

USES OF NON-TIMBER FOREST PRODUCTS IN LAO PDR AND THEIR VALUES

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ABSTRACTS

Agriculture in Laos is primarily rain dependent due to its tropical monsoon climate. Farmlands are often subjected to droughts and floods, rendering crop production unstable. Therefore, in addition to rice cultivation, Laotian farmers collect non-timber forestry products (NTFPs) in mountainous areas, thus providing a safety net to local residents in terms of livelihood support. However, the way NTFPs are used had changed because of deforestation and forest degradation. The actual uses of forest resources by Laotians were elucidated through a social survey and a forest vegetation survey.

To understand the actual uses of NTFPs and its contribution to rural household economies, a study was conducted on 140 households (104 valid responses) in a farming village (N village) in the northwestern part of Vientiane Province from July 2012 through June 2013, recording the types and quantities of NTFPs collected daily as well as their intended uses. The consumption of firewood, which was excluded from NTFPs, was determined in 10 farm households from February 2013 to January 2014. The obtained values were compared with that of rice production, which is their basic means of livelihood. In order to categorize the type of forests producing NTFPs, a forest survey was conducted.

The survey showed that over 400 diverse types of NTFPs, including 289 plant-type products (such as mushrooms) and 124 animal-type products, were utilized. Over 90 percent of NTFPs were mostly consumed as food by the collecting households. Other NTFPs, which were categorized as textiles, resins, and medicines, were collected for sale; and these include approximately eight tons (dry weight) of textiles. Most of these NTFPs were broom grass, from which flower clusters are collected and used for making products such as brooms. Broom grass appears in fallow land after slashing and burning and can be collected in large quantities during the first three years. It is also a valuable source of income between periods of farming. Firewood was used at an average of 2,258 kg per year, which was equivalent to 1,700,000 Kip when converted to cash.

The economic value of NTFPs was estimated at approximately 7,000,000 Kip (3,820,000 Kip from plant types, 1,660,000 Kip from animal types and 1,700,000 Kip from firewood). This equates to approximately 2.4 tons of glutinous rice, enough to feed 9.6 people (at 250 kg/person/year) and contributes greatly to the rural economy. The economic value of NTFPs when compared with that of rice farming is equivalent to rice production in 0.5 ha of paddy field or 1.5 ha of upland field. Almost all forests in the N Village were fallow (secondary) forests. At first, it was thought that a young fallow forest produces only a few useful NTFPs. However, villagers were able to collect high volume of NTFPs in various kinds from the forests, with an economic value equivalent to that of rice production.



It is important to utilize the upland fields in the mountainous area in order to increase income of the villagers. To position the forests fairly within the economic system of the village is very important for the livelihood of local people.

KEYWORDS

economic value, NTFPs (Non-timber forest products), sustainable, food security, fallow forest

REFERENCES

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Photo: N village

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1

Contents

- Introduction of Lao PDR
- Concept of Indochina project
- Background
- Highlights
 - Non-timber Forest Products (NTFPs)
 - Firewood
 - Types of forests
 - Case study on mushrooms
 - Outcomes
- Future plan
- Conclusion

2

Introduction of Lao PDR



Foundation : 1975
 GDP(/person) : 1,349USD
 (in Japan : 46,530USD)
 Export : Minerals, Agricultural products, Electricity
 Import : Investment materials, Consumption goods
 Area : 240,000km²
 (Mountain area 60~70%)
 Population : About 6,500,000
 Capital : Vientiane (about 700,000)
 Climate : Tropical monsoon (unstable)
 Job : **Farmers (80%)**

Source: MOFA Homepage

3



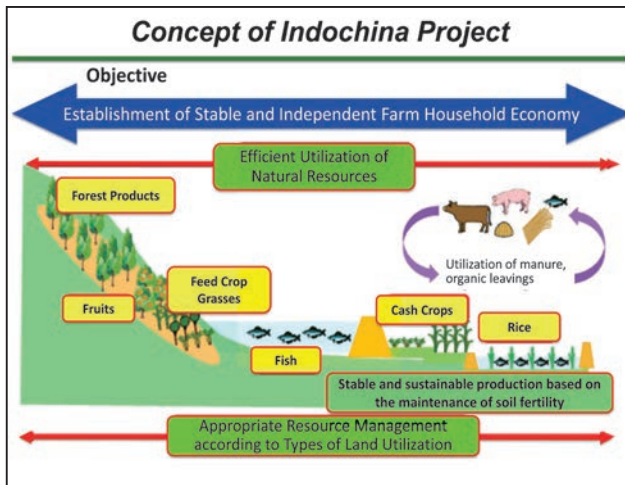
4



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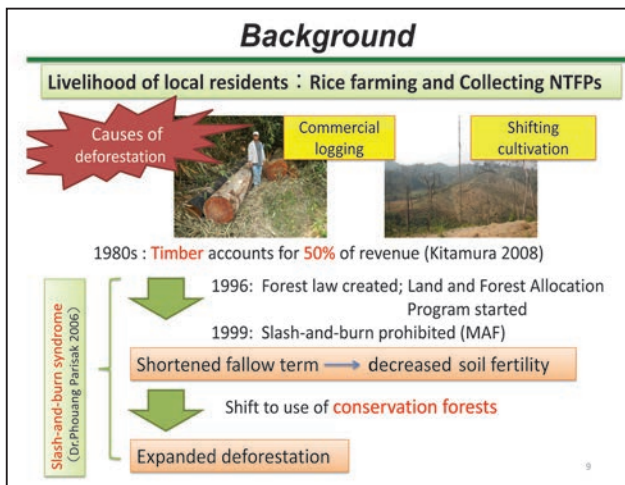
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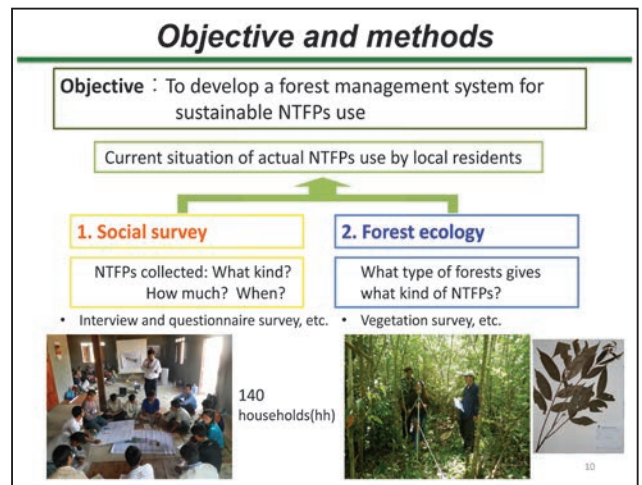
7

Our research

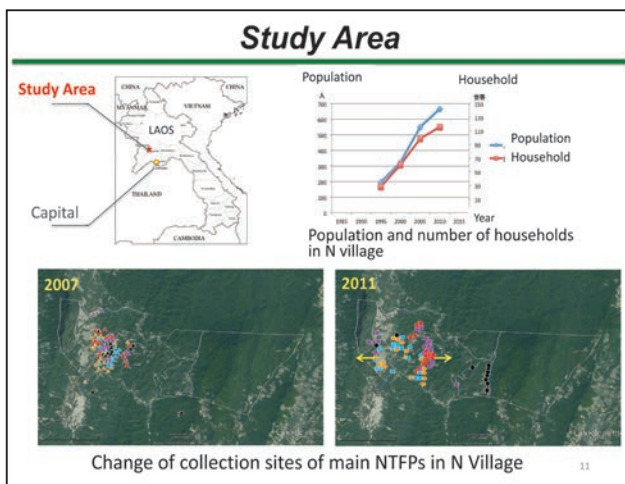
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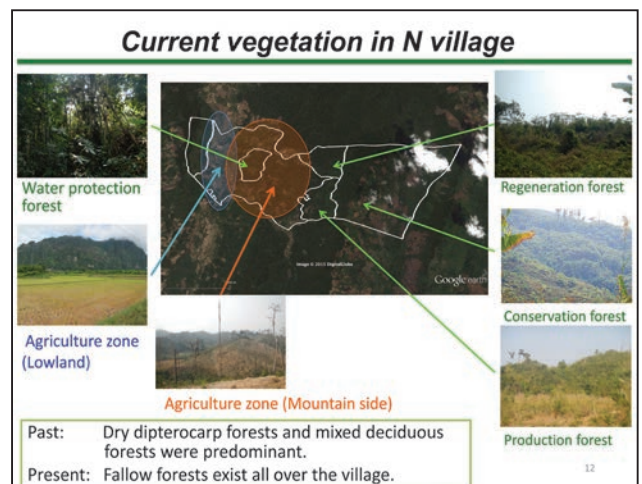
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10



11



12

Highlights

13

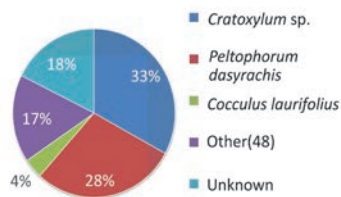
Economic value of NTFPs in N village

Category	Kind	% ⁽¹⁾	Amount collected		Economic Value (Kip)	% ⁽²⁾	Intended use % ⁽³⁾		Exchange rate: 8,000Kip/USD
			Weight (kg) ⁽²⁾	Number of pieces			For	Per	
Plant origin		289	100	44,587	39,874	397,131,470	100		
Food		262	91	33,515	18,614	202,303,120	51	99	1
Wild plant		133		11,481	105	62,205,920			
Flower		10		341	5	854,700			
Fruit		19		2,354	1,872	6,674,750			
Bud		68		14,719	16,632	76,082,950			
Root		2		17		154,500			
Spice		6		82		491,700			
Mushroom		24		4,485		55,938,600			
Craft		13	4	228	21,143	68,722,200	17	93	7
Fiber		4	1	7,891	114	119,961,650	30	9	91
Resin		2	1			2,598,400	1	9	91
Medicine		8	3			3,546,100	1	41	59
Per household				429	383	3,818,572			
Animal origin		124	100	5,331	5,543	172,372,200	100		
Mammals		21	17	133		49,816,400	29	97	3
Bird		19	15		2,244	10,150,000	6	98	2
Fish & shellfish		33	27	4,155	2,544	80,807,200	47	99	1
Reptile		5	4			2,210,000	1	97	3
Amphibian		4	3			9,919,500	6	98	2
Insect		42	34			19,469,100	11	94	6
Per household				51	53	1,697,425			

• Varieties of NTFPs : plant origin, 289; animal origin, 124
 • Almost all NTFPs are used for self-consumption.
 • Broom grass is the main income source. Fiber and resin are possible cash income sources.

14

Firewood consumption



- Average annual consumption: **2,258 kg/hh**
- Firewood price: **15,000Kip (2USD)/20kg**
- Economic value: **1,693,500Kip (212USD)/hh**
(Exchange rate: 8,000Kip/USD)

15

15

Comparison of economic value of NTFPs with rice

	Economic value (Kip)	Yield (ton/ha)	Unit price (Kip/kg)
Paddy rice (per/ha)	1,306USD 10,452,000	4.02	steam rice 2,600
Upland rice (per /ha)	431USD 3,450,000	1.50	sticky rice 2,300
Total NTFPs (per /household)	896USD 7,169,497 (NTFP: 5,475,997Kip+ Firewood: 1,693,500Kip)		

Economic value of NTFPs :

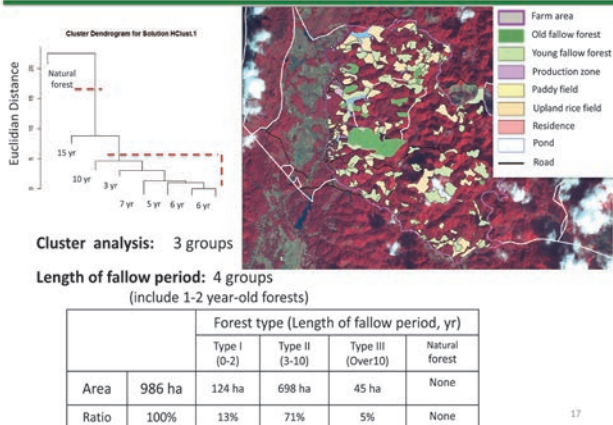
- over 7M Kip per household
- equivalent to that of rice produced from 2.0 ha of upland field or from 0.7 ha of paddy field

Forest land must be used and managed properly to benefit from its high economic value.

16

16

Classification of forests and their characteristics

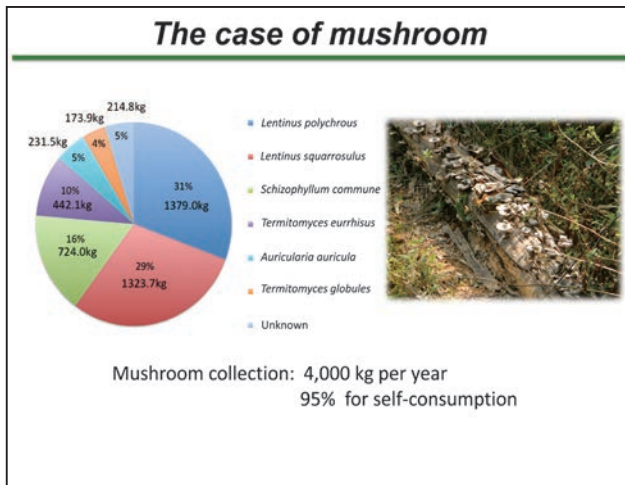


17

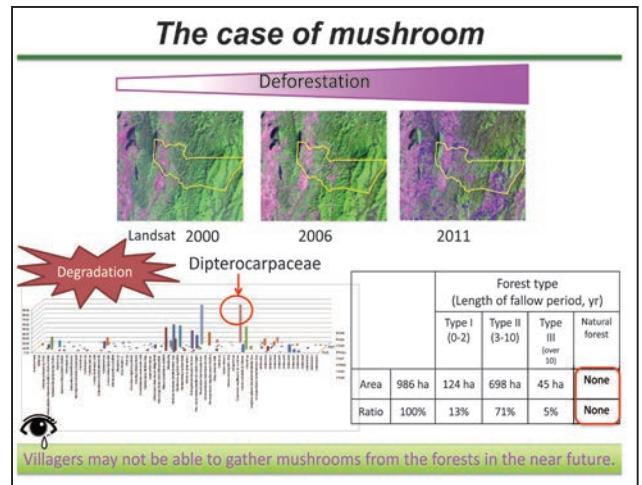
Classification of forests and their characteristics

Fallow forest type	Type I	Type II	Type III	Control
Length of fallow period	1-2 years	3-10 years	Over 10 years	Natural forest
Typical trees		Mallotus barbatus Moesa ramentacea Terma orientis	Peltrophorum dasyrachis	Shorea roxburghii
Characteristics	Many grasses and coppices from stumps	Many pioneer trees and bush; Invasive bamboo. Less grass. It is difficult for villagers to enter the forest.	Trees of various sizes and rich lower layer vegetation	
NTFPs	Wild vegetables Broom grass	Bamboo shoots are the main NTFP.	Many NTFPs of trees and grass origin are extractable.	Many NTFPs of trees and grass origin are extractable. Rattan and Kardamon
Number of NTFPs	15	2~8	20	20
	○	△	○	○

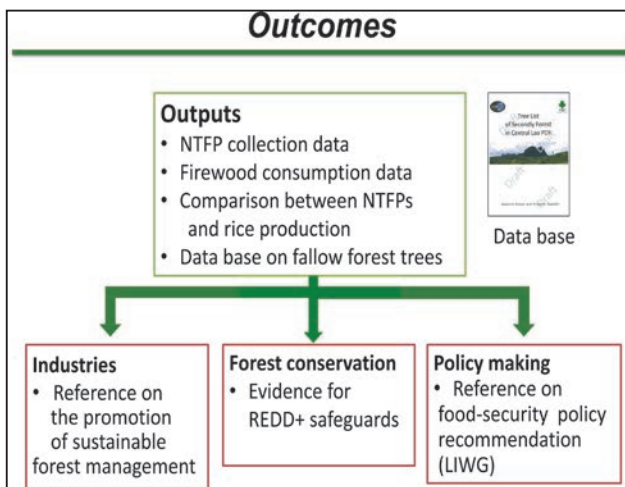
18



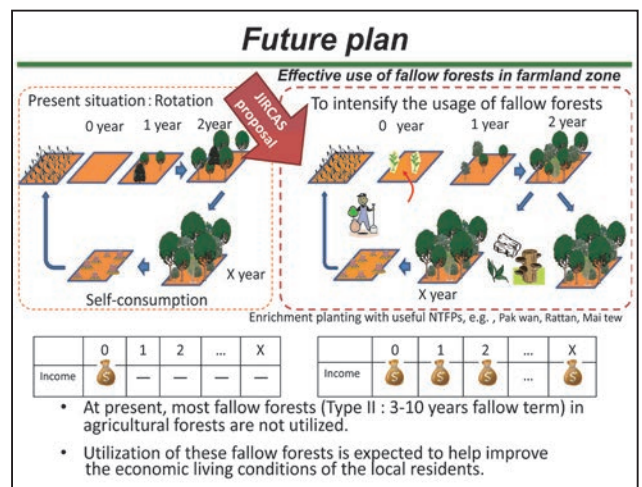
19



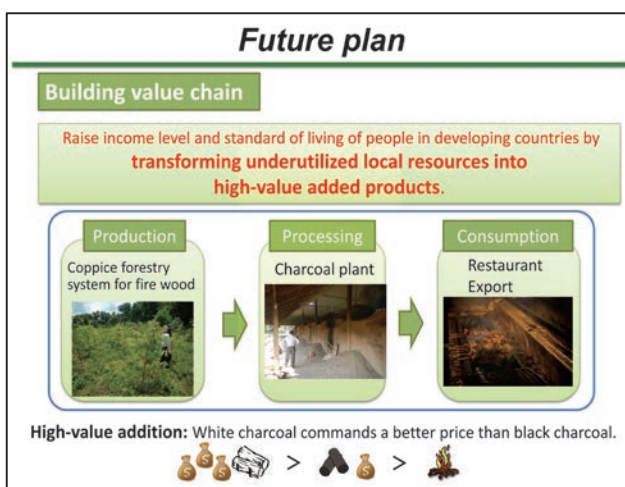
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21



22





23

Conclusions

- NTFPs are very important food resource as well as good income source for the villagers.
- Forest degradation and deforestation had threatened food security in the village.
- Appropriate location and suitable management of forests and farm lands are important to attain sustainable land use in developing countries like Laos.

24

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