	1999p	Avg. Growth 91–99 (percent)
1. Rural Farm Sectors	9.38	7.40	7.45	8.09	8.01	1.83
Crops	6.30	4.81	4.90	5.35	5.36	1.78
Livestock	1.01	0.74	0.77	0.80	0.79	0.73
Fisheries	0.83	0.93	0.90	1.05	0.99	6.26
Forestry	0.25	0.18	0.13	0.09	0.10	-7.05
Ag. Services & Simple Ag. Processing	1.00	0.74	0.75	0.81	0.77	0.50
2.Rural Non-farm Sectors	19.87	20.06	19.44	19.51	19.73	3.76
Mining and quarrying	0.61	0.55	0.56	0.58	0.58	3.06
Manufacturing	3.38	4.46	4.50	4.48	4.90	8.79
Construction	2.18	2.73	1.78	1.16	1.21	-3.52
Electricity and water supply	0.55	0.64	0.70	0.80	0.78	8.55
Transportation and communication	1.50	1.81	1.94	1.95	1.87	6.79
Wholesale and retail trade	6.04	5.55	5.42	5.18	5.06	1.60
Banking, insurance, and real estate	2.66	2.82	2.85	3.41	2.59	3.53
Public administration and defence	1.72	1.38	1.42	1.71	1.71	3.73
Services	3.89	2.93	3.11	3.65	3.62	2.91
Total Contribution by Rural Activities	31.91	30.28	29.74	31.01	30.33	3.20
Total Contribution by Urban Activities	68.09	69.72	70.26	68.99	69.67	4.16
Gross Domestic Products (GDP)	100.0	100.0	100.0	100.0	100.0	3.86

Source: National Economic and Social Development Board

4.5 The Dynamics of How Village Industries Function Internally

4.5.1 Introduction

An important objective of this study is to analyse the dynamics of the internal functioning of off-farm and non-farm employment. In connection with the recent economic crisis, remedial reforms and restructuring of the economy, it was decided to undertake case studies to shed some light on the micro aspects of rural non-farm employment. The objectives of the case studies are as follows:

1) To conduct a case study of an area or an industry/activity that has exhibited growth, and/or potential promise of growth in the decentralised sector;

2) To study the strengths, weaknesses, and opportunities in the decentralised sector;

3) To identify the scope of intervention necessary for strengthening the sector.

4.5.1.1 Methodology

The case studies were conducted by interviewing village or *Tambon* leaders and rural industry owners in two selected provinces, focussing on about three small manufacturing enterprises or cottage industries. The study areas are San Kam Pang and San Pa Tong in Chiang Mai and Nam Pong in Khon Kaen. The villages chosen were as far as possible the same as those visited by Pradit Chasombut in 1983 and 1991 as it was anticipated that there would be an observable change in these villages from cottage-based rural industry forms to more formal industry. The two provinces chosen also have a different socio-economic environment. For example, Chiang Mai has less arable land compared to Khon Kaen, and non-farm activities, particularly cottage industry and tourism are more common.

In each district, one *Tambon* was selected, and in each *Tambon*, a few villages were selected for interviews. In each survey village, a village headman, committee members of the 'Tambon Administrative Organisation' (TAO), and a few rural enterprise owners were interviewed.

Village industries of interest to the study can be divided into three major groups: (1) cottage industry (2) small formal manufacturing enterprises, and (3) subcontracting industry (home-work). With reference to Chasombut (1983 and 1991), the industries that were surveyed in the two provinces included the following:

Khon Kaen
- Silk weaving
- Cotton weaving
- Mat making
- Pottery making

Chiang Mai
- Tailoring and dress making
- Wood carving
- Gem cutting
- Rug making

In both provinces, two villages in each of the selected districts were studied. In Khon Kaen, Nam Pong and Ban Wang Tua (*Tambon* Wang Chai) and Ban Kok Sung (*Tambon* Nam Pong) were studied. In Chiang Mai, the two villages were Ban Rong Wua Dang (*Tambon* Rong Wua Dang, San Kam Pang district) and Ban Kiew Lee Noy (*Tambon* Ban Mae, San Pa Tong district).

The pattern of the change and development of village industries was studied in addition to groups of individual owners of rural industries. A broad comparison of the internal functions of village industries (between past and present case studies) was difficult because of the limited number of areas and sample households examined in the present study.

4.5.1.2 General Description

In each district, the case study commenced with a group discussion among village leaders including village heads, TAO committee members, women's group leaders, and chairpersons or vice chairpersons of village funds. The group discussion was followed by household and enterprise surveys followed by a simplified form of rapid rural appraisal.

In practice, before visiting the villages, the reasearch team formally contacted the Department of Community Development, which is a major government agency responsible for rural community development. The Regional Economic and Social Development Centres in Chiang Mai and Khon Kaen responsible for regional planning were also contacted for their cooperation and assistance in identifying target areas, enterprises and individuals. Officers from the two agencies also joined the TDRI team to visit the study villages. In this manner, additional information about village development and government interventions was obtained from the officers.

The rural industries studied in Nam Pong, Khon Kaen, are pottery, mat making and a local liquor cooperative. A powdered fruit juice factory was also visited. In Chiang Mai, the industries included garment and Home-workers in San Kam Pang, and woodcarving, food processing, and paper box making in San Pa Tong. An ornament company in a nearby village was also visited.

4.5.2 Operational Characteristics of Rural Non-farm Industry

4.5.2.1 Cottage Industry

Production Patterns

Between 1980 and 1981, the ROFEAP of Kasetsart University had studied the Thai rural household manufacturing enterprises. There were 164, 141, and 75 households observed in Chiang Mai, Khon Kaen, and Roi Et, respectively. The proportions of households with manufacturing enterprise were 78.0, 95.0, and 92.0 percent in each province. This indicated that rural industries mainly stemmed from household units.

In 2002, production patterns of the villages studied in both Chiang Mai and Khon Kaen still remained similar to those of the 1980–81 ROFEAP survey. Most rural non-farm industries were household manufacturing enterprises. The variation of production patterns by different types of product, raw material input, production processes and labour skills are described under the following categories:

1. Products;
2. Raw Materials;

3. Input uses;
4. Technology Use;
5. Entrepreneurship; and,
6. Market Viability.

i) Products

According to the 1980–81 survey, household manufacturing enterprises in Chiang Mai intensified their off-farm work in bamboo production (34.1 percent) and making woodcrafts (28.7 percent). In Khon Kaen, (Table 4.14) major household industries were silk weaving (53.9 percent) and mat making (53.2 percent). Around one decade later, the follow-up study by Chasombut in 1991, conducted only in select northeast provinces, found that households in rural Khon Kaen still had silk fabrics and mats as their major household products. In addition, the study showed that high variation within an industry could be found in silk and cotton weaving, woodcrafts, bamboo products, mats, pottery, and hand tools. On the other hand, less variation was found in Thai noodles and bricks. The variation within an industry was characterised in terms of form, size, quality, and use.

Table 4.14 Distribution of Households by Major Industry in Chiang Mai and Khon Kaen, 1980–81

Major Industry	Chiang Mai (percent)	Khon Kaen (percent)
Thai Noodles	9.8	3.5
Silk	4.9	53.9
Cotton Weaving	9.8	49.6
Woodcrafts	28.7	26.9
Bamboo Products	34.1	44.7
Mats	4.9	53.2
Pottery	8.5	7.1
Bricks	12.8	-
Hand Tools	9.2	5.0

Note: Each number shown above represented the proportion of household manufacturing enterprises for each product to the total number of households surveyed in each province. Source: Pradit Charsombut, 'The Potential for Increases in Income and Employment in Thai Rural Household Manufacturing Enterprises', 1983

Table 4.15, depicts the number of households interviewed, classified by the major industry of the villages in 2002. Although these households could not be compared with those in the 1980–81 survey, due to limited sampling numbers and study areas, they implied that households were generally still practicing the same off-farm and/or non-farm manufacturing as they were in the 1980–81 survey. Some change has been observed in Chiang Mai where interviewed households changed their off-farm and/or non-farm works from weaving silk and cotton to tailoring to serve orders from local garment industries. However,

there may be other villagers who were not interviewed that continued weaving silk and cotton in their households.

Table 4.15 Number of Interviewed Households by Major Industry of Selected Villages in Chiang Mai and Khon Kaen, 2002

Major Industry	Chiang Mai		Khon Kaen	
	Rong Wua Dang (households)	Kiew Lee Noy (households)	Wang Tua (households)	Kok Sung (households)
Tailoring/Garment	9	-	-	-
Woodcrafts	-	8	-	-
Pottery	-	-	4	-
Mats	-	-	-	10

Source: Selected Villages Interviewed in 2002

(ii) Raw Materials

Raw materials and input uses were different among industries and areas. Generally, households applied the same types of raw materials and inputs as they did 20 years ago. In Khon Kaen, for example, clay, mud, water, chaff, hay, and firewood were used to make pottery, and reeds, hay, and paint were used to make mats. Only some kinds of raw materials had changed slightly because of local shortages, for example, teakwood was mainly changed to plywood in making woodcrafts in Chiang Mai. For the garment industry (also in Chiang Mai), households were hired by local factories to assemble dresses and all raw materials were provided by the factories; in other words, a subcontracting system.

According to Charsombut's study in 1983, most of the raw materials used in village industries twenty years ago were obtained from farms or from the local environment. Only small proportions of purchased raw materials were found in pottery, brick, mat, and bamboo product manufacture. However, current interviews indicated that manufacturing households had to purchase start-up clay and plywood to make pottery and woodcrafts. In addition, households making mats had to travel longer distances and pay higher transportation costs to pick reeds in other areas outside their villages. It appears that several kinds of raw materials previously available in local areas have become either scarce or inadequate.

(iii) Input Uses

The pattern of input use in household manufacturing enterprises remained unchanged throughout the different periods of study as shown by the following types of inputs:

Land: Most of the households interviewed used their own houses and land for making products. Only a few households had to rent land from others.

Capital: There was a variety of endowments used in the enterprises. Many households had personal money for their production needs. Some had to borrow from others. Several households tended to borrow from village funds with low interest rates (1 percent per year) with long pay back periods (perhaps 1–3 years), though the households had to go through several tedious processes. Alternatively, some borrowed from intermediaries and local creditors who charged much higher interest rates (5–10 percent per month) with shorter pay-back periods, but the loans were quicker and easier.

There were other capital inputs used in household manufacturing enterprises, such as simple self-made machines for making pottery (rotating base and shaping tools), hand tools for making woodcrafts (knives, axes, saws, chisels, hammers, drills and sand paper), weaving frames for making mats, and sewing machines for tailoring.

Labour: Household manufacturing enterprises have family members as their significant source of labour in production processes and this has been the case for a long time. There was no exception for the latest household interviews, which showed that all family members were the major source of labour for off-farm and/or non-farm work. The case of hired labourers was limited. According to the interviews, only Kiew Lee Noy village in Chiang Mai employed hired labourers for wood carving processes because local labourers had gone to work outside the village. Many of these hired labourers were male and had some skill and experience in carving wood products. On the other hand, some female labourers engaged in tailoring processes in Rong Wua Dang village, Chiang Mai.

Household labourers normally had low skills, inheriting what skill and experience they had from their family. However, there have been attempts from government agencies and NGOs to deliver help and training to upgrade villagers' skills, especially corresponding to the One-*Tambon*-One-Product national policy.

(iv) Technology Use

The technology used in the village production processes remains unchanged. As a labour intensive style has been used by producers, there has not been much development in technology. This has led to low investments in capital resources such as machines. The major technology in household manufacturing enterprises was found from locally based 'intellect', requiring only simple tools and equipment available in the villages. Self-made tools and equipment were mainly applied in the production process. For instance, in Khon Kaen, self-made rotating base and shaping tools were used in making pottery in Wang Tua village, and weaving frames were used in mat making in Kok Sung village.

However, for Wang Tua village, the Department of Alternative Energy

Development and Efficiency provided a public oven that reduced energy use and was better for temperature control in the firing process for pottery. This oven was an advance for pottery making as the villagers had previously used old-style, home made ovens.

(v) Entrepreneurship

There was not much change in terms of entrepreneurship for the household manufacturing enterprises. All of the cottage industries were owned and operated by households. Management and decision making in planning for both farm and manufacturing production mainly depended on heads of households, such as a husband or wife.

(vi) Market Viability

Markets and Sales: Households produced for their personal consumption needs in some cases, according to the survey conducted in 1980–81. However, many rural households manufactured products such as hand tools, ready-made garments, and bamboo products for market sale. In Charsombut's study in 1983, about 98 and 80 percent of products produced in Chiang Mai and Khon Kaen, respectively, were sold to markets. Likewise, during current interviews, most products produced in the four villages in Chiang Mai and Khon Kaen were for sale in markets.

Interestingly, for pottery made in Wang Tua, Khon Kaen every lot of production was sold-out. Mats made in Kok Sung village experienced a large volume of sales in the dry season (March to May). In the case of wood carving households in Kiew Lee Noy village, Chiang Mai, good numbers of sales were made over the New Year as woodcrafted items were used as new years gifts. For garment manufacturing households in Rong Wua Dang village, sales were made to order for local factories and dress shops, indicating a subcontracting system. The local factories provided raw materials and the necessary tools and equipment to households, and then purchased finished or semi-finished products on a piece-rate basis.

Market channels for all types of products from the four villages involved intermediaries who came to the villages to make orders and buy products for delivery to their final destination. Products were accordingly sold wholesale.

The type of product determined its final destination. For example, woodcrafts were sent to Hang Dong district in Chiang Mai, tourist shops in Bangkok and Phuket, and some were exported to Australia. Besides woodcrafts, the other products were sent to major cities around the country, especially to markets in Bangkok.

Prices: Prices are usually determined by intermediaries or factories in the case of a subcontracting system. For example, intermediaries paid nine baht for a

piece of 80'x160' mat in Kok Sung village, and 20 baht for one earthenware jar in Wang Tua village. On the contrary, households or the producers set prices of woodcrafted items in Kiew Lee Noy village themselves. Woodcraft prices were mainly based on production costs and competitor or market prices. In addition, prices also varied to reflect type, design, quality, size, and location of where the products were sold.

Market interlocking only occurred in one woodcarving household in Kiew Lee Noy village, where a buyer who provided wood to the household, also bought the finished products

Major Constraints

Major constraints faced by the industires could essentially be divided into the following three categories:

1) Scarcity of Local Resources: The scarcity of local raw materials had become a priority among the problems faced by producers. Teak was rare for carving in Kiew Lee Noy village. Consequently, plywood and other kinds of wood from outside the village were substituted for teak. Manufacturing households in Wang Tua village had to buy start-up clay from other areas. Similarly, households in Kok Sung village had to pay high transportation costs to pick reeds outside the village.

In terms of production, lack of capital input such as finance was also a major concern among manufacturing households. Many households had to borrow money from private creditors and/or village funds. Although many had enough of their own money for routine production, they had an inadequate amount to expand sales and production lines.

Attitudes toward family businesses were crucial in the sense of local labour. Several villager labourers left their manufacturing households for other jobs in the big cities. Consequently, there was insufficient labour in the manufacturing households, reducing production capacity.

2) Labour Skills: Most labour working in the villages was derived from household members. They inherited their work skills and experience from their families and as a result, many household-manufacturing enterprises suffered from low skill. Low skilled labourers could also lead to low quality products. Some interviewed villagers claimed that they wanted more training programmes from government-agencies to upgrade their skill levels, though many villagers had already participated in some training programmes provided by local government and NGOs.

3) Existing Technology: Existing technologies in the villages were based on local 'intellect' and were not sufficient to expand production and sales. For example, more energy-saving ovens were needed for each household

manufacturing enterprise. Moreover, design technology was a priority need for all village industries.

4.5.2.2 Small Manufacturing Industry

Small manufacturing industries in towns can contribute to off-farm and non-farm work for villagers who live nearby. In addition, manufacturing households are also closely associated with the subcontracting system provided by small manufacturing industries in towns. Furthermore, household-manufacturing products can be intermediate products or inputs for small manufacturing industries. Table 4.16, indicates the number of small manufacturing factories visited by the research team in Chiang Mai and Khon Kaen provinces. The occurrence of small manufacturing industries were dependent on production patterns, the type of product, market viability and location.

Table 4.16 Types of Products in Chiang Mai and Khon Kaen in 2002, by Number of Factories Interviewed

Industry	Chiang Mai		Khon Kaen	
	Rong Wua Dang (factories)	Kiew Lee Noy (factories)	Wang Tua (factories)	Kok Sung (factories)
Garment/Tailoring	4	-	-	-
Longan Cooperatives	-	1	-	-
Paper Box	-	1	-	-
Winery (Sa-Tho)	-	-	1	-
Kraft (Food Products)	-	-	-	1

Source: Selected Factories Interviewed in 2002

Production Patterns

In general, production patterns of the small manufacturing industries had common features with respect to employing local workers, local raw material uses, and local intellect in their production processes.

The garment factories interviewed in Rong Wua Dang village were owned and operated by household members — usually a small group of three to six family members. Besides family workers, workers within the village and from others nearby were hired in the factories. The number of hired workers ranged from less than 10, to a maximum of 70. The majority of workers were female. Likewise, in Kiew Lee Noy village, about 35 and 8 local workers were hired in the longan cooperatives and the paper box factories, respectively. In Khon Kaen, the winery employed only seven local workers in Wang Tua village, while the Kraft factory in Kok Sung village, which was a pure foreign investment with support from Board of Investment, employed about 200 local workers.

Except for the Kraft factory that employed 20 percent of skilled workers —

and it could not really be classified as a small industry — most small manufacturing industries employed low skilled workers. Labour intensive and semi-labour intensive methods were common production styles for the small manufacturing industries in both provinces.

Raw materials used among the different industries were mainly obtained locally with some being imported from other areas. For example, the winery used local sticky rice from the Wang Tua and surrounding villages to make traditional Thai wine (*sa-tho*).

Endowments used by the small industries varied depending on the nature of entreprenuership. Many factory owners had their own money to start the factories, while some owners borrowed money from village and community funds with low rates of interest and long payback periods.

Market Viability

The prices of products from the small manufacturing industries were usually set by the factories themselves under a cost of production scheme. However, markets and sales varied because of different factors in different places. Most of the small garment factories in Rong Wua Dang village for example, were on a subcontract basis, while other small manufacturing industries sold their products both wholesale and retail. Generally, a partial volume of products was used to serve local demand, while the largest volume was delivered to its final destination in major cities like Bangkok. In addition, intermediaries still had a significant role in marketing.

Major Constraints

Major constraints varied across the different types of industry. For example, the paper box factory had the serious problem of expensive paper used as raw material, the garment factories had to deal with low skilled workers, and the winery had funding problems and a labour shortage.

4.5.3 Strengths, Weaknesses, and Opportunities

4.5.3.1 Strengths

According to the interviews, there were several strengths of household manufacturing enterprises and small manufacturing industries', both within and across each industry. There were also some particular industry specific strengths reported by the interviewees. Strengths could be characterised as follows:

(i) Product Quality and Characteristics

More than half the manufacturing households and small factories interviewed claimed that their products reached a standard, good quality level. For example,

manufacturing households making mats, carving wood, and making pottery in Kok Sung, Kiew Lee Noy, and Wang Tua villages claimed that their products were of better quality compared to products from other areas. The winery owner in Wang Tua village also mentioned that his rice wine was a natural product. The garment-manufacturing households cited that their products were made very well and that they could take a large volume of constant orders.

In addition, unique product characteristics and design were important factors that enabled manufacturing households and small factories to have a lead on their competitors. For example, the unique design of woodcrafts made in Kiew Lee Noy village.

(ii) Demands for Products

Demands for products made in the four villages in Chiang Mai and Khon Kaen were constant. In other words, there were continuous orders made to certain manufacturing households. Mat making in Kok Sung village and wood carving industry in Kiew Lee Noy were good samples of products in demand. The garment industry in Rong Wua Dang village also had no marketing or sales problems due to their orders resulting from subcontracts with the garment factories in town.

(iii) Production Costs

Since the products were produced by applying local raw materials, family labour, and simple or local-based technologies, production costs were low. These were comparative advantages for household manufacturing enterprises and small manufacturing industries, especially for those in the four villages studied.

(iv) Producer Integration

Among the manufacturing households and small factories visited, only the longan producers in Kiew Lee Noy village, Chiang Mai had integrated into a form of cooperative. This enabled them to obtain greater market power and decrease production costs by buying raw materials and inputs from other members of the cooperative.

4.5.3.2 Weaknesses

There were difficulties facing manufacturing households and small manufacturing industries, many of which have been discussed earlier. A concise list of issues could be classified as follows:

(i) Labour and Skills Shortages

Labour shortage, especially local labour, was ranked first among the weaknesses

suffered by all manufacturing households and industries in the villages interviewed in Chaiang Mai and Khon Kaen. Many teenagers in the workforce left their hometown or villages to work in the major cities such as Bangkok. As a result, manufacturing households lacked sufficient family labour to produce the desired quantity of products or to expand their production to earn more income. Many manufacturing households had to hire workers from other villages. Consequently, production costs increased while profits decreased.

(ii) Scarce Raw Materials

Some local raw materials have now become scarce. After the government banned logging by initiating laws to conserve forest resources, wood carving industries had to switch from using teak as a major raw material to other types of locally available wood. However, teak woodcrafts still existed because they were using old teak wood, wood chips and imported teak from neighboring countries. Furthermore, local reeds used to make mats in Kok Sung village were insufficient for production purposes. Similarly, manufacturing households in Wang Tua village had to buy start-up clay from other areas to produce pottery products.

(iii) Lack of Capital Inputs

Money was one of the primary concerns among manufacturing households and small manufacturing industries. Many interviewees from the four villages complained that they could neither access formal sources of funds nor borrow money from financial institutions because of their inadequate collateral. However, many villagers received financial help from village funds, even though this fund was not adequately distributed to all villagers. Besides village funds, some villagers borrowed money from the Bank of Agriculture and Agricultural Cooperatives that tended to provide more loans for non-agricultural activities.

Machinery was another input that the manufacturing households had not invested in for production purposes. This was mainly the households engaged in simple production technologies, as using high technology machines was not necessary. However, many villagers had requested help from the government for support to improve manufacturing machinery.

(iv) Outdated Product Designs

Since the production of manufacturing households depended mainly on local knowledge and labour skills inherited from family members, the designs of their products were outdated and did not have much variety. Consequently, they could not broaden their markets and sales volume. For examples, mats made in Kok Sung village and pottery products made in Wang Tua village have had the same designs for many years, and as a result, product prices were quite low.

(v) Price Setting

Producers of mats, pottery, and garment industries in the villages were price takers. The buyers or the intermediaries set product prices. Therefore, manufacturing households received low prices for their products. In the case of woodcarving, longan, and rice wine industries, households, cooperatives or factory owners, based on production costs, set prices. It seemed that the bigger or more formal the industry, the higher its market power in price bargaining.

(vi) Lack of Producer Integration

As mentioned with price setting above, market power to bargain product prices was associated with the size of producers in terms of the volume of sales. Many producers did not belong to any community group, not even the community cooperatives.

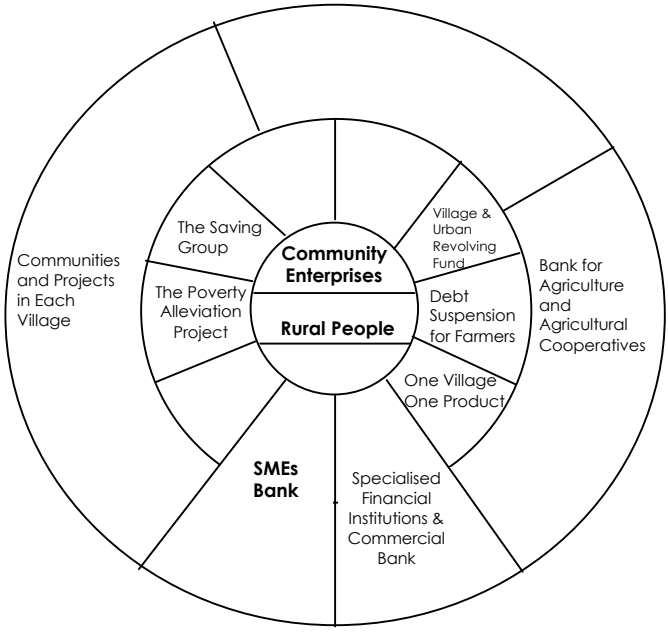
(vii) Lack of Market Information

Manufacturing households making pottery in Wang Tua village complained that they did not have enough market information to expand their sales into new markets.

4.5.3.3 Opportunities

There were some opportunities available to household manufacturing enterprises and small manufacturing industries, especially the greater potential to earn a good standard of living with manufacturing production. It appears that there are several sources of funds and rural assistance programmes available to the villagers. Figure 4.2, shows how rural people, community enterprises and SMEs can access several government assistance programmes. Household manufacturing enterprises and small manufacturing industries are certainly associated with these government programmes since most of them are; first, rural people; second, they are SMEs, and; third, some are also integrated as community enterprises. Although these programmes are available to all targeted people, many of those targeted do not know how to approach the programmes and some do not even know that they exist. Clearly, the information about these programmes needs to be disseminated to all rural people so that the government's policy of assistance reaches its objective.

Figure 4.2 Relationship between Government Policies, Community Enterprises, Rural People, and SMEs



Source: Adapted from 'Executive Summary of White Paper on Small and Medium Enterprises, 2001', Office of Small and Medium Enterprises Promotion

Furthermore, several requests to the government for skill training programmes have been made from household labourers and employers hiring low skilled labourers — for example the garment industries in Ron Wua Dang village. This will create opportunities to those who want to upgrade their skills, to earn a higher income, and to improve product quality and production processes.

Innovation and alternative production processes are needed for product development. For example, some villages like Kiew Lee Noy village innovated a new process of making products by applying saw dust, instead of wood, to make their wooden products such as picture frames and jewelry boxes.

4.5.4 The Scope of Intervention Necessary for Strengthening the Off-farm and Non-farm Activities in the Study Area

It is realised that off-farm and non-farm works can generate high income and alleviate seasonal unemployment for the rural population. Production expansion

in household manufacturing should therefore be promoted. According to the information found in this study, the scope of intervention for strengthening off-farm and non-farm activities would include the following:

(1) As labour shortage is a major constraint to the production of the villages in the study area, there should be policies to fill this employment gap. The policies should be to not only promote higher employment in rural areas, but also to innovate some production processes that depend on less labour intensive methods. Supporting the villagers to replace low skilled workers with more machinery in the production process may do this. Furthermore, villagers should encourage the younger generation to work within their local rural area, which would in turn generate further development in their hometowns.

The government has recently responded to this matter by launching the 'graduate-return-to-hometown' project where the government hires young people who have just finished their bachelor's degree to work for their hometowns. This project not only alleviated local labour shortages but also improved local labour skills through the transfer of knowledge from the new graduates.

(2) Skill training programmes should be provided to labourers working in the manufacturing households in the villages. Skillful labourers can generate a higher quality of local products, including higher value-added. Some villages have been receiving support from the government for training programmes for quite some time. For example, 75 villagers in Kiew Lee Noy village went through some vocational training programmes in 1999.

(3) The government should publicise and distribute information about the rural assistance programmes, especially the widespread financial aid programmes, to all manufacturing households, small manufacturing industries and other rural people. By doing this, all targeted small industries and households will be able to receive government help without being taken advantage of by others. In addition, alleviating poverty will also meet the objectives of government policies.

(4) Production development must be pursued in terms of quality standards, product designs, and a development of alternatives for raw materials (in case of shortages). Although it will take time and lots of effort to improve rural industries, it is necessary to sustain long-term demands for household manufactured products. Locally based intellect should be conserved and developed towards production improvement. Innovation and renovation of the production patterns would broaden markets and are an alternative solution to the unique characteristics of the products.

(5) All manufacturing households and small manufacturing industries should have equal access to market information, as this is the key to expanding

their sales. In other words, manufacturing households and small manufacturing industries should identify the product characteristics that consumers wish to buy, so that the final product will perfectly serve final demand. This will lead to expanding the markets, increase value-added of the product, and will ease problems relating to price setting.

(6) Further integration of the producers is an alternative that would strengthen their production capacity and market power. Integration would enable villagers to buy raw materials at a lower price and prevent their product prices being forced down by intermediaries. In addition, the manufacturing households would develop their skills, marketing abilities, and knowledge by exchanging ideas among the group's members.

As discussed earlier, this survey revealed that there was little change in the operational characteristics of the rural non-farm industry in the areas studied. Production patterns remained simple and were still based on local technologies. The majority of cottage and small manufacturing industries were owned and operated by family members. Consequently, production inevitably involved family labourers that inherited their skills from ancestors. These conclusions should be interpreted with some care as the selected industries were intentionally the same as those surveyed 20 years ago, and the types of activities studied may not change much in terms of forward and backward linkages. In fact, however, some change has already happened. Some industries had to hire workers in addition to family labourers, though these hired workers were mainly low skilled.

4.6. Conclusion

In spite of its successful economic development, Thailand is still predominantly rural. About half the population of Thailand still live in the agricultural sector, and the proportion of workers engaged in agriculture is about 50 percent. Therefore, the promotion of rural non-farm and off-farm employment and diversification of income sources are desirable policy objectives, giving households and individuals more options for improving livelihood security and to raise their own standard of living. Research has shown the general importance of RNOFE with regard to poverty alleviation, economic growth, rural development and increasing the potential for sustaining natural resources, gender, food security, and prevention of rapid or excessive urbanisation.

The objectives of this study have been achieved. First, existing literature has been reviewed to examine previous research, the previous extent and nature of RNOFE, and the development of the rural non-farm sector. Second, the present or recent size and diversity of RNOFE, rural non-farm industries, as well as public policy and support for the sector are identified and examined based on

available statistics. Third, a few case studies have been conducted and the dynamics of how the rural non-farm sector functions internally has been identified and analysed.

With respect to the literature review, the profile of RNOFE was based mainly on three major studies from the 1980s. These included a report undertaken by the World Bank, the report of the project on 'Rural Off-farm Employment Assessment Project', and the proceedings of a conference held in Chiang Mai, in 1983 on 'Off-farm Employment in the Development of Rural Asia'.

Findings indicate that in the past, the rural poor relied heavily on non-farm and off-farm employment and income for their living, and those low-income workers worked more hours than rich ones. In addition, the landless and small households depended on non-farm and off-farm work. A policy implication was that wage rates (*e.g.* a minimum wage rate policy) would have more impact on these workers than the larger farmers. Moreover, a labour supply model for off-farm and non-farm work indicated that both males and females spent less time off-farm, when farm wages and farm sizes increased. A problem of seasonality of demand for labour in all areas was also found. Non-farm enterprises seemed to offer the best potential for increasing the return to family labour. It was cautioned, however, that the survey data were not useful for the analysis of future trends because Thai villages were extremely complex and heterogeneous with respect to the levels and patterns of rural income and employment

Non-farm income was to be found quite significant in all regions, especially the south, northeast and north. Future trends in rural income and employment in Thailand indicated that non-farm and off-farm employment and income would become increasingly important in all regions. The push factor would be dominant in any increase in rural, off-farm employment. However, pull factors might become important if government policies of rural industrialisation are implemented effectively.

Further, the increasing participation of the rural population in non-farm and off-farm employment meant that rural workers needed the skills necessary for operating, managing and working in off-farm enterprises. Training or non-formal education was required to prepare them for this work. In areas such as handicrafts and furniture, non-farm enterprises also needed good management and skilled labour. Promotion of non-farm enterprises was an aspect that covered all levels and ranges of products, and assistance from both private and public agencies was required for their development and growth.

One study concluded that village industry could alleviate seasonal unemployment among rural people. For example, one strategy for coping with seasonal unemployment was production expansion in household manufacturing to provide alternative rural job opportunities.

With respect to factors explaining the growth in rural non-farm employment, it was found that growth was predominantly linked to an increase of agricultural activity. Furthermore, there was relatively little scope to intervene with direct measures to generate more rural non-farm employment. Because of the continued existence of pockets of rural poverty, it was appropriate to develop programmes specifically designed to meet their problems through judicious investments in physical and social infrastructure. Lastly, specific agricultural or non-agricultural programmes in rural areas had not offset the anti-rural bias of agricultural price policies and industrial protection policies. These distortions must be at least partly attributed to the primacy of Bangkok.

Some studies in the 1980s found that off-farm and non-farm activities (such as cottage industries and services), are considered supplementary and secondary jobs for rural people, appearing during the slack agricultural season. It was also believed that industry by rural households did not have economic viability. Village industry had not been developed in Thailand partly because of these reasons. However, farmers who were the majority of rural people had low-incomes and a lack of employment; consequently, village industry became an important source of rural income and employment.

Past studies also indicate that, while cottage industry had been practiced in farm households in many areas in Thailand, the types and concentration of manufacturing varied among the areas studied. Differences among the areas were related to four major factors; local raw materials, the characteristics of agriculture, local markets and the skill levels of workers. In addition, households operated most types of village industries. The management and decision making in the manufacturing enterprises depended on the head of household.

Family labour was a major component in all types of village industry. Skills of workers in village industry were very low. Most products of village industry were produced for a local market. Production and sales increased during the slack periods of agricultural production, but decreased during the planting and harvesting seasons. Rural industries also depended heavily on the local market as the outlet for their products, and heavily on local labour and raw material supplies. Therefore, the promotion of industrial activities in rural areas should take into consideration such factors as the availability of raw materials and a labour force, and the income and consumption patterns of rural residents.

A study of town industries indicated that while manufacturing production and employment in Thailand had expanded at a high rate over the two decades before the study, most industrial activities were highly concentrated in Bangkok and around provinces in the central region. The concentration of industries resulted in many social and economic problems including income inequality and pollution in Bangkok and nearby provinces.

In the 1980s, trends in government policy showed that regional and rural

development were accorded an increasing degree of significance in the overall national development scheme, which should have a favourable effect on rural income and employment.

Nevertheless, because of the centre-periphery problem, the government's efforts at the promotion of rural income and employment had yielded small result in relation to the magnitude of the problem. The industrial policy had been changing its orientation towards rural industry. The existing location bias in favour of Bangkok was, however, so strong that rural industrialisation programme continues to face an uphill struggle. Most importantly, the government still lacked an effective promotional programme, as well as the appropriate institutional infrastructure to implement the programme.

Later plans continued the efforts in industrial development. The Sixth Plan (1987–91) aimed to increase the diversification of industrial production. There was a greater emphasis on import substitution and entrepreneurs were urged to use local raw materials. The private sector was encouraged to reduce the obstacles among industries of different production sizes, and priority was given to engineering, agricultural, and small-scale industries throughout the region. The Seventh Plan (1992–96) was designed to give overall support to the industries. There was a policy to improve infrastructure to serve the needs of industry and training programmes were proposed to improve labour skills. Moreover, there were measures to improve product quality to international standards and diversify industries into the regions. Many provinces were designated to serve as regional centres of industrial development.

Current major public policy measures include the promotion of household industries and local business; non-farm activities in villages; the promotion of agro-industry and food processing; and the development of industrial networks. There was also a specific concern with respect to environmental issues, waste management and control of pollution. Other support measures for rural non-farm industries include the training of local entrepreneurs; the relocation of industries from Bangkok and its environs; involving the private sector in investment in industrial estates; and development along the border. In the wake of the Thai economic crisis in 1997, however, the industrial sector was badly affected by the financial crash, and investment and consumption slowed down. The Government had to adjust the plan and redouble its faith in rural enterprise promotion; consequently, a number of stimulus policies and measures were formulated and implemented.

The Ninth Plan (2002–06) emphasises a strategy for economic recovery and social development and adopts the philosophy of the 'Self Sufficient Economy'. The implications of this policy on rural non-farm industries can be interpreted by examining the strategy of integrated rural development where non-farm activities are more seriously considered as a means of survival for rural people.

In addition, looking at a positive side to the financial crisis, there seems to be more government effort to genuinely access people in the rural areas through various recovery schemes.

This study provides an assessment of the size and diversity of rural off-farm and non-farm employment, using the Labour Force surveys, Population Censuses, Socio-Economic Surveys and Establishment or Industrial Surveys. In 2000, the total number of rural industries was 16,226 enterprises of which 10,146 enterprises were village industries, and about 6,080 enterprises were town industries. Major types of manufacturing enterprises included food, beverages and tobacco, and metallic and non-metallic mineral products. Other important manufacturing included textiles, wood processing and wood products, transportation equipment, furniture and other manufacturing goods. The distribution, however, is still biased toward the central areas. The majority of rural industries (manufacturing enterprises) were in the central area, totaling about 7,901 enterprises, or 32 percent of all rural manufacturing enterprises.

In 2000, workers in the rural non-farm sector (village industry in non-municipal areas) were about 7.04 million according to the Population Census and around 8 million according to LFS (which used a different reference period, based on a sampling method). Most rural non-farm employment was in the service sector, about 3.8 million (43.8 percent), followed by the commerce sector (21.1 percent), the manufacturing sector (20.6 percent), and the construction sector (9.3 percent). The female to male ratio was between 77 and 81 in the dry and wet seasons respectively.

In 2000, the monthly wage of 7,612 baht in the non-farm sector was higher than the 3,822 baht earned by the labour force in the off-farm sector. The monthly wage of male workers was higher than that of female workers, about 8,090 baht compared to 7,133 baht. In the off-farm sector, however, the monthly wage of male workers was less than that of their female counterparts, 3,781 baht compared to 3,862 baht. Earnings also differed by education and age. The monthly wage for non-farm workers also varied considerably from 4,716 baht for workers in the commerce sector to 19,265 baht for those in service sector.

During the past ten years, the skill levels of workers in rural non-farm sector in Thailand had improved in terms of occupational composition and education levels. Similarly, education had improved for workers in the rural off-farm sector. However, the occupational composition has not improved much.

The study also identifies the extent of multiple jobholding in rural areas. Out of 1.97 million employed in off-farm activities and 7.41 million employed in the non-farm sector in 2000, 0.5 million and 1.73 million persons have more than one job. It is observed that the ratio of multiple jobholding in the off-farm and the non-farm sector has declined over the 1990's, with fewer people now working in secondary jobs than in the past.

Another aspect of rural non-farm and off-farm employment is working from home. The 1999 Home-work Survey showed that there were 226,473 households working from home. In total there were 311,790 Home-workers aged 13 years and over. The Home-workers consisted of 253,137 contract workers (81.18 percent), 55,928 unpaid Home-workers (17.94 percent) and 2,725 subcontractors (0.87 percent). The proportion of Home-workers in non-municipal areas was much higher than the number in municipal areas — there were 247,493 Home-workers (79.38 percent) in non-municipal areas, and only 64,299 Home-workers (20.62 percent) in municipal areas.

Finally, the study also conducted a few case studies, at the micro level, in Khon Kaen and Chiang Mai to examine the dynamics of the internal functioning of village industry. The two provinces were selected for the reason that findings could be compared with similar studies undertaken by Pradit (under the ROFEAP) in 1980. It was found that production patterns of the villages studied in both Chiang Mai and Khon Kaen remained similar to those of the ROFEAP survey in 1980–81. Although raw materials and input uses were different among industries and areas, generally, households applied the same type of raw materials and inputs that they did 20 years earlier. In Khon Kaen, for example, clay, mud, water, chaff, hay, and firewood were used to make pottery, and reeds, hay, and paint were used to make mats. It was found, however, that some types of raw materials had changed because of local shortages.

The patterns of input use in household manufacturing enterprises remained unchanged throughout the different periods of the studies. For example, most of the households interviewed used their own houses and lands for making products, and only a few households had to rent from others. With regard to capital, many households had their own money for their production, but some still had to borrow from others. The government assistance in term of soft credit does not seem to help much, particularly in the case of the poor. In the case of village cottage industries, the technology used in the production processes remained stable, if simple.

A number of other internal functions of the village industry have also been identified and some policy recommendations were made in the case study section. However, it is difficult to generalise for other areas or other industries since the case studies only cover cottage industries and a few small manufacturing industries. Nevertheless, the study has provided a good general picture of rural non-farm and off-farm employment. Principally, the findings that many characteristics of the rural non-farm employment remain almost the same as ten to twenty years ago, implies that many past policy recommendations were either not implemented effectively or the recommendations themselves did not work. Those past policy recommendations need to be reviewed and more up-to-date policy measures need to be taken.

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Chapter Five
Off-farm and Non-farm Employment in Vietnam

Le Xuan Ba, Cu Chi Loi, Nguyen Thi Kim Dzung and Nguyen Van Tien [1]

5.1. Introduction

5.1.1 Background and Rationale

The 1990s have seen some remarkable changes in the political, social and economic life of the Vietnamese people. *Doimoi* (Renovation) policies initiated with a number of market oriented reforms have brought about impressive annual economic growth rates of 7–8 percent, and a remarkable improvement in living standards, with a reduction of the poverty rate from 25 percent in 1993 to 15 percent in 1998.

This significant economic growth has not, however, been accompanied by a similar improvement in the composition of the work force. Vietnam has stayed mainly agrarian and the number of workers engaged in agriculture still remains at about 65 percent. While unemployment in the overall economy is not high, like many other agrarian economies the countryside of Vietnam is facing high levels of *underemployment*. A significant increase in migration away from rural villages and a high level of rural poverty are clear evidence of the low rate of effective labour utilisation, and to the inability of the agricultural sector to fully employ the rural labour force. In addition, the labour force increases by about 1.2 million people every year, and this number keeps increasing due to the high

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All the points of view expressed in this paper are those of the authors and not necessarily reflect the views of the two institutes; and all errors and omissions remain a responsibility of the authors and should not be attributed to any of the institutions mentioned.

growth rate of the population. The agricultural sector absorbs approximately one half of this additional 1.2 million people. However, this ratio has been reducing in recent years; industry increases its labour force at only a very modest 2 percent annually, and the service sector has been reducing its labour absorption compared to the mid-1990s (UNDP 2000). As a result, the country could encounter serious unemployment problems if it cannot find the right way to promote labour intensity in industries.

As such, job-creation in off-farm and non-farm activities assumes crucial importance not only because small and medium enterprises can help meet the challenge of income creation, but also because the Vietnamese government has strongly emphasised a need to create more stable jobs through small-scale and decentralised development, in order to ensure work in the years to come.[2] The most compelling reason for promoting off-farm and non-farm activities and other forms of diversified occupations in the small-scale economy is job-creation for the surplus labour in agriculture.

Vietnam, as with many other countries, has had trouble in managing migration to big cities and this has resulted in an excessive concentration of population in metropolitan centres. The populations of cities such as Ho Chi Minh City and Hanoi are disproportionately large compared to that of others. With present economic policy, it does not appear likely that existing activities in the urban informal sectors (retail, trade and service activities) can expand much further. Small and medium enterprises (SMEs), however, may provide a relatively rapid solution to some of these issues. The advantages of SMEs is their extensive geographical spread, beyond congested urban centres and their potential for diffusing skills and technologies. At best, they also encourage the development of local entrepreneurship. Clearly, the development of rural non-farm and off-farm activities can be a crucial vehicle for Vietnam to meet the challenge of employment and income creation.

The objective of this paper is to analyse some practical experiences with the development of non-farm and off-farm activities in Vietnam from the perspective of job-creation. To this end, the paper is organised into five sections. This section (5.1) includes a description of the concept and some main characteristics of off-farm and non-farm activities in the current socio-economic context of Vietnam. This section also includes a brief description of the historical development of these activities. In Section 5.2, public policy and support to this sector are described in more detail. In Section 5.3, an assessment of the sector is discussed through the examination of data and information from secondary sources. In Section 5.4, the dynamics of internal functioning of the sector is examined through data collected from the two case studies. Finally, Section 5.5 provides some conclusions and policy recommendations.

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[2] See: Dang Cong San Viet Nam (2001: 323).

5.1.2 Concept and Characteristics of Off-farm and Non-farm Activities in Vietnam

5.1.2.1 General Concept and Definition

As in many other developing countries, the term 'Off-farm and Non-farm activities' in Vietnam has often been understood by many people to be synonymous with small-scale rural handicraft industries. As such, the definition is too narrow to encompass many other activities in manufacturing, agro-processing, subcontracting, trade, transport, and other services undertaken by very small SMEs located in rural areas that have a significant impact on employment and income for rural people.

In this respect, it may be appropriate to use the definition provided in the Government's Decision 132/2000/QD-TTg dated November 24, 2000 on the 'Promotion of Non-farm Activities in Rural Areas'. In this Decision, rural non-farm and off-farm activities (RNFAs) are defined as being all the industrial activities of small and medium-scale, artisan industries and handicrafts, productive and life services that take place in rural areas, utilise local resources (labour, land, production and materials), and are closely linked to the development of rural life. These activities are often organised in the form of household-based businesses, cooperatives, and companies of a limited liability type or otherwise.

5.1.2.2 Main Characteristics of RNFAs

When seen from the perspective of the labour market, these activities are often considered as a vehicle for the generation of employment and income for the rural poor, as well as a means to absorb an important part of the surplus labour force in villages. Although the activities cannot necessarily be only attributed to village industries, most of the enterprises are located in rural areas. At the same time, they also include those activities that employ people in nearby villages, small rural towns and townships or market centres. Regarding size, the usual notion is to include only very small, small and medium-scale businesses, which are most often household based units.

In terms of the types of activity undertaken, a common convention is to think of handicrafts and artistic activities. However, as the rural industrialisation process progresses, the definition also has to encompass occupations and activities beyond traditional handicrafts and other cottage industries.

One of the striking features of the organisation of non-farm activities in the rural sector of Vietnam is the existence of so-called *Lang nghe* or 'handicraft villages'. These villages, made of a community of people concentrated in one area (often in one village) and still functioning as farmers, simultaneously

engage in at least one handicraft or other non-farm activity. As often happens, in these villages, non-farm activities count for a major share of the farmers' total income and employ the largest number of the village's productive labour force. In addition, the products made in these villages are often distinguished and widely recognised by people for their high quality or ingenuity.[3]

These handicraft villages are classified into the 'traditional' and the 'new'. Traditional handicraft villages are those that have been established for often more than a century, with a widely recognised 'secret' expertise maintained and transmitted from one generation to another. For example, the Bat Trang pottery village has survived for more than 500 years, and the wood-based artistic village of Van Ha existed for more than 300 years, no matter the political situation. New handicraft villages are those recently created because of spillover from the rapid development of traditional cottage industries, as well as the implementation of the government's policy on rural industrialisation. It is noticeable here that even within one traditional village there may be a mixture of both old and new undertakings like Ninh Hiep and Kieu Ky (Gia Lam district in Ha Noi), where people are engaged in several types of businesses at the same time.

It is estimated that at present 4 percent of villages in the Red River Delta are engaged in non-farm activities and are categorised as handicraft villages. They account for 48 percent of the total number of non-farm villages in the country as a whole. According to the survey conducted by Ban Kinh Te Trung Uong in 2001, the number of handicraft villages in the Red River Delta has almost doubled from 360 to 668 villages in the last decade.

5.1.2.3 Taxonomy of Rural Non-farm Activities

In Vietnam, RNFAs are often classified into the following three main groups:

- Groups of agro-processing industries encompassing food processing and storage, aquaculture, animal husbandry, wood and other forest product processing activities.
- Groups of handicrafts and construction activities that include fine arts, weaving, ceramic and pottery, production of construction materials, rural mechanical establishments and repairing.
- Groups of service industries, which comprise the supply of production and consumer goods for rural people, inputs for rural enterprises, marketing and transportation, communication, technical maintenance of infrastructure and utilities, technological consulting, training, and technical transfer.

[3] Proceeding of International seminar on 'The conservation and development of traditional activities in Vietnam'. Hanoi, August 1996:38–39.

In terms of ownership, non-farm activities may be organised into State Owned Enterprises (SOEs), foreign joint ventures, limited liability companies, and household-based enterprises or units located in rural areas. It is appropriate to mention here that the term 'rural' does not only confine itself to villages. In fact, if some nearby small town and/or market location provides employment opportunities to workers, those localities can also be considered rural.

As the process of industrialisation is accelerating in Vietnam's countryside, rural non-farm activities are no longer only based on manual labour. In fact, more and more technology has been implemented in the production process of some traditional villages. The non-traditional industries, requiring a higher level of technology and catering to higher demand, have been organised on such a scale that the use of a substantial amount of machinery becomes necessary.

5.1.3 The Role of Rural Non-farm Activities in Vietnam

5.1.3.1 Income and Employment Generation

A sizeable section of the rural working population has become dependent on RNFAs for their employment and income in Vietnam. Table 5.1 reveals that if one considers non-farm activities as a whole, the activities engage more than one third of rural households. While the share of mainstream farm households still account for the largest share (62.1 percent), non-farm households also share a significant, continuously increasing, proportion (currently 38 percent). In particular, during the period of 1989–96, the number has increased by an average 8.6–9.8 percent annually. It continued to increase by 10–11 percent between 1993 and 1996.

Table 5.1 Rural Households by Types of Activities

Types of households	Total number (In million)	Rate (In percentage)
Total	11.3	100.0
1. Full-time (mainstream) farm	7.0	62.1
2. Part-time non-farm	2.9	26.0
3. Full-time non-farm	1.3	11.9

Source: Report of Ministry of Agriculture and Rural Development (MARD), September 14, 2001

Furthermore, there are more than 24,000 non-farm enterprises functioning in the countryside. These are classified in Table 5.2.

Results of the survey conducted by the Central Institute for Economic Management (CIEM) in 2001, have shown that the average monthly income of a worker in rural non-farm enterprises is approximately 430,000 dongs; the average for a household-based unit is 236,000 dongs and 186,000 dongs in part-

time household units.[4] On average, this amount is 1.7 to 3.9 times higher than that of a farmer fully engaged in the mainstream agriculture sector (CIEM 2002).

Table 5.2 Rural Non-farm Enterprises by Types of Ownership and Activities

Types	Total number	(In percent)
Total	24 000	100
1. By the ownership		
State owned enterprises (SOEs)	3 398	14.2
Cooperatives	1 382	5.8
Private businesses	19 220	80.1
2. By activities		
Agro-processing industry	4 128	17.2
Fine art industries, handicrafts, construction	7 800	32.5
Services	11 952	49.8
Others	120	0.5

Source: ' Development of agriculture and rural sector at the stage of industrialization and modernization in Vietnam'. The Agricultural Publisher, Hanoi, 1999:197.

5.1.3.2 A Preferred Vehicle for the Absorption of Surplus Rural Labour

Vietnam's rural sector has a small land area *per capita* and is therefore unable to fully employ the available rural labour force. Consequently, the rate of unemployment and underemployment in the rural sector is very high (30–35 percent of the total rural work force).

Non-farm activities are considered an enterprise requiring a small amount of financial investment, simple technology and expertise, but utilising a large number of workers. Therefore, non-farm activities are often used as a vehicle for employing an otherwise redundant rural labour force. Experience shows that exports of $1 million of RNFAs products can create between 3,000–4,000 full-time non-farm jobs and three to five times more for the dependent seasonal (part-time) workers.

The development of non-farm businesses can help to provide jobs to people, and help overcome the problems of seasonality in agricultural production. Indeed, both full-time and part-time non-farm households are now attracting redundant labour from within and outside the region and even from surrounding provinces.

5.1.3.3 Diversification of Rural Economic Activities

Another very important role of RNFAs lies in the diversification of the products made in the countryside. Apart from food and cash crops, farmers engaged in RNFAs produce a bulk of consumer and producer goods and services. This

[4] Note: At the time of publication there are approximately 15,000 dongs to one US dollar

significantly enhances choice for customers, and increases farmers' income and earnings.

Moreover, small and medium non-farm enterprises have the capacity to provide people with the confidence to become entrepreneurs and more effectively use their scarce resources. Product diversification and an increase in income are often associated with economic development, the effective use of natural resources, and the protection and improvement of ecosystems allowing sustainable rural sector development.

5.1.3.4 Facilitating Improvements in Rural Infrastructure

To survive and develop, non-farm businesses have made investments in machinery, equipment, technologies, and infrastructure to gradually reduce the amount of labour used in excessive manual work or in toxic areas. Consequently, working tools and living facilities have been gradually renovated and upgraded, and infrastructure has improved. This will help farmers increase productivity and effectiveness, a requirement of the rural industrialisation and modernisation process.

5.1.3.5 Enhancing Commercial Value of Agricultural and Rural Products

Rural non-farm activities, especially handicrafts, have often been actively involved in the processing of farm products, utilising cheap raw material and even by-products to produce higher value-added consumer products for both domestic consumption and export. This process greatly helps increase the commercial value of the products made in the countryside.

5.1.3.6 Preservation of the National Cultural Heritage

The development of handicraft villages and decentralised activities in the rural sector has been closely linked with the country's historical development and culture. One can very often find specific characteristics of the nation's tradition, customs and religions explicitly expressed in these products. Very often, these products serve as evidence of historical events.

5.1.4 Historical Development of Non-farm Activities in the Country

5.1.4.1 Prior to the Centrally Planned Economy (up to 1954)

Non-farm activities have had a prolonged historical development in Vietnam. According to historical studies, some artisan and handicraft activities first emerged more than 2,000 years ago. Major products at that time were primitive

production tools made of copper, iron, glass, wood, bamboo and other natural materials.

Initially, rural non-farm activities were considered merely as a complementary activity to the mainstream agricultural economy during the off-season. Then, as the trade gradually became more time consuming, some artisans were separated from agriculture, though the activity itself remained in a village, utilising rural resources and supplying its products mainly to a domestic market.

Over time, activities have developed and become firmly associated with names of the localities where they took place. The villages became famous and widely known for their products. Nowadays, most Vietnamese know about copper casting in Ngu Xa (Hanoi province), silk hand looming in Van Phuc (Ha Tay province), gold making in Chau Khe (Hai Duong), silver carving in Dong Xan (Thai Binh), gold carving in Kieu Ky (Ha Bac), and ceramics in Bat Trang (Ha Noi). These products were supplied not only to the domestic markets, but also for exchange with foreign traders.[5]

The process of formulation and development of some non-farm activities can be seen by examining the historical evolution of some Hanoi handicraft villages (Box 5.1).

There is no comprehensive description of these activities during the French colonial times, but some anecdotal evidence shows that handicraft and artisan products reached far beyond the country's borders to European markets.

5.1.4.2 The Centrally Planned Economic System (1954–87 in the North and 1975–87 in the South)

In this period, both farm and non-farm activities in the countryside were organised into cooperatives. The cooperatives were divided into single or multi-purpose cooperatives. Multi-purpose cooperatives included teams of workers fully engaged in agriculture as well as teams specialised in non-farm activities. For all of these cooperatives, the means of production were collectively owned, and members of the cooperatives worked together in one 'brigade'. Income distribution was based on merit points obtained by workers. The State exercised control over both the production and income distribution process. Marketing activities were not necessary as the products of all cooperatives were sold through state-owned trade companies. The State only promoted the development of socialist oriented forms of production, such as state owned enterprises (SOEs), cooperatives, and/or productive groupings. Private and individual production forms were firmly restricted.

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[5] 'The conservation and development of handicraft villages in the Red River Delta at the stage of industrialization', Institute of Economics, 12/1999:33.

Box 5.1 Historical Development of Handicraft Villages in Hanoi

Hanoi has been the capital of Vietnam since the tenth century, when King Ly Cong Uan moved from the antique capital of Hoa Lu to Thang Long (present day Hanoi). A high demand for construction materials and handicraft products for new ramparts, royal palaces, temples, pagodas and housing for the rapidly increasing population became an engine for the rapid development of the non-farm activities in the area. As a result, many handicraft occupations, such as ceramics, pottery, carpentry and metal works became prosperous. In addition, increased demand for consumer goods from royal and noble families and increasingly rich communities boosted industries. Silk hand looming, leather processing, ceramic and pottery, paper and furniture making, boomed at different periods. As businesses achieved success, they attracted increasingly skilled labour from different localities to come and settle in Hanoi and surrounding areas. As a result, some artisans 'wards' were gradually established, each of them specialised in one product or craft. The products made by the artisans were sold at the same place and this process of products exchange led to the establishment of many of the trading streets in the city. Some of these wards and streets continue to exist even today. As shown from statistics, approximately 200 different types of handicraft occupations and other non-farm activities have been developed within Hanoi and its suburbs.

Indeed, many districts in Hanoi kept the names directly linked with handicraft activities carried out some hundreds of years ago. In the streets of old Hanoi, one can see that the names of many streets contain the word 'Hang' which means a 'commodity' or 'product' in Vietnamese that was either produced or traded their before. For instance, the street Hang Bac (silver product) is a reminder of the silver forging business in that street and the street Hang Dao (silk product) is the place where people dyed and traded the famous Vietnamese silk hundreds of years ago. Similarly Hang Khay is a reminder of its carving industry and Hang Theu of its embroidery.

It is reported that in the year 2000, more than 80 handicraft villages are still operating within four suburban districts of Hanoi (which contain a total of 770 villages), attracting more than 25 percent of the total rural labour force. Their products count for more than 50 percent of total exports. Most businesses in these villages are household-based units.

Source: Municipal People Committee of Hanoi. 'Proceedings of the workshop on Handicraft villages in Hanoi', Hanoi-August 2001.

By the end of the 1970s and early 1980s, due to the effects of natural disasters, the economic embargo of Vietnam, and weaknesses revealed in the cooperative management system, the country encountered serious economic problems leading to a sharp decline in living standards. Given the socio-

economic context, the Central Committee of the ruling Communist Party issued Decree No-100/CT/TW dated November 13, 1981 on the implementation of the 'piece-work contract system'. This new managerial mechanism provided some freedom to farmers in the distribution of their products. Moreover, by giving more freedom to households to mobilise resources for investment in new businesses, the Decree created the impetus for an accelerated development of the agricultural and the rural sector.

Remarkable achievements in agriculture have helped the country immensely in reinforcing non-farm activities. Apart from numerous efforts made to increase the volume of rural exports to the (former) USSR and Eastern European countries, the Government established a series of new productive non-farm enterprises, trade centres, and foreign trade companies to enhance the trading of handicraft products in both domestic and international markets. As a result, these activities accelerated in the mid-1980s and exports of these products sharply increased to reach approximately $246 million, with the sector employing millions of rural labourers.[6]

5.1.4.3 Since the Doimoi, 1986 (Renovation Policy)

For people engaged in RNFAs, the *Doimoi* was marked by Decree No-10/NQ/TW promulgated by the Party's Politburo dated April 5, 1986 on the 'Renovation of the Agricultural Management System' (the Decree was then institutionalised in the Land Law in 1993). In this Decree, rural households, including non-farming households, were recognised for the first time as being autonomous economic units, and were assigned with land use rights for a longer period. It was also the first time that rural households were allowed to decide what to produce, how they were going to produce it and where to buy inputs and sell their outputs. More importantly, the Decree has given a direct incentive to rural people to invest in non-agricultural businesses.

However, in the early 1990s, with the collapse of the communist system in USSR and Eastern Europe, Vietnam's non-farm products could no longer find ready markets. Consequently, many handicraft businesses closed down and released their workers. According to reports submitted by provinces, there were 111,693 workers in handicraft production units in Ha Tay province in 1988; this number declined to 48,381 in 1993. In Thai Binh province marketed bamboo products decreased by 10–15 percent by the end of the 1990s.

However, the crisis in Eastern Europe did not prevent the acceleration of economic reforms in rural areas. The agricultural sector was so prosperous that it was not only able to ensure food security for the whole nation, but it was also

[6] Xuan Thuy: Fine art goods — Challenges and Solutions, Journal of Commerce, 11/1993.

able to turn the country into one of the biggest rice exporters in the world (behind only the USA and Thailand). Living standards of the population were substantially improved, creating new opportunities for further increasing non-farm and off-farm activities in the rural areas.

Nevertheless, it should be noted that rural non-farm activities only experienced a real boom after 1993 when the Vietnamese Government promulgated a policy on the promotion of rural industry and modernisation. The general objective of this policy is the restructuring of the rural economy to achieve an increase in the relative share of industry and services, and simultaneously to reduce the proportion of agriculture, in both production and employment, in rural areas. Together with the progress brought about by *Doimoi*, this policy provided strong impetus for a new period of development of the RNFAs.

Rural non-farm households and enterprises differ greatly. It is reported that 1.5 million households are ranked as 'rich'. These are mainly households who have greater capital, skills, experience, access to input and output markets, who know how to apply new technologies and are striving to restructure their production and crops. The average annual income of these households is 15 million dongs. Another 7.8 million households (65 percent of the total farm households) are classified as 'mid-class'. These people also have some savings, working experience and skills. Their average annual income ranges from 7–15 million dongs. The last two million households are ranked as poor families. These households are characterised by having small plots of land, a severe shortage of capital for investment, and a lack of working experience and entrepreneurial skills.

According to a survey conducted by the Institute of Agricultural Economy in 2000 on 146 households in the Red River Delta, households have an average of 4.5–5 people; the head of the family is aged from 38–45, and has an education to 7th or 8th grade. The average land area of a household is 0.2–0.5 ha. However, different business households may have different land areas. The average size of capital of households is 30–70 million dongs. Within a commune, full-time non-farm households often have bigger capital than part-time off-farm and farm households. For example, the size of productive capital of a non-farm household in La Phu commune is 7.3 times larger than that of a farm household; in Trang Liet village 5 times, and Long Xuyen 4.6 times.

When seen from the point of view of employment, a non-farm household employs an average 2.3–2.6 workers. Workers engaged in non-farm activities often use their working time better than workers in agricultural farms do. This is evident from the fact that farm workers usually work less than 100 days per year, while non-farm workers work more than 200 days. Therefore, the development of off-farm activities does not simply increase the number of

people engaged in production, but also helps establish a more effective use of working time and in overcoming problems of seasonality in rural areas.

5.2 Public Policy and Support for the Development of Non-farm Activities

Although reforms initiated in the agricultural sector during the last decade have brought significant achievements to the economy, the Vietnamese government is fully aware that success to date is no certainty of sustained prosperity. Sustained efforts should be made to ensure stable employment and incomes, especially for the rural population that still counts for more than 70 percent of the total labour force in the country.

Over the last decade, the government has strongly encouraged restructuring of the agricultural and rural sectors towards increasing the share of industry and services and reducing the share of agricultural sector in the total rural economy. One of the attempts to achieve this objective is the promotion of rural non-farm activities and occupations. In fact, at its IXth National Congress in 2001, the ruling Party has emphasised that;

> *"It is important to accelerate the development of non-farm activities in traditional and new handicraft villages, including small and medium industrial enterprises engaged in exploitation and processing of agricultural materials, ... Provide strong incentives to all economic sectors, households and individuals, who are involved in creating more new business and employment in rural areas".*[7]

During the last decade, Vietnam has adopted a number of laws and regulatory documents to promote businesses in the country in general, and in the rural sector, in particular. The major elements of the strategy include shifting toward more regionally dispersed labour-intensive rural development, bringing growth in income and rural employment.

5.2.1 Newly Adopted Economic Laws and their Impact on RNFAs

The Law on Business was amended and enforced on June 12, 1999 and clearly provides interpretation on the rights, areas, procedures, and administrative formalities necessary for the registration and establishment of business. This law has widened the scope for businesspersons by stipulating that people can undertake all kinds of business or economic activities, excepting those

[7] Communist Party of Vietnam (2001) 'Resolutions of the IXth National Congress of the Communist Party of Vietnam,' (Political Publisher Hanoi 2001:168, Vietnamese version).

prohibited by Law. Moreover, the newly amended law includes a number of changes in its provisions, which primarily aim at creating business incentives and the development of household-based economic units. As a result, by August 2001, more than 26,000 new enterprises and 200,000 household-based businesses have been established, accounting for 58 percent of the number of businesses created between 1991–99.

The Law on Cooperatives came into effect on January 1, 1997. Implementation of the Law has provided a very positive impact on cooperatives transforming them from 'older style' units into new ones. New cooperatives, many of them non-farm based, are distinguished by enforcement of the principle of volunteerism, and enjoy freedom of business. As a result, a large number of agricultural service cooperatives have been established, many of them engaged in supplying production materials and other inputs to farm households. Many other cooperatives work on realisation of the output produced by farm households, on credit services, or are involved in agro-processing industries. A third type actively participates in the construction of local infrastructure, such as local electricity networks, roads, schools and clinic buildings. Moreover, the Law has created incentives to cooperatives and households to apply new achievements in technological progress, to restructure the production process and to improve product quality. In combination, these factors have helped maximise the particular advantages of each rural locality.

Since its adoption, the Land Law has played an important role in the life of rural people. Principally, the Law reconfirmed the rights of farmers regarding land use in the long-term. Rural people now have rights to rent out, to transfer, to lease, to mortgage, to inherit, and to exchange land plots assigned to them. In addition, the law has also provided a legal background for the implementation of new land policies, which assign individuals, households and organisations with land use rights for a longer period and some freedom of choice in the use of the land. As such, many rural households have changed their trade from purely agricultural activities to more diversified RNFAs, with the aim of more effectively using arable land plots assigned to them.

The Law on Promotion of Domestic Investments (1994) was the first legal document on the mobilisation of domestic investments in the country. This law has given a number of tax incentives, preferential credit conditions and priority land use to those investors that direct their investment into poorer rural and remote areas. The incentives have created a strong engine for investors (especially private) to invest in non-farm production and services. As a result, hundreds of new non-farm enterprises have been created with an initial capital of hundreds of billions of dongs. These establishments have provided hundreds of thousands of jobs every year.

Box 5.2 Legal Framework Promoting Off-farm and Non-farm Activities

1/1/1995	Labour code	- Recognises freedom of worker in job seeking and of the employer in hiring and firing workers; - Reconfirms the new concept and definition of what is a decent job.
22/6/1994	Law on promotion of foreign investment	- Stimulates investment into production and services; - Encourages development of labour intensive industries, including non-farm and off-farm activities.
1987	Land law	- Recognises some autonomy of farm units and households in land use and management; - Recognises seven rights of farmers in land use; - Identifies preferential conditions (tax, and land rental), for non-farm establishments in rural areas.
1/1/1997	Law on cooperatives	- Provides the legal background for establishment of non-farm and off-farm cooperatives; - Identifies preferential conditions (land for construction and land rental), for non-farm and off-farm units.
1/1/2000	Law on business	- Recognises the freedom of doing business in all economic sectors and areas; - Simplifies procedures for business establishment and operation; - Creates favourable conditions for start-up and operation of new business, including those located in rural areas.

By particularly acknowledging the freedom to buy and sell labour, the Labour Code, enacted in 1994 and amended in 2002, has shaped a legal background for the formulation of the Vietnamese labour market, including a rural labour market. The Labour Code has formally recognised the freedom of job seekers to look for job opportunities, and the freedom of employers to seek workers. These changes have created a strong impetus for the promotion and acceleration of a labour market relationship. The other important point is that the Labour Code reaffirms a new concept of job. Previously, only economic activities carried out by employees engaged in state enterprises and/or collective cooperatives were truly recognised as having a job. Article 13 of the Labour Code now stipulates that ‘every activity generating income and/or other benefit and not forbidden by law is recognised as a job’. This provision has helped to remove the long time bias against individuals engaged in economic activities in non-state and informal sectors. It has also led to a more dynamic labour market at village level. In addition, provisions of the Labour Code have paved the way

for setting regulations of many other important labour market and social relations in the countryside. These provisions are of great importance as they ensure the rights of all workers to have equal opportunities in employment and payment and in protecting the interests and rights of both employees and employers.

5.2.2 Other Regulations and RNFAs

Apart from the above-mentioned laws, the State has also promulgated a number of other specific regulatory documents elaborating concrete policy to boost non-farm rural activities. Particularly, the Government's policy on 'Promotion and Development of Rural Non-farm Activities' has been promulgated in the Decision 132/2000/QD-TTg dated November 24, 2000. In this document, the Vietnamese government asserts its strong commitment to ensure implementation of the policy and provide full support and promotion of the rural non-farm sector. More importantly, this commitment is explicitly expressed with respect to provisions on land, infrastructure, credit, taxation, and human resources development for the sector (see Box 5.3).

Many other policy efforts have been made to facilitate the process of production planning and product demand forecasting in order to minimise market risk for non-farm establishments. For instance, within a relatively short time, a number of regulations have been adopted by the Government to support marketing and product exports of RNFAs (see Box 5.4).

Box 5.3 Government Decision 132/2000/QD-TTg on Promotion and Development of Rural Non-farm Activities

Land policy (Article 3)	- RNFAs can be granted land use rights; - Certain agricultural activities can be transferred to the RNFAs for development.
Infrastructure development	- The government commits to invest in developing infrastructure in localities where the RNFAs are growing most.
Investment and credit policy (Article 5)	- RNFAs are given the right to access preferential credit as stipulated in the Decree 51/1999/ND-CP; - RNFAs are given the right to access preferential credit from the 'Investment Support Fund'.
Taxation and levy (Article 6)	- RNFAs are given tax incentives as stipulated in the Decree 51/1999/ND-CP.
Human resources development for RNFAs	- At least one vocational training school in one district (county); - Financial and other incentives are given to the 'Masters of arts', who transfer professional and working skills to young workers.

Box 5.4 Regulatory Documents Supporting Marketing and Exports of RNFAs Products

Decision 02/2001/QD-TTg, January 02, 2001	On financial support of investment to production and processing projects for export of agricultural products.
Decision 133/2001/QD-TTg, September 10, 2001	On credit to support exports.
Decree 04/1999/ND-CP, January 30,1999	On removing some fees and charges on export products.
Decision 195/1999/QD-TTg, September 27, 1999	On establishment of Export Support Funds.

Even though a majority of rural non-farm businesses are selling their products on domestic markets, the implementation of these policies has facilitated businesses in marketing and exporting agricultural products and services and has given an explicit incentive to expand activities. However, the poor quality and low competitiveness of the products, the lack of market information and insight on potential foreign consumers, and a lack of effective support have somewhat limited direct access by enterprises to international and regional markets.

Various regulations have recently been adopted promulgating credit policies aimed at creating good conditions for rural off-farm and non-farm households and business units encouraging their access to formal credit (see Box 5.5).

Box 5.5 Regulatory Documents Supporting Credit Services Provided to RNFAs

- Decree 178/CP dated December 12, 1999, defining criteria on the nature of households allowed to access credit without collateral;
- Decision 67/1999/QDD-TTg dated March 30, 1999, on preferential credit and banking service aimed at promoting agriculture and rural development;
- Decree 51/1999/ND-CP dated July 8, 1999, on Guidance for practical implementation of the Law on promotion of domestic investment;
- Decree 43/1999/ND-CP dated June 29,1999, on state credit for development investments;
- Circular 01/TT-NH1 dated March 26,1993, on Guidance for implementation of Decree 14/CP dated March 2, 1993 on preferential loan provided to households engaged in agricultural, forestry, fishery and rural economy development.

The implementation of policies has brought about a positive change and impact on the development of the non-farm sector. Indeed, private enterprises, households or individuals are now allowed to borrow from formal credit institutions. This change in banking and credit policies has helped rural off-farm activities, especially small and medium-size businesses to access formal credit.

The banking system network has expanded immensely. More importantly, banks are now involved in services like exploring and channelling financial resources, and other important transactions, for both SOEs and non-state sector

businesses. Previously, banks only provided limited services such as collecting savings, opening accounts for enterprises and state institutions, and providing credit to SOEs.

However, it is reported that formal credit is not sufficient to meet the demand of rural non-farm businesses and households. The small size and short periods for loan repayment are constraints for businesses and households who rely on credit for expanding business and renovating equipment and technologies. Moreover, the complicated operational procedures used by banking and credit institutions are said to be a barrier to accessing formal loans. Consequently, while some commercial banks are often facing a problem of excess supply of financial resources, businesses and households have to struggle with a severe shortage of capital for investment. Majorities of non-farm units have to limit their production investments to what only their personal financial resources allow. The findings of the 1997 survey by the Ministry of Agriculture and Rural Development indicate that less than half of enterprises (41.5 percent) borrow money from external sources. One of the reasons for the low utilisation of capital borrowing is the poor access to credit caused by a lack of assets for collateral.

Infrastructure development in rural areas has also obtained strong policy support from the Government as they are considered one of the first priorities in developing the rural economy. A developed road network and transport system and the availability of electricity are seen as critical conditions for enabling industries to accelerate. As such, many policies supporting the upgrade of rural infrastructure have been implemented. Moreover, very special attention has been given to remote and mountainous areas (see Box 5.6).

Box 5.6 Documents Regulating Investment Into Agricultural and Rural Infrastructure Development

Circular 416/1999/TTLT/BKH-UBDTMN-TC-XD	Guidance to supervision over infrastructure projects and investment in extremely poor communes.
Decision 135/1998/QD-TTg dated July 31, 1998	On approval of the Programmes for socio-economic development of extremely poor communes located in remote and mountainous areas.

Spending from the state budget on the development of infrastructure has increased continuously in recent years. In addition, General Statistical Office (GSO) statistics indicate that direct contributions by the people reached 10,000 million dongs a year, three times more than that of the state budget.

These policies have facilitated the raising of resources for investments in construction and upgrading infrastructure in rural areas. As a result, the rural infrastructure system has been gradually improved. For instance, in 2000, 42 percent of rural people had access to clean water (compared to 17 percent in 1995). The number of communes having central road access is now 95.2

percent, the national television network covers 80 percent of the population, and 90 percent is covered by the broadcasting network '*Vietnam Voice'*. About 87 percent of cultivated rice-land and 25 percent of technical crops are irrigated. About 4,412 billion dong has been invested and 13,467 km of irrigation canals have been constructed.

Despite considerable economic policy incentives, however, actual investments in the countryside's physical infrastructure are still very small compared to demand and needs. It is also poor in quality, especially in some remote and mountainous areas. Many communes, where non-farm activities are taking place, still have no access to electricity or do not use electricity (or clean water) because of its high costs.

When seen from the point of view of human resource development and training, there is a general notion that the labour force in Vietnam is characterised by a relatively high level of education and other favourable human development indicators. While its income *per capita* is among the lowest, its literacy rate and life expectancy are comparable even to high-income groups of other countries. In 1998, the literacy rate of Vietnam exceeded 90 percent, and the average life expectancy was 68 years. However, these positive human development indicators are not accompanied by a similar improvement in labour education and training, especially training for rural workers. Moreover, there is a large gap in the education and training indicators between rural and urban areas. Rural populations, particularly in non-farm establishments, have much less opportunity to access education and training than those living in urban areas (Le Xuan Ba 2001).

While consistently promoting rural non-farm and off-farm activities, the government of Vietnam has not yet introduced specific policies on skill training for labourers working in these enterprises. Consequently, major shares of the workers that are engaged in these decentralised activities remain unskilled. For instance the survey by CIEM on the 'Rural Off-farm Business Environment' (2002), revealed that the education and skill levels of workers and managerial and technical staff in rural non-farm businesses are very low. More than 47 percent of the total number of workers have never attended any training course, only 2.3 percent of them have college and university degrees, 4.7 percent have skilled or technical training, and 13.7 percent have secondary education. These facts are convincingly supported by research conducted for this report in the Bat Trang and Phung Xa handicraft villages, which will be discussed later. As there is no training institution for non-farm workers, working skills have been transferred from one generation to another mostly through 'learning by example'.

Moreover, the professional and managerial capacity of owners or managers in rural non-farm enterprises is severely limited. The survey has shown that the

majority of enterprise owners and directors have never had access to any management-training course. While most of them (60.7 percent) have primary level of schooling, only 17.8 percent have a secondary school certificate. The problem is very severe in some provinces in the Mekong Delta River, where the general education level of the population is obviously lower. A general explanation for this phenomenon is the lack of training institutions, shortage of funding sources for training and education, and the fact that training institutions are located too far from the working place.

5.3 Recent Development of Off-farm and Non-farm Activities

5.3.1 Vietnam's Economic Performance and Labour Market Changes

5.3.1.1 Economic Growth

In the last decade, Vietnam's economy experienced major structural changes in ownership, and at the sectoral level. The economy has gradually shifted away from agriculture towards a more industrialised structure; moreover, a private sector has emerged and rapidly developed.

As in many other underdeveloped countries, Vietnam's economy has long been dominated by the agricultural sector. However, the last decade has seen a significant decline of this sector in the total GDP of the country. From 1990 to 2001, the share of agriculture reduced by 14 percentage points, while the share of industry has rapidly increased (see Table 5.3). The reduction of the share of agriculture in the GDP over the last decade does not mean that the sector has performed poorly. In contrast, the sector has experienced a rather high annual growth rate (4.5 percent) over the period 1990 to 2001 resulting in a significant increase in production of the country's major products such as rice, coffee, pepper, and seafood. Whatever the gains in agriculture, however, industry has increased much more rapidly, changing the structure of the economy sharply in recent years.

Table 5.3 Gross Domestic Product 1990–99, at Constant 1994 Prices, by Economic Sector

GDP growth rate (percent)		GDP Share by		
		Agriculture, Forestry& Fishing (percent)	Industry and Construction (percent)	Service (percent)
1990	5.09	37.74	22.67	38.59
1995	9.54	27.18	28.76	44.06
1996	9.34	27.76	29.73	42.51
1997	8.15	25.77	32.08	42.15
1998	5.76	25.78	32.49	41.73
1999	4.77	25.43	34.49	40.08
2000	6.79	24.53	36.73	38,74
2001	6.84	23.62	37.83	38.55

Source: Statistical Yearbook, 2001

Table 5.4 Structure of GDP by Ownership Sectors (percent)

	1995	1998	1999	2000	2001
State	40.18	40.00	38.74	38.52	38.59
Collective	10.06	8.90	8.84	8.58	8.21
Private	3.12	3.41	3.37	3.38	3.77
Household	36.01	33.83	32.93	32.31	32.13
Mixed	4.32	3.83	3.89	3.92	4.20
Foreign	6.30	10.03	12.24	13.27	13.11
Total	100.00	100.00	100.00	100.00	100.00

Source: Statistical Yearbook 2001

The economic reforms initiated by Vietnam in the late 1980s have promoted the development of the non-state economic sector quite remarkably. Before the reforms, the economy was entirely dominated by the two 'socialist' sectors: state-owned enterprises and cooperatives, which were under direct government management. Since the reforms, the share of the state economic sector in total GDP has been reduced (slightly) from over 40 percent in the early 1990s to 38.6 percent in 2001, while the foreign private sector has significantly increased its share from zero to 13.1 percent. The domestic private sector, however, has reduced its share of total GDP. This is explained mainly by a decline in the collective and household economies.

5.3.1.2 Employment Patterns in Recent Years

Changes in the economic structure have not been accompanied by a similar change in employment. Despite the high growth rate of the industrial sector, the sector has not created as many jobs as expected. As shown in Table 5.5, the industrial sector has increased its employment share by just 0.1–0.2 percent per year, while its share in GDP has risen by 2.5 percent. Clearly, the shift of employment towards industry and services is evident, but it is very slow and the agricultural sector (including forestry and fishery) has so far remained the most important sector in terms of job-creation. The picture is paradoxical when compared to other nations in the region. Over the period 1986–97, employment in the agriculture sector in other countries in the region fell much more sharply: falling by 14 percent in Indonesia, by 16 percent in Thailand and by 10 percent in the Philippines. In Vietnam, the share of employment in the agricultural sector fell by only 4.8 percent.

It is worth noting that although the country still heavily relies on the agricultural sector for job-creation — and the number engaged in the sector is still increasing in absolute terms — the capacity of the sector to absorb the labour force has declined over time. By looking at employment absorption rates, employment absorption by the agriculture sector has reduced while that of the industry and service sectors has increased (see Figure 5.1).

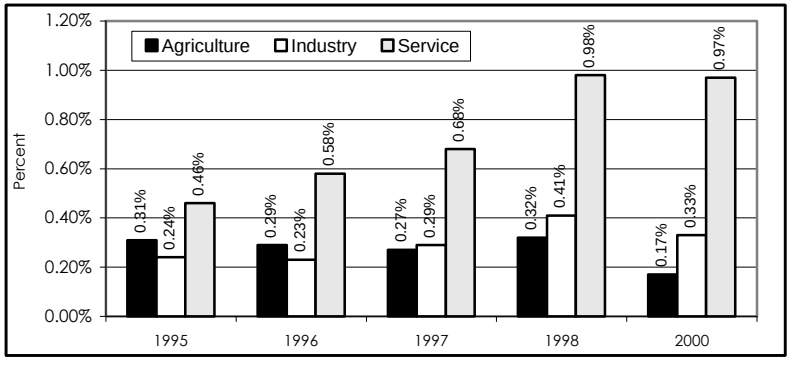
Table 5.5 GDP and Employment Distribution by Main Industry 1990–2000

		1990	1995	1996	1997	1998	1999	2000
Agr. Forestry and Fishery	GDP share	37.7	27.2	27.8	25.8	25.8	25.4	24.5
	Employment share	73.0	71.3	70.7	70.1	69.5	68.9	68.2
Industry and construction	GDP share	22.7	28.8	29.7	32.1	32.5	34.5	36.7
	Employment share	11.2	11.4	11.5	11.7	11.8	12.0	12.1
Services	GDP share	38.6	44.1	42.5	42.2	41.7	40.1	38.7
	Employment share	15.8	17.4	17.8	18.2	18.7	19.1	19.6

Source: Statistical Yearbook 2001

It would be very misleading, however, to only examine the main industry shares of the employed and unemployed. It is reported by the Ministry of Labour, War Invalids and Social Affairs (MOLISA) that more than 30 percent of the economically active labour force is now underemployed. Consequently, trends in employment do not fully reflect actual trends in the labour market. Secondly, people typically get involved in numerous types of work at the same time. This is clearly seen in the countryside where farmers are involved in both farm and non-farm activities. This provides a good example of the need to estimate supplementary indicators (*e.g.* off-farm and non-farm employment indicators) for labour market change.

Figure 5.1 Employment Absorption Rate of Economic Sectors 1995–2000



Source: Statistical Yearbook, 2001

5.6.2 Off-farm and Non-farm Economic Activities

Non-farm based activities create a bulk of jobs and wage earning opportunities for both household-based units and non-farm enterprises. Wage earning in rural areas is an important source of income. Data shows that wage income is an important source, only second in importance after mainstream agriculture (Vietnam's Living Standards Surveys). It is revealed from the country's data analysis, that the share of wage earnings in rural areas is much higher than income from the industry or service sector (Table 5.6).

Table 5.6 Distribution of Income Sources in Rural Areas (percentage)

	Total	Wage	Agriculture, Forestry & Fishery	Industry & Construction	Service activities	Other
1995	100.00	15.44	56.88	4.38	11.40	11.90
1996	100.00	14.90	57.30	4.70	11.90	11.20
1999	100.00	16.60	58.50	5.00	9.80	10.10

Source: Results of the Household's Living Standards and Economic Condition Survey in 1999

It is also clearly indicated in Table 5.6 that agriculture continued to be a crucial source of income for rural households and that its share kept rising in recent years. However, this figure also includes forestry and fishery activities. If these sources are excluded, the share of agriculture as an income source has actually reduced.

Table 5.7 Output, Establishment, and Employment Growth Rates and the Share of Employment by Ownership Sectors for Industrial Sectors (percent)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	Avg.
Output growth										
State sector	6.2	16.1	14.8	15.2	14.9	11.9	10.8	7.7	5.4	11.5
Cooperative and private	7.4	9.4	8.1	11.3	16.9	11.5	9.5	7.5	10.9	10.3
Foreign	45.6	40.3	13.6	12.8	8.8	21.7	23.2	24.4	21.0	23.5
Total	10.4	17.1	12.7	13.7	14.5	14.2	13.8	12.5	11.6	13.4
Establishments										
State sector	-7.4	-12.6	-8.2	-2.5	-2.0	-4.8	-1.9	-1.2	-1.9	-4.7
Cooperative and private	11.0	-5.1	11.3	11.8	19.7	1.8	-1.3	-4.1	4.3	5.5
Foreign	75.0	89.3	58.5	59.5	63.8	23.0	23.3	32.3	8.9	48.2
Total	10.8	-5.1	11.2	11.7	19.7	1.7	-1.3	-4.0	4.3	5.4
Employment										
State sector	-8.2	-2.4	-2.0	3.4	11.1	0.6	2.0	2.4	3.1	1.1
Cooperative and private	-1.3	-5.6	16.8	-0.9	9.4	2.8	-5.8	-1.2	9.9	2.7
Foreign	35.5	49.6	94.0	64.0	66.5	56.1	37.8	12.6	15.7	48.0
Total	-3.4	-4.2	11.5	1.3	11.4	4.3	-1.1	1.0	8.5	3.2
Share of employment										
State sector	31.2	31.8	28.0	28.5	28.5	27.5	28.3	28.7	27.3	28.9
Cooperative and private	68.1	67.1	70.3	68.7	67.5	66.5	63.3	62.0	62.8	66.3
Foreign	0.6	0.9	1.6	2.7	4.0	6.0	8.3	9.2	9.9	4.8
Total	100	100	100	100	100	100	100	100	100	100

Source: Analysing the results of the industrial survey of Vietnam – 1999, GSO, 2000

Seen from the point of view of ownership, it is clear that the private sector in Vietnam is still very small, and newly developed. Although economic reform has brought about new opportunities for the sector, the sector has faced a number of constraints caused by its immaturity and an insufficiently favourable policy environment (to some extent), especially at the level of policy implementation. The limited access to land, capital, technologies, and

'bureaucracy' have created barriers for the sector. Consequently, private enterprises in the industrial sector have experienced a rather low growth rate of output, and a very unstable rate of employment growth (Table 5.7). Most strikingly, the share of employment accounted for by the industrial private sector has actually reduced over the decade of the 1990s.

It is interesting to note, however, that while the formal private sector may have encountered difficulties, the informal sector seems to have thrived. Living Standards Surveys show dramatic changes in employment of off-farm and non-farm employment in rural areas with an annual growth rate in the non-farm activities of 6.7 percent. Given the nature of the private sector on the one hand, and the domination of the agriculture sector in the country's economy on the other, the employment share in the sector looks rather impressive.

As mentioned in the previous section, rural non-farm activities in Vietnam are very diverse types of business organisation. For simplicity, they are sorted into three types. If seen from the aspect of participation, the most popular form are mixed enterprises, in which people get involved in both farm and non-farm production. The second is non-farm households/enterprises, which mainly focus on non-farm businesses like food processing, manufacturing, services and construction. The third are enterprises whose production expands beyond the family scale. While a little dated, the following table gives some insights about these types of production in rural areas.

Table 5.8 Distribution of Rural Households/Enterprises by Type of Production in 1996–97 (percentage)

Type of households/enterprises	Northern provinces	Southern provinces	Country as a whole
1. Farm only	67.78	59.06	62.22
2. Mixed production	23.91	27.95	26.49
3. Non-farm	8.31	12.99	11.29
Of non-farm:			
- Agro-forestry-fishery processing	*1.99*	*2.00*	*1.99*
- Industry and construction	*3.47*	*3.77*	*3.66*
- Services	*2.85*	*7.22*	*5.64*
Total (1+2+3)	100	100	100

Source: Rural Industries and services in Vietnam, Ministry of Agriculture, and Rural Development, 1998

In general, non-farm production among these types of business is very small, with a capital of some hundreds of US dollars, and a few workers. For example, the average total capital for a non-farm household in 1997 was about 8 million dongs (about $600), and about 50 percent of non-farm households had a capital of less than 5 million dongs (about $400); 70 percent had less than 10 million dongs capital (about $800). Non-farm households and enterprises are small, not only in terms of capital amount, but also in terms of number of employees: In 1997, the average number of workers in non-farm households was 2.63 persons and 1.38 for a mixed one.

5.3.3 Off-farm and Non-farm Employment

5.3.3.1. Overall Change in Off-farm and Non-farm Employment

Economic reform, initiated over the 1980s and 1990s, brought about new economic opportunities for farmers in rural areas. Previously, the development of rural areas was characterised by high economic growth in both agricultural and non-agricultural sectors. However, seen as a proportion of national employment, recent development of the non-agricultural sector has been accompanied by a significant reduction of employees in the agriculture sector, from 70 percent in 1995 to 66.3 percent in 2000. In rural areas, the share of employment in the agricultural sector itself, also reduced from 78 percent in 1992–93 to 74 percent in 1997–98 (GSO). The increasing share of employees working in the non-farm sector and the share of wage earning employment also indicates a reduction of employees working in the agriculture sector (Table 5.9).

Table 5.9 Employment Type by Urban/Rural Residence (percent)

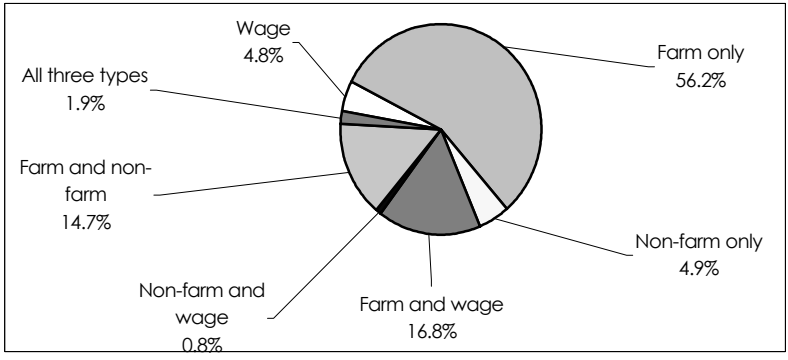
	1992–93			1997–98			Growth rate 1993-1998		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Self-employed farm	78.0	18.0	66.4	74.2	10.5	61.7	0.7	-8.7	0.3
Self-employed non-farm	9.8	40.4	15.8	12.6	44.3	18.9	6.7	3.9	5.4
Wage employment	12.2	41.7	17.9	13.1	45.3	19.5	3.3	3.7	3.5
Total	100	100	100	100	100	100	1.7	2.1	1.8

Source: Sarah Bales, Vietnam's Labour Situation and Trends, 2000

Underemployment is a general phenomenon in developing countries and results in people occupying many different jobs. It is estimated that more than 30 percent of the labour force holds more than one source of income in Vietnamese rural areas (Figure 5.2). Mixing jobs is a very important characteristic of employment in rural areas, and mixing jobs between farm and non-farm, or farm and wage earning, is common. This indicates the transitional character of the current labour market.

It is clear that agriculture is still a primary source of employment in Vietnam's rural area. However, non-farm employment increased its importance, experiencing the highest rate of growth with an annual growth rate of 7 percent over the period 1992–93 and 1997–97, while the agricultural sector had a very modest annual growth rate of 0.7 percent (Table 5.9).

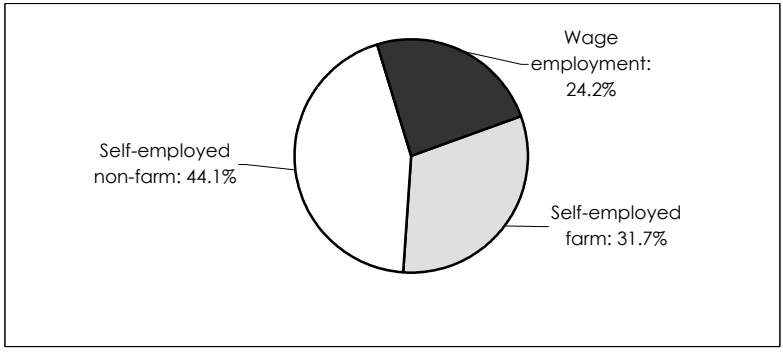
Figure 5.2 Share of Wage Earners and People Employed in Farm, Non-farm, and Combined Jobs in 1997–98



Source: Vietnam Living Standards Survey 1997–98, GSO 1999

For the country as a whole, the non-farm economic sector contributed 52.3 percent of new jobs over the period 1992–93 and 1997–98, while the farm sector contributed only 11.2 percent, and off-farm (paying jobs) contributed 36.5 percent. While Non-farm and wage employment in urban areas had a higher ratio of contribution than the average national rates, non-farm activities also played a significant role in job-creation when examining rural areas independently. As shown in Figure 5.3, the non-farm economic sector contributed almost half (44.1 percent) of total employment in rural areas, while farming contributed 31.7 percent and wage employment just 24.2 percent.

Figure 5.3 Contribution to Employment Growth by Types of Employment 1992–93 and 1997–98, in Rural Areas



Source: VLSS 1992–93 and 1997–98, GSO

Non-farm employment in rural areas can take many different forms including manufacturing and services. The increment of non-farm employment in rural areas over the period 1992–93 to 1997–98 was slightly in favour of the

service sector with 55 percent compared to 45 percent for industry. This distribution was quite different from employment in urban areas where most employment was in the service sector with a ratio of 84.3 percent against only 15.6 percent in industry. In the service sector in rural areas, trading was the most dynamic sector increasing from 4.57 to 5.59 percent within five years from 1992–93 to 1997–98.

Table 5.10 Industrial Distribution of Main Employment by Rural/Urban Residence

(Unit: percent)	1992–93			1997–98		
	Rural	Urban	Total	Rural	Urban	Total
Agriculture	83.04	21.51	71.09	79.23	13.43	66.28
Industry	6.37	27.09	10.39	7.14	25.68	10.79
Construction	0.95	3.65	1.47	1.92	4.5	2.43
Sales	4.57	19.62	7.49	5.59	25.78	9.57
All others	5.09	28.13	9.56	6.12	30.61	10.96
Total	100	100	100	100	100	100

Source: Adopted from Sarah Bales (2000), Vietnam's Labour Situation and Trends.

5.3.3.2 Household Characteristics of Off-farm and Non-farm Employment

The nature of non-farm employees is an important issue. Theoretically, both rich and poor participate in non-farm activities to improve their income. However, due to limited resources, opportunities are much more limited for the poor. The poor are only able to take low value added jobs, while the rich are able to perform a variety of jobs with higher value added. Data from a recent survey, for example, shows that the ratios of poorer people remaining in farming jobs are much higher than the richer groups.

Table 5.11 Share of People Employed in Farm, Non-farm and Wage Work in 1997–98, by Income Quintile

	Quintile1*	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total
Agriculture	60.72	54.64	52.72	44.09	22.32	47.17
Wage	5.12	6.44	6.88	10.88	27.27	11.08
Non-farm self employment	2.74	5.22	6.63	12.99	31.44	11.54
Farm self employment and wage	18.83	18.51	15.51	12.57	6.51	14.46
Non-farm self employment and wage	0.93	1.08	1.36	0.94	2.45	1.34
Farm self emp. and non-farm emp.	9.74	12.43	14.65	17.19	9.24	12.79
All three types	1.92	1.68	2.24	1.35	0.78	1.61
Total	100	100	100	100	100	100

**Quintile 1 is the poorest and Quintile 5, the richest.*
Source: Vietnam Living Standards Survey 1997–98, GSO 1999

To overcome the economic constraints of participating in non-farm activities, a solution for the poor is to find hired work, though their wage remains much lower than that of wageworkers in richer groups. For the poor, poor-middle and middle groups, a greater number work in wage paying jobs than non-farm self employment (Table 5.11). The wealthier two quintiles, however, predominately choose non-farm self-employment over wage work. Due to resource constraints, the poor always have to find jobs or engage in activities that do not require much capital. This typically implies farming and wage paying jobs. The figures above show the trend that, after agriculture, the poor choose the combination of self-employed farming with waged employment.

Non-farm and off-farm activities have played an important historical contribution in job-creation for rural people, as many people found work in these activities. In addition, non-farm and off-farm jobs have contributed greatly to improved livelihoods. However, while important for job-creation, non-farm activities have widened the (non-farm) income gap between the rich and the poor from 29 to 38 times between 1995–99. Despite the great contribution of non-farm and off-farm employment, its unfortunate contribution to social inequality would call for a social policy especially focused on the rural poor

Table 5.12 Income Share by Different Types of Job in Rural Area and by Quintile Groups in 1999

	Farm	Non-farm (industry + services)	Wage	Other	Total
Urban/Rural area					
Urban area	9.20	41.50	34.90	14.40	100
Rural area	58.50	14.80	16.60	10.10	100
By quintile					
Poor	68.14	7.73	15.26	8.87	100
Poor-mid	57.44	13.89	18.63	10.03	100
Middle	53.23	16.10	19.65	11.02	100
Mid-upper	40.96	22.76	23.37	12.55	100
Upper	28.08	32.96	21.56	17.40	100

Source: Result of the Households' Living Standards and Economic Condition Survey in 1999, GSO 2000.

5.3.3.3 Off-farm and Non-farm Employment by Geographic Regions

The ratio of off-farm and non-farm employment varies from region to region. In general, the highland or mountainous regions have the lowest ratio of people engaged in off-farm and non-farm activities as land availability is higher and income *per capita* is lower than other regions. For example, it is 10.6 percent for the central highlands and 18.5 percent in the northern uplands regions. However, it is hard to find evidence in other regions to prove that a shortage of land forces people to work as off-farm or non-farm employees. As shown in Table 5.13, the Red River Delta region (with the highest population density in the country) has almost the same ratio of people working in the agricultural sector as the Mekong River Delta, where land cultivation is the highest *per capita*.

The combination of land available for cultivation and the number of landless could be factors that push people to find non-farm and off-farm jobs.[8] The high ratio of wage employment in the Mekong River Delta region (Table 5.13) could not be attributed to the shortage of land, but rather to the high ratio of landless households. Both the shortage of land and the numbers of landless could cause the high ratio of non-farm and wage employment in the Central Coast region. On the other hand, regions that have higher incomes *per capita* have a higher ratio of off-farm and non-farm employment. (The high income *per capita*, of off-farm and non-farm employment, is obviously both a cause and effect in this case). Additionally, high income *per capita* leads to a bigger demand for non-farm products and consequently a higher ratio of non-farm employment. In complement, the development of off-farm and non-farm activities leads to higher income for people. The interrelationship, therefore, between high ratios of off-farm and non-farm employment and high income can be seen in regions like the Red River Delta, the south-east, and the Mekong Delta.

Table 5.13 Distribution of Main Employment Type, by Region in 1997–98

	Landless household	Average farm size (000 m2)	Income (million dongs)*	Self-employed Farm	Self-employed Non-farm	Wage Employment
Northern Uplands	3.7	8. 9	2.5	81.5	9.6	8.9
Red River Delta	4.5	6.5	3.4	61.7	20.5	17.8
North Central	7.7	5.0	2.5	70.3	15.7	14.0
Central Coast	5.1	5.2	3.0	53.9	21.3	24.7
Central Highlands	2.6	13.8	4.1	89.4	5.6	5.0
South East	28.7	13.7	6.3	26.7	30.8	42.5
Mekong Delta	21.3	10.7	4.1	59.1	20.9	19.9
All Vietnam	10.1	8.2	3.5	61.7	18.9	19.5

The data for 1999 (GSO); Source: VLSS 1997–98

5.3.3.4 Employee Characteristics in Off-farm and Non-farm Employment

Off-farm and non-farm activities are believed to be closely related to personal characteristics such as age, education, and gender. For example, generally higher proportions of younger individuals engage in off-farm or non-farm activities than older individuals. Maybe the young are more willing to take a risk with off-farm and non-farm activities, given their generally higher level of education and understanding of market mechanisms.

[8] For details, see 'Non-farm Income, Inequality and Poverty in Rural Egypt and Jordan', by Richard H. Adams, Jr.

For the country as a whole, data indicates that working age people had an average 6.7 years of schooling in 1992–93; this rose to 7.4 by 1997–98. Generally, the wage-employed group had the highest level of education (Table 5.14). The average schooling for rural wage-employment in 1992–93 was 7.2 years and 6.8 for rural non-farm employment, though this increased respectively to 8.0 and 7.3 in 1997–98 (GSO). In urban areas, these figures were 9.5 and 8.1. The higher total number of years spent in school for wage employment could be explained by the fact that a large fraction of wage-employees worked in the formal sector where employees need to have better education. On the contrary, non-farm employment is allocated largely in household enterprises most of which belong to the informal sector with a small production scale and low technology.

As shown in Figure 5.4, young people participated very actively in wage employment. For example in 1997–98, about 30 percent of people aged 20–24 worked as wage workers, and this ratio remained high for groups under fifty.

Figure 5.4 Share of People Working in Off-farm and Non-farm Employment by Age Group in 1997–98

Source: VLSS 1992–93 and 1997–98

Generally, women participate more actively in non-farm activities, while men work more in wage employment. This could be because the education level of males tends to be higher. It is also common in Vietnam for women to actively participate in the sales and service sectors. Data on non-farm and off-farm employment show that from 1992–93 and 1997–98, female labour mostly remained in the agriculture sector, and the share of farm-employed females did not reduce as sharply as it did for males. While in agriculture, male employment ratios reduced by 7.4 percent over five years, it was only 2.1 percent for females.

Table 5.14 Labour Market Participation by Age, Schooling Level and Gender; 1993 and 1998

	Farming		Non-farm self employment		Wage employment	
	1993	1998	1993	1998	1993	1998
Age						
16-25	69.5	58.7	23.9	18.6	28.4	29.4
26-35	73.1	68.7	32.2	31.4	34.3	34.8
36-45	71.8	70.6	33.1	34.2	31.7	32.4
46-55	71.8	66.2	27.4	27.5	20.1	22.6
56-65	61.1	62.3	17	17	9.8	8.9
Over 65	31.9	32.5	6.9	8.1	2.9	2.4
Years of schooling						
0	56.5	42.7	12.6	7.5	14.2	11.9
1-5	71.7	68.7	24.2	23.3	22.1	21.8
6-9	71.8	67.2	29.5	29.4	27	31.9
10-12	69.3	65.5	30.8	31.5	28.4	31.8
Over 12	39.3	21.5	26.1	22.5	55.3	65.7
Gender						
Male	65.71	58.27	12.83	17.46	21.47	24.28
Female	66.94	64.84	18.4	20.16	14.66	15.00

Sources: VLSS93 and VLSS98

5.3.3.5 Off-farm and Non-farm Earnings

As mentioned previously, agricultural income still represents the most important source of income for rural households, contributing 60 percent of income for the period 1995–99. Moreover, the share of agricultural income increased over that period (GSO, Table 5.15). Other estimates are slightly different, but still indicate this source of income to be of the greatest significance at 48.6 percent for 1997–98 (Vietnam Living Standards Survey 1997–98, GSO 1999). However, the income share off-farm and non-farm in rural areas increased over the period 1995–99. The increasing share of off-farm and non-farm income indicates the importance of off-farm and non-farm activities in rural areas.

In general, incomes from wage employment and non-farm employment in rural areas were almost equal. In 1995, they were 26,600 against 27,200 dongs per month, in 1996, they were 28,000 against 31,100 and in 1999, they were 37,400 against 33,300.[9]

As discussed earlier, non-farm income significantly contributes to widening the earnings gap between the rich and the poor. However, it was also 37 times in the service sector and, as shown in Table 5.15, the income gap between the rich and poor groups was more than 40 times in industry and construction in 1999. It should also be noted that this large gap in income between the rich and the poor

[9] In Table 5.15, non-farm combines industry, construction, and services. However, the monthly wage income from non-farm sources is the highest if the figures are disaggregated.

applies to the whole country. The difference in income between the rich and the poor is not so severe for agriculture, or income from wages. It is also possible that the gap is not so large when examining urban and rural areas separately.

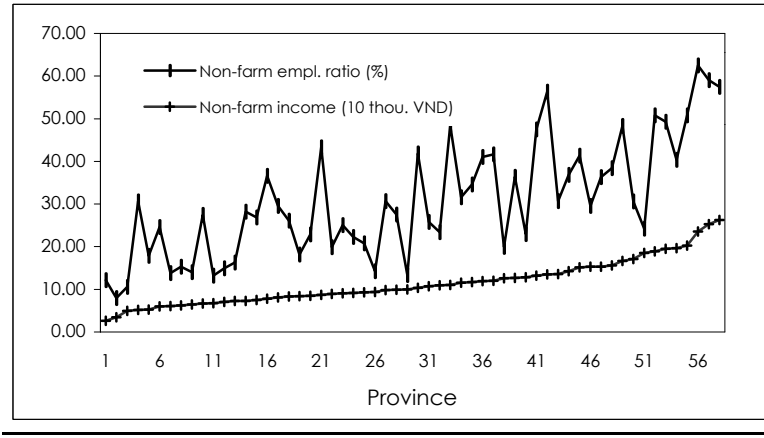
It is clear from Table 5.15, that higher non-farm and off-farm income gives the richer groups many advantages. These advantages include not only higher living standards, but also greater advantages to improve their off-farm activities, non-farm income, and farm income as well. It should be noted also, that farm income still represents a significant share of total household income for these groups.

Table: 5.15 Monthly Income in Rural Areas Source of Income, 1995–99 (thousand dongs)

	Total	Salary & wage	Agriculture, Forestry & Fishery	Industry & Construction	Service activities	Others
1995	172.5	26.6	98.1	7.5	19.6	20.5
1996	187.9	28.0	107.6	8.8	22.3	21.2
1999	225.0	37.4	131.6	11.3	22.0	22.7
By Quintile group						
Poor	97.0	14.8	66.1	2.3	5.2	8.6
Mid-poor	181.0	33.8	104.2	5.8	19.4	17.8
Middle	254.0	49.9	135.2	9.9	31.0	28.0
Mid-upper	346.7	82.3	142.0	19.0	59.9	43.5
Upper	863.3	186.1	242.4	93.0	191.6	150.2
Different Q1 and Q5 (time)	8.9	12.6	3.7	40.4	36.8	17.5

Source: Results of the Households' Living Standards and Economic Condition Surveys in 1999, GSO 2000

Figure 5.5 Non-farm Monthly Income per Person and Ratio of Non-farm Employment by Provinces in 1999 (cities excluded)



Source: Results of the Households' Living Standards and Economic Condition Surveys in 1999, GSO 2000, and Status of Labour–Employment 1999, MOLISA, 2000.

5.4 Off-farm and Non-farm Employment: The Case Studies

5.4.1 Background

In this section, the RNFAs as well as the situation of household enterprises is analysed based on the data collected from case studies conducted in two villages: Bat Trang ceramic making village in Hanoi and Phung Xa blacksmith village in Ha Tay province. Both villages are located on the Red River Delta. The primary objective of conducting the two case studies in this research is to examine the strength, weaknesses, and opportunities of the non-farm sector as well as identifying the potential scope of intervention necessary to strengthen the sector. The studies also aim to provide a better understanding of forward and backward linkages of the activities by covering more related subsectors in the field studies.

The two chosen villages have different socio-economic environment and industrial profiles. Bat Trang is well known as a traditional pottery and ceramic maker, while Thach Xa is becoming mainly a non-farm village, though it is also very well known for its products on the domestic market.

Bat Trang is a traditional handicraft village in Gia Lam district, located in the southeast of Ha Noi, about 10 km from the centre of the city. The village looks like the prow of a huge ship heading towards the immense water inflow of the Red River and the Bac Hung Hai irrigation canal.

With nearly three quarters of its land area located outside the Red River dike, the village is often flooded for two to three months each year. Inside the dike, there are two plots of land, where two separate ceramic factories are located. Outside the dike, the area is flat and the majority of the residents and households' ceramic making sites are concentrated there. In Bat Trang, agricultural production has almost stopped completely, being replaced by the production of pottery (tea-sets, bowls, plates and vases) sold in both domestic and foreign markets. The advantages for pottery production in Bat Trang Commune are that it is situated on clay, and it is located near the Red River, which minimises transportation costs.

Table 5.16 Sample Distribution by Commune and as a Whole

Household type	Bat Trang Commune		Phung Xa Commune		Whole Sample	
	Number of HH	Percent	Number of HH	Percent	Number of HH	Percent
Trade	42	26.75	33	20.63	75	23.66
Farm	-	-	25	15.63	25	7.89
Manufacturing	64	40.76	92	57.50	156	49.21
Transport	51	32.48	10	6.25	61	19.24
Total	157	100.00	160	100.00	317	100.00

Phung Xa Commune is located in Ha Tay (West of Red River) Province. The main products of the commune come from blacksmithing, which has been undertaken for a long time, and wood processing which is more recent. The iron products of Phung Xa are diverse, but the majority of them are home appliances including hinges, folding doors, knifes and scissors etc. In addition to these products, iron producing enterprises in the commune also make steel for construction from recycled steel. Wood processing products in the commune comprise furniture such as tables, sofas, and wardrobes. Traders from other localities mostly provide the timber for wood processing.

The survey sample consists of 317 households, including agricultural and non-agricultural households involved in manufacturing, sale, and transportation. Since Bat Trang is no longer an agricultural commune, the sample does not include agricultural households in Bat Trang. Three questionnaires were developed and pre-tested before the full-scale survey was launched.

5.4.2 Economic Structure of the Communes

The two surveyed communes are no longer farm villages since their share of agricultural households are very small, or the share of agricultural output to total household output is not significant. Among the 157 surveyed households in Bat Trang commune, no household was classified as an agricultural household, and only eight out of 157 households (about 5 percent) have any agricultural revenue. Unlike Bat Trang, the share of households in Phung Xa that have agricultural revenue is still high (113 out of 160) though agriculture is no longer dominant as the average share of agricultural revenue among the producing households is just 35 percent.

Table 5.17 Average Number of Working Months per Year by Activity in the Two Communes

	Bat Trang				Phung Xa			
	Mean	Maxi.	Mini.	Std Dev.	Mean	Maxi.	Mini.	Std Dev.
Growing paddy	.	.	.	.	3.5	10.0	1.0	2.2
Animal Breeding	.	.	.	.	10.6	12.0	1.0	3.3
Other crop plants	.	.	.	.	2.7	6.0	2.0	1.3
Trade, commerce	9.7	12.0	3.0	2.4	10.6	12.0	2.0	3.0
Handicraft industry	8.3	12.0	3.0	2.2	10.0	12.0	2.0	2.1
Transportation	9.8	12.0	5.0	2.3	9.4	12.0	4.0	2.5
Other services	10.6	12.0	8.0	1.8	6.8	12.0	1.0	4.6

The decline in importance of agriculture in these two communes is not only indicated by the share of agricultural income or output, but also by the amount of time that people devote to agriculture compared to other activities. The time allocated to agricultural work is about one third the time devoted to non-agricultural work, as shown in the following table.

Non-farm activities have been promoted for a decade in Vietnam. From the early 1990s, policy restrictions have been removed and the business environment for non-farm activities and the private economy have been improved. The age of the enterprises in these two communes largely reflects this with an average age of about eight and a half years. For the whole sample, about 30 percent of the enterprises are less than five years old, 31 percent are from 5–10 years old, 24 percent are 10–15 years old, and 14 percent are more than 15 years old. Bat Trang is believed to have a history of non-farm activities much longer than Phung Xa, and an economy that was better developed in the years before economic reform. As a result, the average age of enterprises in Bat Trang is higher than in Phung Xa (Table 5.18).

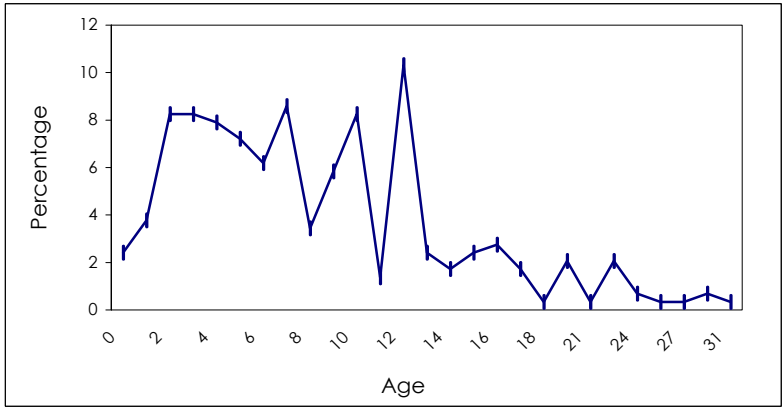
Manufacturing enterprises appear to be the oldest ones with an average age of 10 years, while other types of businesses such as trading or services are younger. It is consistent in the sense that trading and transport are supporting businesses for manufacturing. Manufacturing can, therefore, serve as a driving force for trading and service development. Given the nature of business restrictions before economic reform in Vietnam, non-farm activities developed quite naturally with initial manufacturing gradually encouraging growth in trading and services.

Table 5.18 Average Age of Enterprises by Commune and by Type of Business

Variable	Observations	Mean	Std. Dev.	Max
By commune				
Bat Trang	156	10.5	6.4	29
Phung Xa	135	6.0	4.2	31
Whole sample	291	8.4	5.9	31
By type of Business				
Trade	75	6.9	4.6	20
Manufacturing	155	9.8	6.3	31
Transport	61	6.6	5.6	29

Production in both communes is dominated by handicraft technology, though in some enterprises machines are used. In Bat Trang commune where pottery is made, the technological nature of handicraft production has dominated most enterprises, since buyers preferred handmade products to machine made ones. New technology has been introduced in the commune for some stages of production, such as baking with tunnel-used gas instead of oven-used coal.

Figure 5.6 Distribution of Enterprise by Age



In Phung Xa Commune where wood processing and iron products are made, the technologies of production are obviously quite different. Wood processing uses mostly traditional technology and some new machines for cutting or shaving. However, machines have been introduced more often for iron production. For example, 78 percent of iron production enterprises combine both human and machine power, while 16 percent of enterprises use only machines in their production (Table 5.19).

Table 5.19 Distribution of Technology (percent)

	Pottery production	Wood processing	Iron production
Entirely handicraft	68.25	87.5	5.4
Combinding both handicraft and machines	31.75	12.5	78.4
Machines	0.0	0.0	16.2
Total	100	100	100

There is a correlation between the size of the enterprise and the nature of the technology employed by the firm. More advanced technology or machines are used in larger enterprises, while traditional handicraft-style technology is typically used in smaller enterprises. Generally, the handicraft-style production enterprises generate half the revenue of those enterprises jointly using handicraft-style and machine technology, and one third of those using only machines for production.

Table 5.20 Average Monthly Revenue and Technology of Production

	Monthly revenue (mill. Dongs)	Std. Dev.	Min	Max
Handicraft only	15.9	11.5	1.5	55
Handicraft and machine combined	30.6	31.9	2.5	164.5
Machine only	50.1	26.8	18	110.4

5.4.3 Employment

5.4.3.1 Size of Employment in the Enterprises

The non-farm enterprises in the two communes are small-scale with little exception. The average size of employment, per enterprise, is about six or seven employees, including both home and hired workers. The numbers of employees in trading and transport enterprises are approximately two or three on average. Manufacturing enterprises have a much larger size than service enterprises, with an average figure of 6.9 workers, though 20 percent of manufacturing enterprises have less than three. A more detailed estimation revealed that the different work-size of enterprises *within* the manufacturing sector (pottery, wood processing and iron production) is less than the difference *between* manufacturing and service enterprises. The average size of pottery enterprises is 8.3 people for example, while the size of wood processing and iron enterprises is 6.1 and 5.9, respectively.

Table 5.21 Average Size of Total and Hired Employee in the Two Communes

	Mean	Stand. Dev	Min.	Max.	1–3	3–5	5–10	>10
	For whole sample							
Total	6.8	6.2	2	63	50,5 percent	22.8 percent	20.1 percent	5.6 percent
Home workers	2.2	1.1	1	7	91.5 percent	7.0 percent	1.5 percent	0.0 percent
Hired workers	4.6	6.0	1	61	55.8 percent	22.7 percent	11.1 percent	10.4 percent
Trade								
Total employee	2.8	3.0	1	17	83.8 percent	8.0 percent	5.2 percent	3.0 percent
Hired employee	4.2	5.0	1	15	68.8 percent	6.5 percent	6.5 percent	18.2 percent
Manufacturing (pottery, wood processing and iron production)								
Total employee	6.9	6.3	1	63	19.5 percent	32.4 percent	33.7 percent	14.4 percent
Hired employee	5.2	6.4	1	61	29.1 percent	33.6 percent	26.1 percent	11.2 percent
Transport								
Total employee	2.0	1.1	1	5	88.5 percent	11.5 percent	0.0 percent	0.0 percent
Hired employee	1.5	0.9	1	4	90.9 percent	9.1 percent	0.0 percent	0.0 percent

5.4.3.2 Employment Distribution by Gender

Gender distribution of workers is varied across the different enterprises. Trade attracts most female workers while the transportation sector tends to be male oriented. Data indicates for example, that 95 percent of the workers are female in trade enterprises, while there were no women apparent in any transportation enterprise. The bias of distribution of male and female workers could well be attributed to the nature of the work, rather than institutional factors.

The gender difference is also evident in manufacturing, but is less marked than in the trade and transportation business. There appears to be a severe gender bias in manufacturing enterprises, because though men and women are expected to have an equal chance to work, most workers in these enterprises are in fact men, regardless of the industry. As shown in Table 5.22, women enjoy significant employment in pottery enterprises (41.7 percent), but a much lower proportion in other industries like wood processing (21 percent) and iron production (25 percent).

In most cases, the wage for women is lower than that for men, the average daily wage rate for women is 19,900 dongs while the rate for men is 23,500. Even looking at manufacturing enterprises, an important wage difference is observed with daily wage rates of 20,100 dongs for women and 23,200 dongs for men. Female workers therefore, appear to face discrimination in wages as well in work opportunities.

Table 5.22 Gender Distribution of Hired Workers

	Male	Female
Trade	4.8 percent	95.2 percent
Transport	100 percent	0 percent
Manufacturing	68.4 percent	31.6 percent
Among manufacturing enterprises		
Pottery enterprises	58.3 percent	41.7 percent
Wood processing	78 percent	21.9 percent
Iron enterprises	75 percent	25 percent

5.4.3.3 Wages of Workers

Although the communes are located about 50 km away from each other (by road), the survey data does not show large differences in the wage rate for hired workers in the two communes. The wage rate for hired workers in Bat Trang commune is 21,300 dongs per person per day, while it is 22,100 dongs in Phung Xa.

Table 5.23 Daily Wage Rate by Commune and Gender in the Manufacturing Sector

	Daily wage	Std. Dev.	Min	Max
	Female worker			
Pottery production	20,000	4,200	14,000	30,000
Wood processing	-	-	-	-
Iron production	17,000	4,700	13,500	30,000
	Male worker			
Pottery production	22,000	5,900	15,000	40,000
Wood processing	23,300	5,800	10,000	30,000
Iron production	23,700	5,900	15,000	40,000

However, there are differences in wage rates among the different types of businesses. The transportation business pays the highest, followed by manufacturing, and finally trade. To some extent, the differences are related to

the gender issues, discussed above. For both communes, the average wage rate for men is about 15 percent higher than that for women. The majority of female workers are engaged in the trade sector where wages are the lowest, and most of hired workers in the transport sector are male where the wages are the highest. Nevertheless, a gender bias is found even if the nature of work is accounted for.

5.4.3.4 Skilled Compared to Unskilled Workers

Data confirms that job training in Vietnam is also rather poorly developed. Although the literacy rate of workers is very high, with virtually 100 percent capable of reading and writing, the share of workers who have attended a job training school is very low. This tends to be the case, even though it is known that skilled workers get higher payment than unskilled workers do. Most workers improve their skills through learning on the job. Because of its speciality, it is rather hard anyway to get training for pottery production, as is the case in Bat Trang commune. However, in Phung Xa, where iron and wood production are the main businesses, the share of trained workers still is very small, with only six percent of workers trained in iron production and virtually none in wood processing. The shortage of skilled or trained workers is attributed to the training system in Vietnam, not to market failures.

Table 5.24 Training and Wage Rates of Workers by Industry

	Pottery		Wood		Iron	
	Training	Wage rate (000 dongs	Training	Wage rate (000 dongs)	Training	Wage rate (000 dongs)
At workshop	43 %	23.6	34 %	24.1	62 %	20.9
At other workshop	28 %	22.5	60 %	22.1	26 %	22.4
At school	0 %	-	0 %	-	5 %	24.8
Other	29 %	25.8	6 %	-	7 %	19.0
Total	100 %	24.0	100 %	23.1	100 %	21.8

5.4.4 Capital Structure

Survey data indicates the capital needed to start-up an enterprise is rather high: the average size of capital for manufacturing enterprises is approximately $20,000 and land represents at least 50 percent of this capital cost. The land market in Vietnam is poorly developed and the price of land is very expensive. Land leasing services are not widely available, and most enterprises must therefore have their own land, even though it would be cheaper to rent land if this option were available. Twenty thousand dollars is a very large amount, given that annual incomes *per capita* are about $250–300 in the countryside. Trading and transport businesses typically require less capital than manufacturing. Within the manufacturing enterprises, pottery production requires significantly more capital than furniture and iron production. For pottery enterprises, for example, the capital needed is about 430 million dongs

compared to 250 million dongs for furniture and iron enterprises. The largest iron enterprise however, has a much higher capital (at 2,900 million dongs) than the largest furniture and pottery enterprises (at 600 million and 1,400 million dongs respectively).

As indicated in Table 5.26, the main source of capital for enterprises is from the owners themselves. The importance of personally owned capital is also indicated by its 86.3 percent total-share in enterprise capital. Capital from banks is the second in importance, with the third being from credit funds. Despite the view that capital from banks and credit funds in Vietnam play only a modest role in rural areas (because the banking and credit system in Vietnam is very poorly developed, and bank services are not ideal), it was found that 35.7 percent of enterprises have used these sources for capital. Borrowing from friends and relatives is also an important source of capital, as indicated by the 12.7 percent of enterprises that exploited this source, providing 4.2 percent of total enterprise capital. Data does not show large differences between the two communes.

The fact that 35.7 percent of enterprises have exploited formal credit institutions (bank and credit funds) shows the attractiveness of these sources to enterprises. The attractiveness of these sources arises from the fact that they typically bear lower interest rates than informal sources of capital — the differences in interest rates are significant and can be up to 10 percent. Nevertheless, it does remain the case that interest rates are high, even from formal sources. The yearly interest rate for rural capital is about 12 percent from formal sources, and about 14 percent from informal sources. Moreover, the variety of interest rates of informal capital can be very large, with some individuals having to bear a financing cost of two percent each month.

Table 5.25 Average Capital per Enterprise (million dongs) (Current exchange rate: US$1 = 15,000 dongs)

Variable	Mean	Std. Dev.	Min	Max	Distribution (mil. dongs)						
					< 50	50-100	100-150	150-200	250-300	300-400	> 400
Land included											
Trading	320.5	393.7	1	1800	16 %	16 %	9 %	12 %	13 %	11 %	23 %
Manufacturing	331.8	336.3	13	2900	4 %	13 %	6 %	16 %	17 %	10 %	35 %
Transport	186.5	230.7	0.5	1300	36 %	8 %	8 %	9 %	19 %	9 %	11 %
Land excluded											
Variable	Mean	Std. Dev.	Min	Max	< 20 mil	20-50	50-100	100-150	150-200	200-300	>300
Trading	92.6	117.7	1	500	22 %	33 %	19 %	12 %	4 %	9 %	22 %
Manufacturing	159.5	217.6	3	2200	3 %	13 %	37 %	19 %	8 %	20 %	3 %
Transport	92.2	132.4	0.5	650	35 %	22 %	18 %	10 %	10 %	6 %	35 %

Table 5.26 Source of Capital and Share of Each Source to Total Enterprise Capital (number of observations = 283)

Source	Percentage of user	Average share of total capital	Std. Dev.	Min	Max
Own capital	98.9 %	86.3 %	21 %	0 %	100 %
Borowing from friends/family	12.7 %	4.2 %	15 %	0 %	100 %
Loan from the local credit funds	16.3 %	3.2 %	9 %	0 %	67 %
Borrowing from other local individuals	3.2 %	0.7 %	4 %	0 %	50 %
Loan from the bank	19.4 %	5 %	13 %	0 %	100 %
Capital of the sellers	1.8 %	0.5 %	4 %	0 %	40 %
Capital of product consumers	0.4 %	0.0 %	0 %	0 %	1 %
Others	0.7 %	0.0 %	1 %	0 %	10 %

Table 5.27 Monthly Interest Rate by Source of Capital (percent)

	Source	Observations	Mean	Std. Dev.	Min	Max
1.	Borowing form friends/family or other individuals	15	1.15	0.58	0.10	2.00
2.	Loan from the local credit funds	44	1.03	0.15	0.10	1.10
3.	Loan from the bank	51	0.93	0.24	0.10	1.10

5.4.5 Business Performance

5.4.5.1. Revenue

The average monthly non-farm revenue of the enterprises is less than 20 million dongs in Bat Trang commune and less than 50 million dongs in Phung Xa commune. However, the range of revenues is very wide, rising from only one million to 200 million in Bat Trang, and from 1.2–700 million in Phung Xa. Manufacturing enterprises have the largest average monthly revenue; trading enterprises come next, and Transport enterprises have the most modest average monthly revenue. The size of enterprise revenue is related to the size of employment. Manufacturing enterprises, which have the largest average monthly revenue, have the largest number of employees. At the other end, transport enterprises have the smallest number of employees and the smallest average monthly revenues.

Table 5.28 Average Monthly Revenue of Enterprises by Type of Business (Current exchange rate: US$1 = 15,500 dongs)

	Trading	Manuf.	Transport
Monthly average revenue (mill. dongs)	21.3	35.2	5.6
Average employee	2.8	6.8	2.0
Distribution of monthly revenue			
<5 mil. dongs	24.3 %	4.8 %	72.1 %
5-10 mil. dongs	31.1 %	13.6 %	13.1 %
10-20 mil. dongs	17.6 %	25.9 %	8.2 %
20-50 mil. dongs	17.6 %	36.7 %	6.6 %
50-100 mil. dongs	2.7 %	11.6 %	0.0 %
>100 mil. dongs	6.8 %	7.5 %	0.0 %
	100.0 %	100.0 %	100.0 %

5.4.5.2 Cost Structure

Among manufacturing enterprises, material costs constitute the largest share for enterprises, followed by salary costs, and fuel costs. Differences in cost structure between the two communes are due to the nature of production. In Bat Trang for example, pottery production requires a huge amount of coal for firing. Cost structures also vary depending on the scale of production. In enterprises with more than five employees, labour costs represent 17 percent of total costs, and for enterprises with more than ten employees, labour costs represent 28 percent of the total cost. This is true in both communes.

Table 5.29 Average Cost Share by Type of Business

	Pottery production	Furniture production	Iron production
Material	64.8 %	82.0 %	76.6 %
Fuel	8.1 %	2.1 %	6.3 %
Electricity, water supply	2.2 %	1.9 %	3.0 %
Transportation	1.2 %	2.6 %	0.9 %
Wages for hired labourers	16.6 %	8.5 %	9.3 %
Bonus	0.0 %	0.3 %	0.0 %
Loan interest	0.1 %	0.8 %	1.4 %
Renting machines, land, land for prodution	0.3 %	0.0 %	0.2 %
Depreciation	4.0 %	1.4 %	1.8 %
Other expenses	3.7 %	0.4 %	0.5 %
Total	100 %	100 %	100 %

5.4.5.3 Value Added

In both surveyed communes, the average value added produced by an employee, is about 1.2 million dongs or about $80 per month, which amounts to $960 per year. The figure is rather high compared to the annual GDP *per capita* of about $400, and it is about the same rate as an urban income. However, the estimated value added here solely covers non-farm households — the rate could well be lower if agricultural households were incorporated.

Table 5.30 Monthly Value Added per Worker (million dongs).

Variable	Mean	Std. Dev.	Min	Max
Total	1.1	0.88	0.5	9.2
By industry				
Trading	1.1	1.0	0.1	5.4
Manufacturing	1.0	0.5	0.2	3.6
Transport	1.4	1.3	0.5	9.2
By type of business				
Pottery	0.9	0.4	0.2	2.2
Furniture	1.2	0.4	0.5	1.9
Iron	1.1	0.5	0.2	3.6
Monthly value added by type of business for owner-worker				
Pottery	3.2	2.4	0.4	9.3
Furniture	2.9	1.5	0.5	5.8
Iron	2.5	1.8	0.2	8.0
Value added – output ratio by type of business				
Pottery	40.8 %	17.6 %	15.8 %	92.5 %
Furniture	17.9 %	10.2 %	5.5 %	33.3 %
Iron	22.1 %	11.6 %	3.0 %	70.0 %
Monthly value added – capital ratio by type of business				
Pottery	2.0 %	1.4 %	0.5 %	8.7 %
Furniture	3.9 %	2.0 %	1.8 %	8.7 %
Iron	3.1 %	1.7 %	0.8 %	8.0 %

The monthly value added is not the same across industries. The lowest figure is for pottery production (0.9 million dongs per month) and the highest is for furniture production (1.2 million dongs per month). The value added, produced by owning-workers, is about two to three times higher than the average rate. However, the variation in value added per owning-worker is huge with 70 percent of households having an average value added below the mean rate.

Table 5.31 Ratio of Profit to Output, Profit to Value Added, and Monthly Profit-Per-Worker by Type of Business

	Variable	Mean	Std. Dev.	Min	Max
Profit/output ratio (percent)	For whole sample				
	Trading	17.90 %	12.70 %	5.00 %	99.00 %
	Manufacturing	12.70 %	11.00 %	26.00 %	50.00 %
	Transport	47.40 %	21.70 %	8.60 %	88.90 %
	By type of business				
	Pottery	16.4 %	13.9 %	5.6 %	200.0 %
	Furniture	8.8 %	5.7 %	2.2 %	20.0 %
	Iron	11.3 %	7.6 %	0.7 %	44.0 %
Profit/value added (percent)	For whole sample				
	Trading	69.9 %	24.7 %	15.9 %	100.0 %
	Manufacturing	38.1 %	11.7 %	26.7 %	50.0 %
	Transport	45.3 %	19.4 %	5.2 %	96.8 %
	By type of business				
	Pottery	38.0 %	13.9 %	11.8 %	81.1 %
	Furniture	46.2 %	14.0 %	30.3 %	72.2 %
	Iron	50.0 %	21.1 %	5.2 %	96.8 %
Profit-per-worker (monthly/ million dongs)	For whole sample				
	Trading	0.74	0.6	0.06	3.6
	Manufacturing	0.46	0.4	-0.42	3.33
	Transport	0.87	0.5	0.2	2.3
	By type of business				
	Pottery	0.32	0.45	-0.42	3.33
	Furniture	0.60	0.32	0.20	1.40
	Iron	0.53	0.36	0.08	2.22
Profit per owing worker (monthly/ million dongs)	For whole sample				
	Trading	0.87	0.65	0.13	3.6
	Manufacturing	1.1	0.88	-2.5	4.5
	Transport	1.24	0.87	0.2	4.6
	By type of business				
	Pottery	1.1	1.5	-2.5	10.0
	Furniture	1.6	1.3	0.5	5.0
	Iron	1.4	2.3	0.2	20.0

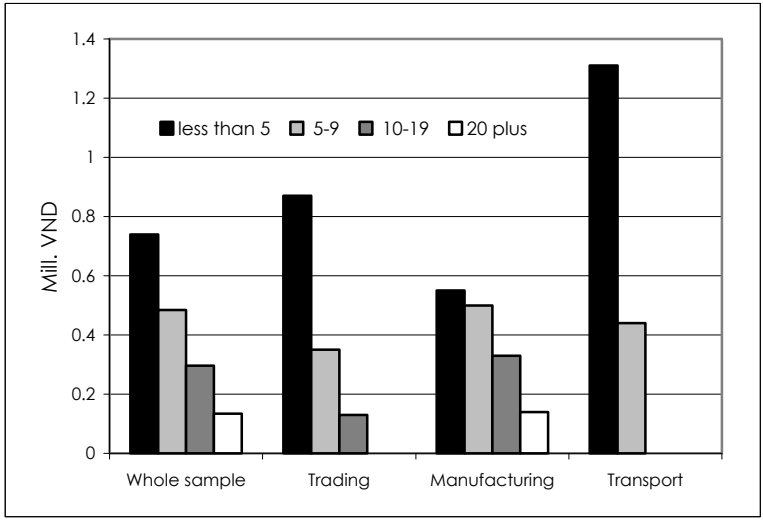
5.4.5.4 Profit

There is little difference between the business profit-per-worker, at 610,000 dongs in Bat Trang and 730,000 dongs in Phung Xa. However, there is a

significant variance between different types of businesses, in each commune, with manufacturing having the lowest rate of profit-per-worker in both communes, and transportation being the most profitable. It is hard to explain this phenomenon. It could be related to the nature of businesses.

If profit-per-worker is little different from commune to commune, it varies significantly across enterprises employing different numbers of workers. It is common that enterprises with a larger number of employees are less efficient. This means that the larger the enterprise, the less profit-per-worker. This is true for the whole sample and for each industry, as shown in Figure 5.7. Figures are estimated for each industry (pottery, wood processing, and iron production). It is clear from the sample that enterprises with less than five employees are the most efficient, and enterprises with more than 20 employees are the least efficient. This phenomenon could be explained by capital intensity. The larger the firm, the greater its capital intensity, and therefore the less profit-per-worker.

Figure 5.7 Monthly Profit-Per-Worker by Employment Size of Enterprise



5.4.6 Forward and Backward Linkages

5.4.6.1 Backward

More than 80 percent of pottery enterprises get their material from suppliers that specialise in collecting and selling to producers. This indicates a strong division of labour in pottery production in the surveyed area. The buyers also play an important role in supplying input for producers as about 50 percent of them get material through this channel. Consequently, pottery producers have not only created jobs for people within their production units, but also in other industries and occupations. This is similar for iron production that also benefits those who

participate in that trading or service area. However, job-creation by the furniture industry is less than in the other two industries, as most furniture producers are also material suppliers. Eighty percent of furniture producers purchase material themselves in local markets, and only 17 percent of them go somewhere other than local markets for inputs (Table 5.32).

Markets again confirm the different backward linkages in the industries where producers receive inputs. Local markets, where suppliers could be local people or traders from other localities, supply most material for pottery and iron production. However, as indicated earlier, local markets do not play a significant role in supplying input for furniture production. A number of furniture producers have contact with suppliers in other districts, and sometimes other provinces for their input. In terms of general economic development, and job-creation in particular, pottery and iron production provides much more benefit for local people than furniture production.

Table 5.32 Distribution of Enterprises by Source of Material and Marketplace of Input by Product Production (rate of response)

	Pottery	Furniture	Iron
Suppliers			
1. Material supplier	86 %	13 %	89 %
2. Buyer	37 %	1 %	37 %
3. Credit provider	0 %	0 %	0 %
4. Buying at another local market	10 %	80 %	8 %
5. Buying at the other market in the country	3 %	17 %	2 %
Market			
1. At the commune	92 %	50 %	81 %
2. Other commune in the district	3 %	50 %	7 %
3. Other district in the province	0 %	19 %	0 %
4. Other province	6 %	25 %	16 %
5. Direct import	0 %	0 %	0 %

5.4.6.2 Forward Linkages

Most pottery and furniture producers have to rely on traders to distribute their output (though some still distribute their output personally). However, traders play a less important role for the marketing of iron products. This is understandable, as the share of these enterprises providing inputs for other local producers is significant (29 percent, as shown in Table 5.33). Consequently, pottery and furniture producers have closer links to traders.

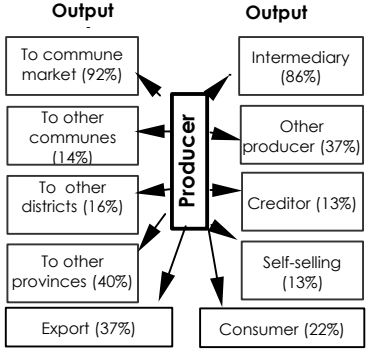
Selling their product directly to consumers is an important channel for all the businesses. More than 38 percent of furniture producers sell their outputs directly to consumers while more than 32 percent of iron producers and 20 percent of pottery producers sell direct. The local market is generally the most important for any kind of production, and an important share of producers exploit this market. Selling on the local market, however, does not necessarily mean local consumption as the commodities are sometimes channelled to other markets in the provinces or cities.

Table 5.33 Distribution of Enterprises by Product Distribution and Marketplace of Input by Product (by response)

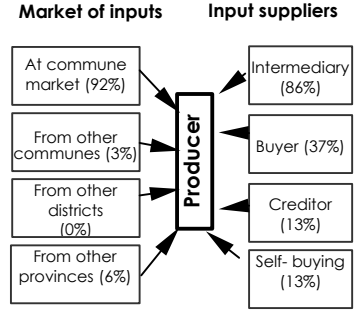
	Pottery	Furniture	Iron
Buyer			
1.Trader	83 %	75 %	49 %
2. Other manufacturer	0 %	0 %	29 %
3. Credit provider	0 %	0 %	0 %
4. Self-selling	13 %	31 %	8 %
5. Consumer	22 %	38 %	32 %
6. Others	60 %	0 %	0 %
Market for product			
1. At the commune	41 %	50 %	64 %
2. Other commune in the district	14 %	13 %	23 %
3. Other district in the province	16 %	25 %	20 %
4. Other province	40 %	69 %	35 %
5. Export	37 %	6 %	0 %
6. Unknown	2 %	6 %	5 %

Significant shares of producers also intensively exploit markets in other provinces: 40 percent of pottery manufacturers, 69 percent of furniture manufacturers, and 35 percent of iron producers (Table 5.33). Pottery production also has an overseas market, as the pottery products of Bat Trang commune are not only considered consumer goods, but also as art products.

Backward Linkages (percentage response)



Forward Linkages (percentage response)



In the two surveyed communes, it is generally manufacturing that has created good, wide forward and backward linkages, creating job and income opportunities for both locals and those outside. As indicated previously, the service sector (trading and transport) is fairly developed in the provinces that were surveyed.

5.4.7 Problems Faced by Enterprises

Recent economic reforms in Vietnam have created a better economic environment for the national economy in general, and the rural economy in particular. As a result, the rural economy has performed fairly well. As mentioned in Section 5.3, numerous reforms have been launched, and the introduction of the Enterprise Law in 2000 has had a significant impact on the development of the rural economy and employment of the rural labour force. However, the rural economy in general and off-farm and non-farm activities in particular, still face many constraints created both by institutional factors, and by the nature of a transitional and underdeveloped economy. This survey finds the same problems faced by rural enterprises as other research so far carried out in Vietnam. The ratio of enterprises that are satisfied with the business environment is only about one fifth, and the rest are not so satisfied. Among the difficulties that enterprises are facing, access to capital, markets, and land constraints are the most serious. As shown in Table 5.34, more than 50 percent of enterprises report that they have a problem with accessing capital. The problems of capital are diverse, but access to formal credit is the most specific and serious. This is due to poor development of the banking system in rural areas, and the complex set of formalities necessary to obtain loans from banks. Markets are also a big problem as well, since income *per capita* in rural areas is just $200–300 per year. Finally, as discussed earlier, land for business in Vietnam is a problem and this was confirmed by nearly 40 percent of enterprises. Like credit, the issue is access due to complicated procedures, but in this case the problem is how to rent land from the government. Moreover, the price of land is very high if its right of use belongs to individuals.

Table 5.34 Difficulties Faced by Enterprises

Type of difficulty	Response rate
None	17.8 percent
Lacking business capital	53.8 percent
Markets	40.8 percent
Land for business	37.7 percent
Material supply	11.3 percent
Electricity, water supply	7.2 percent
Lacking machines	6.8 percent
Lacking inforamtion	6.5 percent
Unclear government policy	5.5 percent
Unclear legal system	4.8 percent
Lacking labour force	4.5 percent
Lacking high skilled labour force	3.1 percent

5.5 Some Conclusions and Policy Recommendations

5.5.1 Conclusions and Observations

A number of conclusions can be drawn from the analysis above, based on both a review of secondary data and the surveys. From a policy perspective, the following findings and observations are worth noting:

- After more than a decade of implementing economic reforms, significant achievements have been substantially realised that are contributing to socio-economic development in the countryside and to the creation of favourable conditions for the development of non-farm activities. A variety of policies and legal documents have been adopted and enforced, creating not only legally, but politically, economically, and socially favourable conditions for supporting and promoting development of businesses in the agricultural and rural sectors. There are now more than 1.4 million non-farm units functioning in the country, of which household-based units count for a major 97 percent share. These non-farm units employ more than 10 million workers accounting for 29 percent of the total rural labour force, concentrated in handicraft villages. The number of such villages has increased to more than a thousand.

- While based on a long tradition, the nature of businesses has substantially changed in recent years. These changes can clearly be seen not only in the business scale, size of input and output markets, but also by an increased number and diverse composition of employment. Today, activities employ not only a local labour force, but also attract both male and female surplus workers from other villages and localities.

- The boom of both traditional and new handicraft villages has produced a strong effect on the number of new jobs and occupations, and on the income earned by rural workers. Non-farm activities have been rapidly growing in recent years to reach approximately 40,000 billion dongs worth, with an annual growth rate of 9 percent by the year of 2000. The average income of a non-farm worker is reported to be between two and four times higher than that of a farm worker. This effect is becoming even more important in Vietnam today as the share of agriculture in the GDP is shrinking. Although agriculture remains a primary source for employment, the role of the sector in job-creation has been reduced in recent years.

- More importantly, where they are well developed and managed, non-farm activities have played an important role in exploiting the 'sleeping potential' of the country. For example, on the demand side, tourism and export are two economic sectors that can be a direct market of RNFAs' products. On the supply side, a young and (frequently) low-cost workforce in rural areas, can be looked at as one of the largest potential sources for

extension of RNFAs. Young workers are recognised as more educated, more innovative, and quickly responsive to market signals and to the new achievements of technological progress. Another non-exploited potential for development is the diversity of production materials available in the countryside. These should be used if Vietnam wishes to accelerate the development of rural activities.

- Although farm activities are still a primary source of employment in rural areas, RNFAs have become a more important job-creation channel in recent years. In addition, the most striking feature of rural employment in Vietnam is its mixed form of farm and non-farm employment. This type of employment counts for the second highest percentage of the total number of households/enterprises in the countryside and should continue to play an important role in the long-term.
- Products of many non-farm and off-farm enterprises, particularly those of fine arts and artistic enterprises, have substantially contributed to preserving Vietnam's cultural and traditional heritage and national values.
- Although both the rich and poor in the countryside are willing to take non-farm jobs, the opportunity for the poor to get involved is more limited. This survey reveals that there are much higher ratios of poor people working in traditional agriculture, while the rich are diversifying into the non-farm sector.
- RNFAs are unevenly distributed across geographical regions. While the highland and mountainous regions have the lowest ratio of people engaged in the activities, the ratio is the highest in the Red River Delta.
- A young, male labour force is, so far, the most active in non-farm activities, while female worker are involved mostly in wage employment, which comprises retail sale and small personal services.

Apart from the above, some additional remarks require more attention from policy makers and socio-economic planners. These include the following:

- Although, as mentioned many times previously RNFAs have played a very important role in employment and income creation, their activities are clearly of a highly primitive and spontaneous character when examined closely. This spontaneous and primitive form can be seen clearly from their small size (often household-based), their lack of spatial areas, poor market information, poor access to credit for investment and to technological progress and, most importantly, the absence of appropriate and clearly identified business development strategies and plans. Many non-farm households and enterprises are faced with poor planning for raw materials, and this causes bottlenecks in the supply of production inputs. Consequently, non-farm entrepreneurs are often price takers in the inputs

markets. All these factors combined make them vulnerable to risks and constraints. Moreover, given the poor access to an international export market, 90 percent of the products of RNFAs are sold within domestic markets. Given the demand constraint, arising out of the low level of income and lack of purchasing power of most domestic consumers, it is clearly difficult to adjust the prices of products.

- Another weakness facing almost all of the RNFAs in the country is a severe lack of managerial talent and working skills. This is particularly evident in the household-based businesses and establishments, where owners or managers have had a very limited access to managerial education and training. Among the currently functioning enterprises, very few have a sufficient number of trained artisans and technical personnel. Moreover, the majority of workers engaged in the activities are of a low education level and/or poor vocational training. Knowledge and working skills are transferred from one generation to another.
- Poor infrastructure and technical facilities are another constraint faced by RNFAs. A lack of well-developed transport systems and electricity networks, create strong barriers to an efficient functioning of enterprises in rural areas. Well-developed infrastructure systems could create more employment opportunities for rural people who would be able to participate in the industries without having to leave their villages.
- In practice, RNFAs are still faced with the lack of an effective policy environment, which could facilitate and promote *rapid* business development. Consequently, while various policy documents have been enacted, not many of them have found effective practical implementation and RNFAs still encounter policy constraints.

5.5.2 Policy Implications and Recommendations

From the discussion of the preceding section, it becomes apparent that policy measures must be undertaken soon in order to promote rural non-farm activities in general and for the sake of non-farm employment in particular. Support needs to be given to the following measures.

5.5.2.1 Acceleration of Development of Some 'Key' Non-farm Products

One of the first recommendations is to concentrate investment and other support on the development of some key, non-farm sector products, that already have stable markets and/or have great potential in increasing exports and in contributing to job-creation in rural areas.

5.5.2.2 Diversification of Non-farm Products and Occupations

At the same time, diversification of non-farm occupations and products — this means introducing new products and/or upgrading traditional products — can be important not only in widening the market but also in raising worker productivity. Diversification of the product mix will be a crucial element in a structural adjustment strategy for the establishments. This provides an opportunity for producing a higher value and wider range of goods and, thereby, assists better performance by increasing their potential markets.

5.5.2.3 Enhancing the Access of RNFAs to Land and Cheap Credit

The State should provide opportunity for businesses, of all economic sectors, to equal access to production resources. This could be done, first, by expanding possibilities for businesses to access land for business site construction. The current, complicated administrative procedures for land rental should be examined and removed soon. Second, an equal access to bank loans and preferential credits should be seriously considered: Banks and credit institutions (in addition to the Agricultural Bank) should be involved in providing support to non-farm enterprises and households to bring into full use the preferential credits offered by national development programmes.

5.5.2.4 Infrastructure Upgrade in Rural Areas

It is recommended that the Government place more importance on supporting handicraft villages, in upgrading and developing the necessary economic infrastructure by facilitating them with highly qualified support services at a reasonable price. This should be undertaken as well as the implementation of Decree 90/2001/ND/CP on the promotion of SMEs and Decree 132/2000/ND/CP on the promotion and development of rural non-farm activities. It is also important to expand the information and communication network for rural activities, and to provide guidance for businesspersons in contacting their potential customers through E-mail and the Internet. As for the rural transport system, the Government should provide support in-kind by providing, for example, some free cement for upgrading roads, and improving or constructing handicraft villages based on cost-sharing principles. Priority should be given to those handicraft villages with a high degree of self-mobilised resources. Experience from implementation of this mechanism in some provinces has shown that this greatly helps mobilise a community's internal resources towards local infrastructure development. With respect to electricity supply for rural businesses, a gradual application of the contract system between electricity supply businesses and power supply companies is recommended. This would clarify the responsibilities of, and benefits derived from, the two parties in

supplying power for business development. Regarding water supply, the majority of non-farm businesses have satisfied their need by pumping ground water out of their own wells. However, uncontrolled use of ground water by a large number of businesses may soon generate water pollution and damage the water source. In the longer term, environmental education and communication measures need to be undertaken at the grassroots levels to prevent excessive use of this already very scare resource.

5.5.2.5 Supporting the Countryside with Skills Training and Market Knowledge

Sufficient measures for strengthening and expanding the network of skill and business management training schools for the owners, directors of businesses and households in rural sector are increasingly needed. There is a scope for the government, at all levels, to play a proactive role in promoting flexibility. A well-designed mechanism providing sufficient incentives for highly skilled artisans to transfer their experience and skills to the younger generation, strong financial support for construction of training facilities, and examination and application of appropriate teaching curricula are all, crucial to determine the sector's success. There is also the need to provide a strong incentive to attract more qualified people to work in rural areas that can be involved in training workers in the villages. Creating a new tradition of rewarding and honouring highly skilled workers, especially the artisans possessing recognised merit in training workers, preserving traditional trades, and transferring industrial skills to young generations, is also a preferred solution.

Incentives should also be provided to handicraft villages, to enhance their collaboration with agro-extension agencies, to organise skill training courses and ‘contests’ to attract young people into the development of rural sector activities.

A case can also be made for creating well-functioning, efficient labour market institutions capable of playing an active role in providing short-term labour training and job matching.

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