Factors Influencing People Participation in Community Forest Management in Phrae Province, North Thailand

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This study investigated the factors that influenced people participation in the community forest management by using the questionnaire for data collecting at Mae Sai villages Phrae Province, North Thailand. The results showed that factors influenced people participation in community forest management included the people participation in decision making and setting community forest zones that led to their satisfaction. In addition, their livelihood was better as they earned more the income. The study suggested that people participation in community forest management resulted in human well-being and sustainable community forest resource management.

Introduction

Community forestry is an approach to forest management that could protect the environment while benefiting the rural poor by restoring local control of natural resources. Three interrelated issues must be addressed: land and resource tenure, development of local organizational and management skills, and adapting technology for sustainable production. Many people of a great variety of cultures and land-use practices live in or around tropical forests. Although these people are all in some way dependent on forests, they have little else in common. In recent years, however, it has become much harder for forest-dependent people to use local forests and their products, owing to deforestation, logging, population pressure or legal initiatives such as the declaration of state forests, national parks or wildlife reserves. In many countries, plans to protect forest ecosystems have failed to address the needs and knowledge of local forest-dependent. Participation by local people is essential to any conservation effort. In forest conservation, participation is often associated with community forestry, which refers to forest management or co-management by people living close to the forest. Legal, political and cultural

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settings for community forestry vary widely, and the term covers a wide range of experiences and practices. Community forestry is often associated with South and Southeast Asia, but it is also common in other regions.Objectives: This research aimed to study the factors that influence people participation in the community forest management.

Materials and methods

Study site

Mae Sai Sub-district, Rong Kwang District, Phrae Province, North Thailand. There are 4 villages surrounding community forest. Most areas in the community are agricultural land and animal farm surrounded by forests and mountains. Mae Sa Mai Community Forest was registered as community forest in 2006, under the National Reserved Forests of Thailand. In 2010, the Public Health Ministry designated Mae Sai Community Forest as 1 of 8 medicinal plant protection zones in Thailand (The Nation, 2012).

Data collection

Data collection was conducted in February 2016. 259 head of household from 4 villages utilizing community forest in Mae Sai Sub-district were selected as informants. The data was collected by structured interview.

Table 1 The categorization of sampling size of each village

Community	Population (household)	Sample (household)
Maesai 1	135	47
Maesai 2	206	73
Maesai 3	297	105
Maesai 4	97	34
Total	**734**	**259**

Data analysis

The collected data were analysed by using descriptive statistics which were the frequency, percentage, mean, standard deviation and pearson correlation analysis of variables.

Results

Socio-economic characteristics Factor

The majority of the sampling are male, age between 46-51 years old. Most of them are agriculturalists. Their average incomes are between 31,000 - 86,000 baht per year (Table 2).

Table 2. Characteristics of the informants

n = 259

Characteristics	F (n=259)	%
Sex (male)	151	53.8
Age 46 – 51 year	89	34.4
Education (primary school)	220	84.4
Status (single)	235	90.7
Number of the household (4)	128	49.4
Farming	248	95.8
Income 31,000 - 86,000 Bath/year	195	75.3

Informants opinions toward community forest utilization

The informants opinions towards their utilization of community forest are at medium level. However, the data showed that the utilization of forest community for ritual ceremonies is at high level. (Table 3)

Table 3. Opinions of informants toward community forest utilization

Opinions on community forest utilization	Mean	S.D.	DE
- Community forest is a natural protection that decreases flooding and speed of wind	2.7876	0.40977	Medium
- Community forest helps storing water	2.8880	0.41181	Medium
- Community forest is food source and habitation of animals	2.9498	0.30720	Medium
- Community forest causes the balance of ecosystem	2.7954	0.44090	Medium
- Community forest makes the better conditions in people's lives	2.7336	1.35059	Medium
- Community forest is learning and researching centre	3.3127	0.46451	Medium
- Community forest uses for ritual ceremonies	3.5714	0.49583	High level
- Community forest is a source of four standard factors	3.0309	0.40228	Medium
- Community forest causes good atmosphere	2.6795	0.46756	Medium
- Community forest is a place for relaxing	2.610	0.54137	Medium
Average total	**2.9359**	**0.23638**	**Medium**

n = 259

Correlation between informants' characteristics and opinions toward community forest utilization.

The study found that people income correlated with people opinions toward community forest utilization. (Table 4) It can be concluded that people income is an important factor that influences community forest utilization.

Table 4. Correlation between the informants characteristics and the utilization of community forests.

Informants characteristics	utilization of community forests
Sex	0.084^{ns}
Age	-0.088^{ns}
Education	-0.058^{ns}
Status	-0.032^{ns}
Number of the household	-0.061^{ns}
Farming	-0.106^{ns}
Income	0.166^{**}

Legend: * Significant ($p \leq .05$)
  ns Not significant
n = 259

The factors influence people participation in community forests management.

The factors influence people participation included 1) the participation in decision making, 2) the participation in processing, 3) the participation in benefits gaining, and 4) the participation in outcome evaluating. These factors show a high level of participatory management. (Table 5)

Table 5. People participation in community forest management.

People Participation	$\bar{x}$	S.D	DE
1. Participate in decision-making			
- Village meeting for establishing community forest	4.22	0.82	highest level
- Participate in determining ccommunity forest area	4.04	0.72	High level
- Participate in setting community forest management committee	3.97	0.89	High level
- Participate in setting rules of community forest utilization	3.90	0.80	High level
- Participate in judging the community forest rule breakers	3.98	0.85	High level
Average	**4.02**	**0.60**	**High level**

2. Participate in processing			
- Participate in setting community forest area	4.35	0.83	highest level
- Participate in community forest utilization allotment	4.12	0.77	High level
- Participate in planting and taking care of trees in community forest area	4.06	0.84	High level
- Participate in persuading neighbours to plant take care of trees in community forest area	4.01	0.82	High level
- Participate in preventing the deforestation	4.03	0.90	High level
- Participate in forest conservation training	3.88	0.85	High level
- Participate in fighting forest fires and making firebreaks	3.91	0.83	High level
- Participate in marking community forest area	3.89	0.76	High level
- Participate in following rules of community forest conservation	4.07	0.74	High level
- Participate in making a check dam within community forest area	4.03	0.76	High level
- Participate in making awareness among youths on community forest values	4.19	0.75	High level
Average	**4.05**	**0.47**	High level
3. Participate in gaining benefits			
- Collect non-timber forest products	4.26	0.74	highest level
- Use community forest area for raising cattle	4.30	0.78	High level
- Earn more income and decrease household expenses	4.03	0.74	highest level
- Get people admiration in forest resources conservation	3.93	0.76	High level
- Use as water resource and cultivation	4.08	0.800	High level
Average	**4.1200**	**0.57349**	**High level**
4. Participate in evaluate			
- Participate in following up of community forest changes	4.19	0.720	High level
- Participate in outcome evaluation	4.03	0.731	High level
- Participate in discussion on the benefits of community forest	4.09	0.854	High level
- Participate in asking permission for using the community forest utilization	4.06	0.851	High level
Average	**4.0925**	**0.62730**	**High level**
Average total	**4.0498**	**0.46786**	**High level**

n = 259

Discussion

The factors influence people participation in community forest management included 1) the participation in decision making, 2) the participation in processing, 3) the participation in benefits gaining, and 4) the

participation in outcome evaluating. People participation in determining community forest area showed the highest level. As people live near community forest so their lives depend mostly on non-timber forest product forest. They realize their responsibility in saving forest and evaluating their management process. These findings corresponded to the study on the participation in management of community forest conducted by Chutisara (2005) which found that there were 6 factors included opinions presentation and causes of problem, community forest operation planning, public reaction about community forest information, community forest maintenance and protection, monitoring, evaluation and inspection about the community forest operation. Factors affecting people participation in community management in Thailand were community forest utilization.

Moreover, the study showed that people participation in community forest management as they realized the value of forest and the utilization of community forest that contributed to their income improvement. The finding corresponded to the study of Pascalin (2011) that summarized the factor influenced people participation in community forest management is income. Moreover, Phumihathai (2015) revealed that people incomes affected the forest resources.

Factors that influence people participation in community forest management are the participation in decision making and setting community forest zones that led to their satisfaction. Better livelihood and more income encouraged people to participate in community forest management. Benefits gained from the forest play an important role as incentives to community participation in participatory forest management (Josephine, 2016). So community forest management helps maintaining food security for local people as well as sustaining community forest resources.

Acknowledgement

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