



UNIVERSITI PUTRA MALAYSIA

**FOREST RESOURCES DEPENDENCY OF THE RURAL
COMMUNITY: A CASE STUDY IN BOKEO PROVINCE, LAO PDR**

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By

BOUNMY SOMSOULIVONG

**Thesis Submitted to the School of Graduate Studies Universiti Putra
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Degree of Master of Science**

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SPECIAL DEDICATION

To my loved Parents: Mr. Leuanh and Mrs. Chandy, who laid my academic career foundation and to all of the SOMSOULIVONG family members for their constant moral support and inspirations.



Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirement for the degree of Master of Science

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This study used the Rural Survey Technique (RST) to examine the socio-economic aspect of the rural community in Bokeo Province, Laos, in order to assess the contribution of forest resources to the rural community household's economy, and address the problems related to the forest dependency. This study has identified factors that contributed to the forest dependency of the rural people.

An estimation of the quantity and monetary value of various timber and non-timber forest products (TFPs & NTFPs), collected from the forest and the products cultivated and harvested from forestlands (CFLPs), annually utilized by the rural community, has been made as well as the rural household's income



derived from these products. Descriptive statistics has been applied to describe and summarize the data to envisage the overall forest dependency of the rural community. The statistical techniques such as T- test; and ANOVA have been used to analyze the data. The multiple regression analysis was also applied to develop a forest dependency model for 12 studied villages in the Nam Nhou and Nam Choam areas, Bokeo province, Lao PDR. The regression model was developed incorporating five socio-economic variables.

Based on the results of T-test, ANOVA and regression analysis, the main findings of the study were summarized as follows: (1) the big sized family relies very much on forests than the small sized family, because the big sized family's consumption need is usually higher, (2) the family having large labour number is less dependent on forests, because such family has an advantage in allocating its labour force into different economic and agricultural activities in lieu of carrying out the forest based-activities, and consequently such family has more sources of income, (3) the family having more income from non-forestry activities likes to diversify its economic activities and loves to move away from subsistence forest-based activities such as collecting NTFPs and engaging in the shifting cultivation, and consequently, it is not forest dependent family, (4) the majority (67%) of the respondents' families are heavily (90%-100%) dependent on forests for their survival. They are the poor group of people, who do not have either capital or other alternative sources of income coupled with a low or non-education, and (5) there is no a significant difference between permanent residents and migrants, and amongst the five ethnic groups in forest

dependency. So, they have equal chance to utilize and consume more or less forest products (TFPs & NTFPs) and products from shifting cultivation (CFLPs), since they are surrounded by forests, and have the same market access situation

The results show that the studied rural communities (12 studied villages) are highly dependent (85.66%) on the forest resources for their survival. It totally amounted to 693,917,400 Kip or equivalent to USD84, 315.60, and 6,939,174 Kip or equivalent to USD843.15 per family per year. In addition, this study also identified the indigenous species of TFPs and NTFPs, often utilized and consumed by the rural people.

The paper suggests that the household's income of the rural community could be increased through a participatory sustainable forest management of the community itself, and an augmentation of the family income from non-forestry activities on which the government policy should focus.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia bagi memenuhi keperluan untuk ijazah Master Sains.

**PERGANTUNGAN TERHADAP SUMBER-SUMBER HUTAN OLEH
KOMUNITI LUAR BANDAR: SATU KAJIAN KES DI PROVINSI BOKEO,
LAO PDR**

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Kajian ini menggunakan 'Rural Survey Technique (RST)' untuk menilai aspek sosio-ekonomi komuniti luar bandar di Provinsi Bokeo, Laos bagi mengetahui sumbangan sumber-sumber hutan kepada ekonomi isirumah komuniti luar bandar, dan pada masa yang sama mengenalpasti masalah akibat dari pergantungan kepada sumber-sumber hutan berkenaan. Kajian ini telah dapat mengenalpasti faktor-faktor yang menyumbang kepada pergantungan kepada sumber-sumber hutan tersebut oleh masyarakat luar bandar.

Anggaran kuantiti dan nilai kewangan beberapa produk kayu-kayan dan hasil hutan bukan kayu (TFPs dan NTFPs) dari hutan dan juga hasil dari tanaman dan tuaian dari kawasan-kawasan hutan (CFLPs) pada setiap tahun yang digunakan oleh komuniti luar bandar telah diperolehi termasuklah pendapatan isirumah luar bandar dari produk-produk tersebut. Statistik diskriptif

telah digunakan untuk menerang dan meringkaskan data-data dan juga mengetahui pergantungan sumber-sumber hutan oleh komuniti luar bandar. Teknik-teknik statistik seperti Ujian T dan analisa varians (ANOVA) telah digunakan untuk menganalisa data-data berkenaan. Regresi pelbagai telah juga digunakan untuk mewujudkan model pergantungan kepada sumber-sumber hutan bagi 12 kampung yang terlibat dalam kajian ini iaitu di kawasan Nam Nhou dan Nam Choam, Provinsi Bokeo, Lao PDR. Model regresi dibuat dengan mengambilkira lima pembolehubah-pembolehubah sosio-ekonomi.

Berdasarkan kepada keputusan-keputusan daripada Ujian T, ANOVA dan analisa regresi, penemuan utama kajian ini boleh diringkaskan seperti berikut: (1) keluarga bersais besar amat bergantung kepada sumber hutan berbanding keluarga bersais kecil kerana kebiasaannya keluarga bersais besar memerlukan penggunaan bahan yang lebih tinggi, (2) keluarga yang mempunyai tenaga kerja yang ramai adalah kurang bergantung kepada sumber hutan kerana mereka mempunyai kelebihan untuk mengagih-agihkan tenaga kerja itu kepada berbagai aktiviti ekonomi dan pertanian termasuklah kegiatan berkaitan dengan perhutanan, dan seterusnya keluarga berkenaan mempunyai lebih banyak sumber pendapatan, (3) keluarga yang memperolehi pendapatan dari aktiviti-aktiviti bukan perhutanan lebih suka untuk mempelbagaikan aktiviti-aktiviti ekonomi mereka dan tidak mahu untuk terlibat lagi dalam aktiviti-aktiviti berkaitan dengan perhutanan seperti pengutipan NFTP dan pertanian pindah, justeru itu mereka bukan lagi keluarga yang bergantung kepada sumber-sumber perhutanan, (4) majoriti (67%) daripada keluarga yang menjadi

responden adalah amat bergantung (90%-100%) kepada hutan untuk penghidupan mereka. Mereka terdiri dari masyarakat miskin yang tiada mempunyai modal atau sumber-sumber pendapatan alternatif dan ditambah pula dengan tiada pelajaran ataupun taraf pendidikan yang rendah, dan (5) tiada perbezaan ketara antara penduduk tetap dan pendatang, dan juga antara lima kumpulan etnik yang dikaji dalam pergantungan mereka kepada hutan. Oleh itu mereka mempunyai peluang samarata untuk mengguna dan menjadikan bahan makanan dengan banyak atau sedikit hasil-hasil perhutanan (TFPs dan NTFPs) dan juga hasil dari pertanian pindah (CFLPs) memandangkan mereka dikelilingi oleh kawasan hutan dan juga mempunyai situasi pasaran yang sama.

Keputusan-keputusan kajian menunjukkan bahawa komuniti luar bandar (12 kampung) yang dikaji amat bergantung (85.66%) kepada sumber-sumber hutan untuk menampung kehidupan mereka. Ia melibatkan jumlah keseluruhan sehingga sebanyak 693,917,400 Kip atau bersamaan dengan USD 84,315.60, dan 6,939,174 Kip atau bersamaan dengan USD 843.15 bagi setiap satu keluarga dalam setahun. Di samping itu, kajian ini juga telah dapat mengenalpasti TFPs dan NTFPs dari spesies tempatan yang sering diguna dan dijadikan sebagai bahan makanan oleh masyarakat luar bandar.

Dari kajian ini, dapat dicadangkan bahawa pendapatan isirumah komuniti luar bandar boleh ditingkatkan dengan melalui penglibatan komuniti itu sendiri dalam pengurusan hutan secara mapan dan juga menambahkan pendapatan

keluarga melalui aktiviti-aktiviti bukan perhutanan yang sepatutnya diberi lebih penekanan dalam polisi kerajaan.

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This thesis submitted to the Senate of Universiti Putra Malaysia has been accepted as fulfilment of the requirement for the degree of Master of Science

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LIST OF ABRVIATION

ADB	Asian Development Bank
CFLPs	Products Cultivated and Harvested from Forestland (Products from shifting cultivation)
DoF	Department of Forestry
DAFO	District Agriculture and Forestry Office
EAPI	The Environment and Policy Institute
FAO	Food and Agriculture Organization
GTZ	German Society for Technical Cooperation
IUCN	International Union for Conservation of the Nature or World Conservation Union
JICA	Japanese International Cooperation Agency
Lao PDR	Lao People's Democratic Republic
MAF	Ministry of Agriculture and Forestry
NCAP	Norwegian Church Aid Project
NIC	Non-Timber Forest products Information Centre
NTFPs	Non-Timber Forest Products
NGOs	Non-governmental Organizations
NWFPs	Non-Wood Forest Products
RST	The Rural Survey Technique
RDP-Bokeo	Rural Development Project- Bokeo
SUAN	The Southeast Asian Universities Agroecosystem Network



TVFD	Total Value of Forest Dependency
TFI	Total Family Income
TFPs	Timber Forest Products
VAC	Village Administrative Committee
VDC	Village Development Committee
UNDP	United Nation Development Programs



CHAPTER 1

INTRODUCTION

1.1 Background

The Lao People's Democratic Republic (Lao PDR) is a land locked country situated in the Peninsula of Indochina, sharing its border with China, Vietnam, Burma, Thailand and Cambodia (see Figure 1). The country has an area of 236,800 sq. km of which about 75% is mountainous. Its total population has reached approximately 5.2 million (FAO, 1999) comprising 68 ethno-linguistic minorities, which are categorised into three main groups namely Lowlanders (Laoloum) 55 %, Uplanders (Laotheung) 30% and Highlanders (Laosoung) 15%. The majority of the population (about 80%) live in the rural areas. The average annual growth rate of the population is estimated to be around 2.6% (Sisongkham, 1994).

Administratively, the country is divided into 17 provinces, one municipality, one special zone, 113 districts and more than 11,600 villages (Lao Government, 1996). Lao PDR is one of the countries in Asia, which has the highest forest cover composed of about 47% (11, 273,100 ha) of its total land area (Manivong and Sandewall, 1992). It is an agrarian country, and agriculture contributes to about 40% of the total foreign exchange earnings (Anon, 1996).