



## The Community Forest Management by Using the Local Wisdom, Maha Sarakham, Thailand

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**Abstract-** The community has evolved on the basis of forest resources, so forests have been considered a vital source of consumer and consumption for a long time to the community, although today the community has been developed for some modernization, the bond between the community and the forests still have to live with each other. therefore, this research aimed to study the participation of people and local wisdom in community forest management. This study was conducted in Ban Mek Mai Phatthana Community, Maha Sarakham Province. The research was conducted in two phases: (1) a survey of 50 households' participation in community forest management in which the samples were headed by households. The instrument was a questionnaire and analyzed using a computerized program. (2) A study of local wisdom in community forest management with the target groups who are the key contributors, including community leaders, committees, and household representatives, totaling 25 people. The research was conducted using a qualitative research methodology consisting of paper studies, in-depth interviews, and observations. Then, using descriptive analysis. The results of the study showed that the public participation in the management of community forests was at a high level, when sorting the descending mean as follows: community forest utilization, conservation, community forest development, and community forest restoration, respectively. At the same time, the local wisdom for community forest management consists of being ready to participate in activities picking mushrooms for food, taking wood to firewood, herb collection, finding other types of forest. In addition, there are community beliefs that are used to make forest coffins, such as the belief that the forest spirits, ghosts, and angels help maintain the community forest.

**Keywords:** Local Wisdom, Forest Utilization, Community Forest Management, People's Participatory

### I. INTRODUCTION

Thailand has clearly developed socio-economic development, defined by the National Economic Development Plan No. 1, 1961-1966, to date, in the period of the National Economic and Social Development Plan No. 12, 2017-2021 which the resulting national economic and social development is directly related to the direction of natural resource transformation, with one goal: protecting and restoring forest resources and wildlife for practical results, halt deforestation to preserve 102.3 million rai of forest land, by using of information systems for management, enforce the law in an efficient and fair manner, expedite the implementation of the problem of overlapping state land boundaries by using the criteria for improving the integrated state land boundary map for immediate completion, support for forest planting and restoration according to the royal initiative "Planting forest, planting people" which has applied the success of the Mae Fah Luang Foundation's project under the Royal Patronage for afforestation and enhancing the quality of life of communities along the way, promoting reforestation in state vacant areas along buffer lines and forest connectivity, Promote community and household forest management, support local forest laws, Create a network of participation in forest restoration and care, Including increasing the economic forest area in order to achieve the target of 15% of the country by promoting long-term economic afforestation such as Teak, Makha wood, and Rosewood, etc. (Office of the National Economics and Social Development Council, 2016: 109). The report collecting data on the area of Thai forests, separated by province 2013–2017 found that the area of forest area (rai) of the Roi Kaen San Sin Province group (Roi Et, Khon Kaen, Maha Sarakham, Kalasin) has decreased every year (Royal Forest Department, 2017: 11).

*Table - 1: Forest areas of Thailand*

Province	2013	2014	2015	2016	2017
	Forest area (rai)	Forest area (rai)	Forest area (rai)	Forest area (rai)	Forest area (rai)
Roi Et	195,107.75	191,750.31	203,762.51	206,865.08	213,728.69

Khon Kaen	713,921.60	730,582.20	734,792.35	737,846.01	742,018.04
Maha Sarakham	145,900.39	141,918.34	138,896.37	136,630.98	133,044.17
Kalasin	457,086.55	463,584.52	468,190.98	468,582.69	464,705.66

**Source :** Royal Forest Department, (2017: 11), 1 Rai= 1,600 Square meters

Community forest management is a model of forest and resource utilization that has been undertaken by villagers in communities living in the forest or near the forest for a long time, which appears to have a system for classifying the use of land, forests, and resources, as well as setting the scope and rules of use until it is accepted both within the community and neighboring communities, In addition, there is a villager organization responsible for the proper management according to the folk wisdom arising from the experience of adapting to the physical and socio-cultural environment of each locality on the basis of the lifestyle that relies on the forest or the land around the forest for planting and consumption. Therefore, we can see that the villagers use the forest as a source of food, herbs, materials for building housing, fuel, and other uses within the community. This resource utilization model stabilizes the community through fairness and allows the community to be inherited. When the government announced the policy "Convert assets to capital" which allows villagers to use the land as collateral for credit, the villagers who lived around the forest used to conserve forests, thus encroaching on logging in the community forest, making them invading and illegal by claiming their farming rights, and the issuance of licenses favored by government officials has reduced forest areas, leading to clashes between villagers and community forest committees and off-site investors. Previously, activities that have been done continuously include plant surveys, animal species, trekking to study nature, forest fire protection, local plant breeding, performing a ritual of raising the spirit of Grandfather, creating a youth camp for forest conservation, promoting handicraft and basketry occupation, collecting herbs, making medicine, etc. From the pilot survey, it was found that the community organization system was weak, the academic system of forest and land management was uninterrupted, Lack of community involvement and the important knowledge has not yet been gathered to affect forest management, villagers only use forests for their daily life and economic response (Maha Sarakham Forest Office, 2009: 5).

The important community forest of Ban Mek Mai Phatthana Community, Nong Mek Subdistrict, Na Chueak District, Maha Sarakham Province is "Don Haed community forest", with an area of approximately 252 rai. Today, this community forest is quite abundant, rich in natural resources, both wildlife, and biotechnology, which are important for medicinal properties. However, studies of related documents have also found that this community forest has a large number of trees or economic trees, especially the rosewood which can be cut or sold for several hundred thousand baht. Because of this factor, it is often an incentive for capitalists to take the risk of stealing and stealing the rosewood, although the local villagers have done their best to monitor and take care of each other. However, with many problems and obstacles in the Don Haed community forest, there are many forest entrances and exits, making it difficult to inspect and maintain thoroughly. And One of the problems facing the Don Haed community forest is that it has been invaded to expand the area or to make use of agriculture by the people in the area themselves. As a result of this problem, it is interesting to study local wisdom and community forest utilization and management to help prevent forest land encroachment and to maintain a sustainable balance. This study was held at the area of Ban Mek Mai Pattana Community, Village No. 1, Because it is a strong community in the management, prevention, viewing, and preservation of forest resources by using local wisdom, which will enable the use of knowledge and local wisdom that will benefit the promotion of participation in community forest management to maintain the condition in order that the forest could not be further destroyed.

### **Research objectives**

This research aimed to explore the participation of people in community forest management and to study local wisdom in community forest management, which was studied in Ban Mek Mai Phatthana, Nong Mek Subdistrict, Na Chueak District, Maha Sarakham Province.

## **II. RESEARCH METHODOLOGY**

### **Phase 1 to explore the participation of people in community forest management**

The sample used in this research is 50 households in the Ban Mek Mai Pattana community, which was obtained by calculating the sample from the formula of Taro Yamane (1973). The data collection tool was a researcher-generated questionnaire that was divided into three sections: (1) General information questions of the respondents, (2) Questions on participation in community forest management. Of the

public, and (3) open-ended questions on recommendations for participation in community forest management. Data analysis were Frequency, Percentage, Mean, and Standard Deviation.

**Phase 2** study local wisdom in community forest management

The target groups for this research were community leaders, community forestry committees, and household representatives in Ban Mek Mai Pattana Community, totaling 25 people. The instrument used for data collection These included semi-structured interviews, participatory and non-participatory observation. The collected data will be reviewed prior to processing and analysis, with the in-depth interview data triangulation to verify the accuracy of the data. Completely correct and accurate. The data obtained from the study were categorized and interpreted on local wisdom for managing community forests and analyzed by Content. Analysis with the descriptive presentation.

III. RESEARCH RESULTS

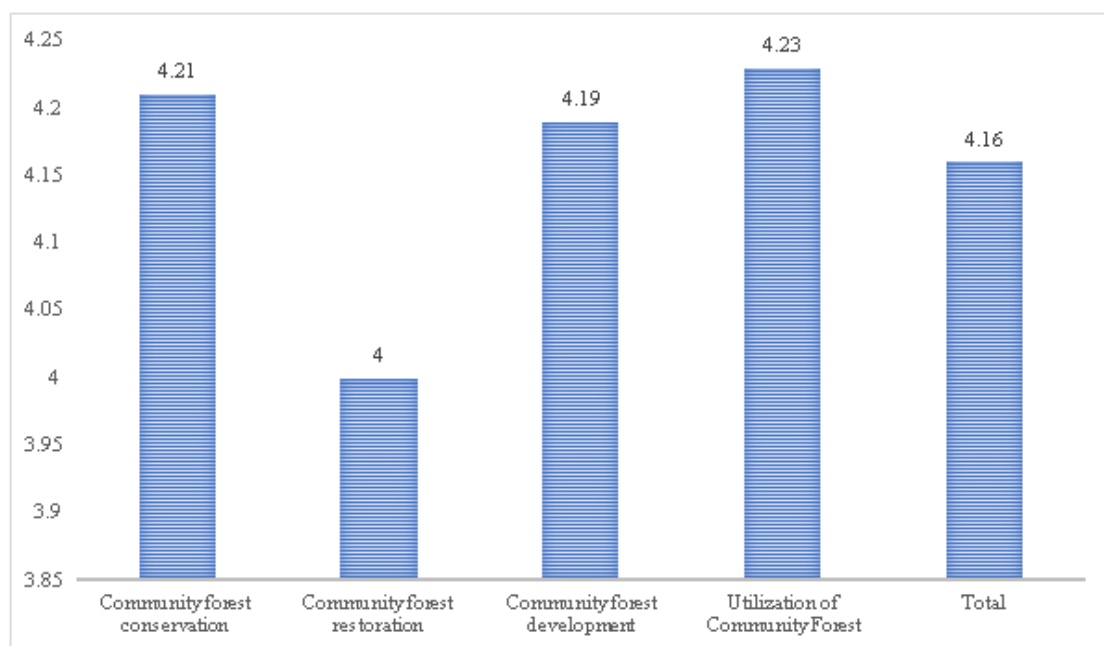
The research results can be summarized as follows.

1. The analysis of the personal characteristics of the sample revealed that the majority of the sample were female (78.80%), aged 41-50 years (39.10%), had a primary education level (43.20%). Most of them worked as farmers (60.30%) and the length of time they lived in the village of Mek Mai Pattana 16 - 20 years (37.50%).

2. The public participation in community forest management with participatory found that the public participation in community forest management as a whole and on each aspect is at a high level. When raking the mean descending as follows: Utilization ( $\bar{X}$ = 4.23, S.D. = 0.68), Conservation ( $\bar{X}$ = 4.21, S.D. = 0.76), Development ( $\bar{X}$ = 4.19, S.D. = 0.62), and conservation ( $\bar{X}$ = 4.00, S.D. = 0.66) respectively as following table and bar graph.

*Table - 2: People's Participation in Forest Management in Ban Mek Mai Pattana Community*

Forest management of community development	$\bar{X}$	S.D.	Participation
conservation	4.21	0.76	High
restoration	4.00	0.66	High
development	4.19	0.62	High
Utilization	4.23	0.68	High
Total	4.16	0.68	High



*Figure - 1 : the public participation in community forest management*

### 3. The local wisdom in community forest management

3.1 Participating in activities using local wisdom: Forest ordination is an activity used by the villagers as a way to conserve trees in the community forest. The ceremony is performed during the Buddhist Lent, whose community forest committee will announce to the villagers living around the community forest area and notify the government agencies such as the sub-district administration organization, community leader, etc. The activity will begin by preparing a yellow robe (yellow robe for monks) used in the ordination of the forest and inviting 9 monks to perform prayers of good , growth, and prosperous trees . Then, the K̄hač̄ā, who led the ceremony, and the Community Forestry Committee handed out yellow robes to villagers to help tie to the trees. However, the Thxdp̄hāp̄ā ceremony (the ceremony of offering robes to Buddhist priests at the monastery) was applied as replaced offering the tree for villager taking to plant and there is the objective to raise the awareness of the villagers in the conservation of the community forest, where plants, other elements, and necessary items of the monks are prepared. After the ceremony, trees will be planted in the community forest area. There was also a forest renewal ritual which consisted of various offerings; food wrapped in leaves, Betel nut, coconut, banana, betel, cigarette, popped rice, paddy, flower, incense, candle, etc. Then, the holy string will be tied to the flag and tied to the tree, handed it to 9 monks to hold and pray. Finally, the K̄hač̄ā was the one who summoned the angels that “The Lord of the forest and the angels of the land that live in this area, please come and witness this ritual. If someone intervenes or stealthily cuts wood in this area, that person may become a person without any prosperity” After the ceremony, the monks sprinkled holy water for the participants as a prosperity (Bunlert Buntasaeng, 2019).

3.2 Using local wisdom in mushroom harvesting: When harvesting mushrooms will select only young mushrooms, those that are too young and too old will not be harvested. As the saying “Harvest the mushrooms to the base, old mushrooms not to collect”. This is because mushrooms that are too young have to wait for them to grow again and thus produce the right amount for consumption, then, the mushrooms that are too old, they must be allowed to expand further. In mushroom harvesting, leaves are used to make containers for mushrooms, in addition to harvesting mushrooms, villagers do not cut the roots of the mushrooms, break only the mushrooms, leave the roots, and then cover the soil. Will not use a hoe, a spade or any other equipment that is digging or destroying, doing so will destroy the fungi without having the opportunity to breed (Noola Panya, 2019)

3.3 Using local wisdom to collect firewood: Collecting wood to make firewood by removing dry branches instead of cutting the whole tree and picking up firewood during the winter, which appears to have a lot of dry wood going into groups, most of which are female finished household jobs, they would gather in the forest to find firewood. The pruning of fresh branches is done during the dormant season because at this stage the tree accumulates a lot of food in the roots (January to April) which will allow the tree to sprout well in the following rainy season. However, if the weather is very hot it should not be cut as it can cause the growth of the dead tree's pulp. In addition, pruning will pick trees that are very old or damaged and will not cut branches in winter because the wood is often penetrated by insects, resulting in poor wood texture, The distance between the trees is approximately five levels apart, considered to be just right , moreover, it appears that there is a tree that is popularly used by the villagers in ancient beliefs or known as “K̄hal̄ ā (Taboo)” The Taboo tree such as the wood that fell on the road (blocking the way) was not popular for building houses, it is due to the belief that the homeowner could get sick, the wood on the creek bank (the wood shines itself) is not popular to build houses and believes that it will make them sick, the weeping wood refers to all kinds of wood, which when the cut has groaned while falling down, the villagers are considered Taboo and are not used to build houses, etc. (Saman Aiemkoksoong, 2019).

3.4 Using local wisdom in herb collection: Villagers in the community value the herb as a medicinal and elixir that can be easily harvested from the forest, later planted in the home area to become a kitchen garden for cooking, or as an ornamental plant and used as medicine. Villagers have learned how to make use of plants and gain experience through practices such as learning and species of plants , collecting specific herbs, making medicines for patients who are family members or relatives in the same village . the person who knows the value of various herbs and medicines for the sick , the villagers call it “Hmx (Doctor)”, he or she was an herbal healer or a folk healer, some of them have texts which were inherited from their ancestors or passed down from a healer who was his teacher. But most of these folk healers will learn by practice and pass on how to treat the sick to their children or relatives to practice when sick. The general principles of collecting medicinal plants of villagers Will be divided as follows (1) Root or tuber types are harvested during the vegetative period which is due to the loss of leaves and flowers in early winter to late summer,(2) Leaf or whole stems, should be harvested during peak growth or when buds begin to bloom or during blooming and fruit is not yet ripe, (3) Bark type, usually harvested during

the summer and the rainy season, results in high plant drug content and easy peeling off, (4) Flowering type, harvested at the beginning of flowering, but some harvested during the bud, and (5) fruit and seed, generally harvested at maturity (Saman Aiemboksoong, 2019).

3.5 Using local wisdom in finding forest products: Harvesting crops, vegetables, fruits, and forest products for consumption has become a way of life for communities around the forest, when there is an opportunity to go to a farm or go into the forest, they will seek back food from the forest as well, such as the mushrooms that exist in community forests are found in many types (Noola Panya, 2019).

3.6 Beliefs about the King of the forest, ghosts, angels who help maintain the community forest: The villagers' beliefs of "king of spirit forest, ghost, angels" can be found in local communities in general which is an example of a way of thinking about respect for nature, a ghost is a symbol of supernatural sacred things that villagers believe have the power to inspire people in society. If humans conduct themselves within the framework of their custom, ghosts will inspire goodness to life. On the contrary, if someone violates the rules and regulations of the community, the ghost will cause disaster on that person, this includes property, pets, relatives, and other members of the community. The adverse effects of mismanagement can befall the public, therefore all community members have the right to help protect their welfare by controlling community members from infringing on local customs. At the same time, there is also a social mechanism of inheritance to the new generation, which has become a social culture and it gives rise to many people's relationships, a dependency relationship, and a way of life acceptance. Acceptance of cultural concepts and practices can lead to effective and networked management in human societies, such as The belief in Buddhism and belief in the Grandfather ghost play an important role in the social order and community forest management through a process of connecting people to people, People, and forests in harmony with community and network management, for example, The Ban Mek Mai Pattana Community Forest Protection Network has benefited from the forest benefit, and the learning process of the network can lead to the development and solving of social problems, with the participation of the community itself. Social driven, with an exchange of knowledge and generosity with each other all the time (Narongkorn Tathaduang, 2019).



**Figure - 2: the local wisdom in community forest management**

#### IV. DISCUSSION

1. The people participated in the management of the community forest as a whole and in each dimension at a high level, it can be said that communities, especially Isaan people, have a love for and bond with their forests because forests provide a good quality of life that can make a living on the forest, they therefore love and cherish the community forest very much which is consistent with the research of



Makphon (2016: 65) found that people participated in the management of Ban Lao Tai community forest at a moderate level. And also consistent with the research of Chakngean (2017: 70), it was found that the public participation in community forest management was at a high level. It shows that the villagers and the forest, the forest, and the villagers have become part of each other, each other. As a result, communities with a forest as a public space are shared, inevitably will love and cherish the forests they share, thus becoming community forest management partners.

2. Local wisdom for community forest management with participation, including participation in Forest ordination activities, tree giving ceremony, the destiny of the forest, etc. Mushroom Harvesting, Firewood Harvesting, Herb Harvesting, Forest Produce, and The belief in the forest has the spirit of the Angel who helps preserve the community forest which is consistent with the research of Burirut (2012: 101) found that the villagers have a basic concept of the relationship between sacred things and nature and humans, the access to forest resources is therefore required to comply with the rules established by the community, Using the wisdom of ancestors accumulated from the past. There is a group of senior citizens together with the village committee to manage and make decisions on how to use and adjust the community's criteria. The ancestral spirit, the Buddha's belief in self-reliance, interdependence, and love of unity between human beings and human beings and the environment.

## V. CONCLUSIONS AND RECOMMENDATIONS

People participated in community forest management as a whole and at a high level when the average was ranked in descending order, namely community forest utilization, conservation, community forest development, and community forest restoration respectively. The results of the research also found local wisdom in community forest management with public participation as follows: participation in activities (Forest Ordination, Forest Succession), mushroom harvesting, wood picking, herb collection, the approach of the forest, and beliefs about the forest, there is a forest ruler - ghost - angel who helps maintain the community forest. Therefore, there are the suggestions for applying the research results (1) Relevant agencies should support the research of community forests in nearby areas for effective community forest management, (2) the successful community leaders should be encouraged to act as trainers to educate other communities about the use and management of community forests with the participation of people.

Further research should look at a large variety of herbs and villagers have knowledge of the treatment of inherited ailments for many generations. And studying the quantitative and qualitative biodiversity of mushrooms in the forests which, if research on this issue, would lead to a long-lasting way to conserve rare mushrooms.

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