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Co-management Concept: Practical Variation in Ob Luang National Park

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Abstract

This article aims to study and analyze success and failure of co-management application and action in Ob Luang National Park and analyze the factors contributing to the partial failure or variation of co-management from central and regional agencies. The paper used the qualitative research method to collect the data from meeting reports, annual reports, and in-depth interviews of all stakeholders as communities leader groups, National Park officers and NGOs about the concept and thinking systems, management mechanisms, processes and tools. It analyzed using the co-management concept to indicate the success and failure as the variability. The results found that the case study succeeded in the alignment of land demarcation boundary between the conservation and arable areas are acceptable. The success is due to mostly the concept and practice approach, materials, and good relationships with local stakeholders, and a small part from central, regional and provincial supporters. The failures exemplified by lack of legal or semi-legal recognition of land demarcation, insufficient implementation of participatory forest protection at the areas, and lack of supports on promoting sustainable production at the areas designated as arable land use. Therefore, it found that because of the bureaucratic system, the concept and practice are not clear, as well as less support from the central and regional agencies, and respectively as well as the relationship of stakeholders. Moreover, co-management may be logically sound for management in the national park, but it does not take the factors for the variation as significant components that reduce the effectiveness of the concept.

Keywords

Co-management concept, Land demarcation, Practical variation, National Park

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Introduction

For the past six decades, natural resources and the ecological system of Thailand were under the pressured condition and revealed that the natural resources had been degraded which caused changes of the watershed ecosystem at all levels. The natural resource degradation had an impact on biodiversity as well and this problem led to conflicts which were increasingly intense and complex by focusing on a major conflict between the state and the community that is based on rights over natural resources (Ganjanapan, 1997 & Wittayapak, 1996). Current conflict of natural resources as the dimension of the problems that both more complex and varied from the context and environment all within and outside at the community. It was the driving force or pressure that causes change in the use of resource. It was found that they had a dispute which was complex and dynamic and existed between the multi-stakeholder parties to struggle with the rights to access the natural resources management between the state and the community, and between community and community under the same context (Narintharangkul Na Ayudthaya, 2000 & Ditprayoon, 2006). Then, the conflict of forest land was resolved by the joint committee between the government agencies. The forest officers, Tambon Administrative Organizations (TAOs) and villagers conducted a survey of land demarcation and land holding, but the survey which shelved together stakeholders from all parties has not been accepted by the executive level of state policy. So the problem has not been solved effectively. The human and resource management can be viewed as a modular and death with specialized knowledge, confidence with the government centralization, and as a holistic view that deals with the participants produce balance and sustainable ecosystem with the lack of policies and mechanisms to resolve issues in a clear and concrete way for both local and national levels. The people who are affected have not resolved the issue of fairness (Makarapirom, 2006). The result showed that stakeholders of each party must fight for themselves, while the ecological impact was increased. Eventually, it created a conflict and it was excerpted to solve the conflict by any of these methods which were full of prejudices and myths of the solutions. It eventually became a matter of finding their own parties or dividing into parties. Actually, the main problem was the interactions between human ecology and natural ecology, and natural resources which were linked to the utilization of the community. It was not used to manage the natural resources systematically. The problems of describing or creating scientific knowledge were the western methodology that limited dimensions of the phenomenon with the use of scientific methods and in-depth analysis with the purpose of in-depth knowledge at the international level. Moreover, the administration and solution needs to consider the system as a whole. A necessary new method of thinking and practices for field practices should emphasize the important factors that are the actual causes of the problems. Furthermore, the new method should concentrate on the balance between land use and the ecosystem,

equitability and legal rights, land for economy, communal management for public interests, individual benefits, and government management for sustainability as well as conflict compromising and for maintaining organizational authority.

For the new approach of co-management that covers all factors of integrated manner for which it has been renovated in both concepts and practices. An innovative co-management approach which is employing participatory management, was performed and practiced in 2006 under the Joint Management of Protected Area (JoMPA)) in Ob Luang National Park, Chiang Mai Province. The project also represents cooperation between governmental, i.e. Department of National Parks, Wildlife and Plant Conservation (DNP) that has their officers as the performers, and related governmental agencies, an academic group from a university, a geo-informatics center, local administrative organizations, non-governmental organizations, community committee and community network of each watershed. The concept of co-management among stakeholders regarding the participatory land use and natural resource management is applied as the main principle of the project. Facilitating co-management tools were also used including empirical data, color aerial photos and high resolution satellite images in creating maps at the scale of 1:4000. A survey of historical data regarding land use and natural resources, the documents concerning sensitivity of the ecosystem, and the condition of the area resource based were also applied. The success of the JoMPA project includes the establishment of communities' groups as Natural Resources and Environmental Management Committees at three levels; villages, sub-watershed, and national park, the stakeholders collaborated with government agencies in establishing stations as to demarcate the land use boundary and the agricultural land, residential land, community forest, and conserved forest were surveyed and mapped. Public hearings were organized to determine regulations of the community and to derive agreements between the community and the government regarding resource utilization and conservation within each forest type. The project also promotes activities beneficial for natural resources protection such as forest ordination ceremony, forest fire breaks establishment, sediment trapping dam building, and collaborative forest patrolling. From these accomplishments, conflicts on land use were reduced during the participatory land demarcation, all stakeholders cooperated in the field demarcation process based on the mutually accepted boundary, and the agreements and land use regulations could be enforced effectively. It can be said that the project led to sustainability in managing natural resources for each watersheds as Mae Tia-Mae Tae watershed and brought security on land use to the community. However, the participatory land demarcation could solve the problem of sensitivity of the ecosystem and the problem of equitable rights, it was effective only at the local level when dealing with the legal rights problem. Also, when the project ended, it could not handle the issue of utilizing land for livelihoods related to the systems of economy and

wealth. The issue of community management for the public interest versus government's management was solved just at a certain level, i. e. mainly by individual management (Prabudhanitisarn, 2008).

While the success of the JoMPA project in Ob Luang National Park happened merely partially, its results could not be fully continued and extended. Some problems are suspected to exist in the project's components. Suppose the concept and principle is right, operational procedures in the field should have been perfectly successful. Therefore, this imperfectness might have resulted from conceptual problems, structural problems, or variation in practices that led to operational problems. It is also possible that the concept is logically complete, but does not cover structural and operation problems. Therefore, this study was conducted with the following research questions; 1) What are the success and failure or variation of co-management application at the community level in Ob Luang National Park? 2) What are the factors that contribute to the partial failure or variation of co-management at the community level from central and regional agencies? The Objectives are to study and analyze the success and failure of co-management application in action at communities of Ob Luang National Park, and analyze the factors contributing to the partial failure or variation from central and regional agencies.

Literature review

1. Theoretical background

The problems of natural resource management involve the basic ecological concept needs and balance of the ecosystem. The organisms and environment have a complex relationship and changes in the environment that would lead to adaptation of organisms toward a new equilibrium point. At present, human beings have utilized natural resources to serve their basic needs and extra needs so much that the ecosystem has lost its balance. Recognizing detrimental effects of excessive natural resources use, the concept of ecologicalism has become popular. This concept considers human beings as a part of the nature that should accept their natural rights. This means human beings should limit their economical growth for sustainability of the ecosystem. This concept involves with changes in the structure of power in the unfair economy, society, and politics. It promotes social and cultural movement and participation of local communities, and opposes large-scale technologies. It links community lifestyles to the natural environment, while refusing consumerism (Bryant & Bailey, 1997). However, to solve conflicts, political ecology was used as the strategy to protect the environment by aiming to change the structure at the top part of the society by means of national administration policies and environmental laws. Nevertheless, this concept considers problems in a disintegrated manner by focusing on the structure of power but neglecting the dimension of physical ecology. Therefore, this concept

relies on using governmental power to control and manage natural resources, whereas prohibiting access of villagers to natural resources. Implementation of this concept resulted in countermeasures of natural resource users. In order to retain their power, the villagers use social means to access and manage natural resources such as forest ordination, community forest management, etc. This concept considers problems only between 2 poles, i.e. the government versus the villagers (Ganjanapan, 1997; Peluso,1992; Vandergeest & Peluso, 1993; Wiber,1993 & Wittayapak, 1996). It fails to consider the fact that each group has unequal access to natural resources due to differences in their economical power.

The concept of conflict management on natural resource utilization of the government sector has always resulted in failure because the national policies only concentrate on economic growth with the expense of natural resources being used as production base. The economic expansion then results in expansions of commercial production, city communities, and industrial areas. Conflicts on natural resources use between communities with different accessibility to the resources then arise. Regarding natural resource conservation policies of the government, it appears that the government expands its power to control natural resources use via legal measures, which are applied by its appointed officers. Thus field operations of the government disregard traditional resource management of local communities according to their culture and local wisdom. The government also fails to recognize difference in contexts and conditions of each area. Furthermore, governmental organizations tend to separate their work and responsibilities by holding different laws. This causes redundancy of their work, confusion to local communities, and even conflicts among them during their field operations (Ganjanapan, 1995; Praditsrit, 1997). Meanwhile, management by local communities concentrates on their rights to manage natural resources. Local wisdom is developed and applied for this purpose. Community leaders, local organizations, and networks of people are also developed in order to promote participatory management and knowledge transfer. For this management approach, internal factors of the community include culture, traditions, knowledge, and local wisdom, while external factors include interactions with the governmental and non-governmental organizations that come to strengthen the communities on the principles of participatory management (Nakaboot, 1993). In conclusion, management approaches of both the government and the local communities fail to solve the problem at its cause. True causes of conflicts between communities and the government need to be reconsidered. Local communities should consider conflicting issues such as equitable rights versus legal rights, land utilization for livelihood with systems of economy and wealth, community's management for public interests individual's or group's interests, and government's management for sustainable achievements versus maintaining status of the performers or the organization.

The concept of co-management or participatory management in managing natural resources refers to a management process involving cooperation among stakeholders for efficiency and equality in each area. This approach of management relies on collaboration to strengthen the operations. Participants may include relevant governmental and non-governmental organizations, as well as villagers and communities. Success of co-management may take a long time due to complexity of the process. Methods to be used for managing resources with this concept can be greatly varied, but the main principle is to allow management by the local community for sustainability of resources. This concept can be implemented with a variety of ways including returning management power to the community, developing the capacity of the community, etc. This approach promotes movement of the public sector, whether alone or in a form of "co-management" together with governmental and non-governmental organizations who serve as a mentor. Co-management can also be conducted with equal involvement of all stakeholders. One of the main purposes is to enhance capacity of local communities and the public sector in managing natural resources (Makarapirom, 1999) . Recently, participation of communities in natural resource management gained higher interest from the public and the government, and is perceived as a promising approach that can lead to higher efficiency of resource management with acceptance from all stakeholders. However, the critical problems related to natural resources and ecosystems still persist and seem to be even more severe. This is because traditional co-management focuses only on the participation process of communities by having governmental and non-governmental organizations serve as mentors, with a public mechanism serving as the core. The traditional approach fails to solve problems at the right point and disregards connectivity of components in the system. That means traditional co-management looks at a problem in a disintegrated manner and pays attention to participation of the community. Hence, it could solve problems only at a community level.

On the other hand, the co-management developed for the JoMPA project pays special interest to cooperation of all stakeholders to tackle the problem and share facts concerning interactions among the natural resources base system and the economic/ production system for balancing and sustaining of the resources. This co-management is conducted with integration of empirical data and problem-oriented movement to solve conflicts. Facts and empirical evidence are needed to support field operations under this co-management. The problems are to be handled at the community level with participation from governmental and non-governmental organizations that need to study and understand context of the area and the community. The participation process must be based on factual data of the area and true awareness of all stakeholders who need to integrate scientific and social concepts and practices, as well as local wisdom properly for the management in that specific area. The mechanism to move the co-management relies on 3

levels of committees namely village committees, watershed committees, and national park committees. By having representatives from communities, governmental organizations, NGOs, as well as local and provincial administrative offices as their members, these committees function together by moving natural resource conservation activities via application of database and a natural resource management plan. For the analysis that involves with various groups of stakeholders who have different standpoints, conditions, interests, power, etc. under the context of limited valuable resources, these stakeholders should be classified first. Such analysis should be comprehensive and cover both direct and indirect stakeholders because they place different bets on the resources, and that affects the extent and complexity of conflicts on the resource. Severity of the conflicts depends on the different levels and sources of power of each stakeholder. Interactions in terms of power exertion among these stakeholders lead to the conflicts. Hence, power levels and sources of power of all stakeholders need to be clearly understood first before understanding the dynamic of disputes over resources. Taking advantages over natural resources via power can be considered as a dynamic of collision among stakeholders with their existing power and the power to be acquired. A way to acquire their power is by presenting facts or empirical evidence that can force all parties to agree. By attempting to understand these interactions and relationships, appropriate measures for solving problems and conflicts on natural resource utilization can be implemented and will lead to successful participatory management (Prabudhanitisarn, 2002). The main concepts of co-management are integrate management with mechanisms, problem oriented approach and conflict resolution by participation with an evidence base.

Although this integrated concept of co-management applied in the JoMPA project, it is more complete logically than the traditional co-management. There were, however, still problems when implementing this innovative concept into practice. When analyzed at a theoretical level, it can be concluded that it is derived from the influence of ideas and systems of thinking, structural organization and system of Thai bureaucracy, power relationships and culture organization. The logical and practice of co-management are complete, but when faced with these influences that cause of variance.

2. Conceptual Framework

Many problems regarding natural resources exploitation and conflicts in conserved forests between local communities and government officers occurred in the past. These problems continue to exist because the operations for solving the conflicts are conducted by individual organizations that think and act separately according to their background knowledge. The stakeholders are also regarded separately, leading to failed problem solving. The causes of failure are the imperfection of the ecological and political ecology concepts that lack of integrated solutions by paying attention to each of the separate elements.

Although the co-management concept applied in Ob Luang National Park is more holistic because it integrated sub-concepts, mechanisms, and practices that allow all parties to take part in the problem solving, it is still incomplete due to the project's merely partial accomplishments. Therefore, it is interesting to study its variation due to external factors and the relationship between the factors and the concept implementation, as well as due to internal factors concerning field operations, meticulousness of the process, and relationship among all the stakeholders. To examine this variation, four components of the co-management were considered, namely the co-management concept, mechanisms for driving the co-management, tools used in the co-management, and procedures in the co-management. These components were used for solving problems in the watershed that are caused by interactions between the ecosystem and the economic/production system. The problems were solved in a problem-oriented, holistic, and multidisciplinary manner; local knowledge, empirical evidence, and learning process were also used. However, implementation of the concept depends on various factors including the management mechanism, tools, and processes, which are linked to the traditional bureaucratic system and mentality of administrators. The impact factors are the concept and thinking system, bureaucracy system, power relationship and cultural organization and variation in outputs and outcomes at Ob Luang National Park. Due to these factors, the arising inertia and resistance led to variation of outputs and outcomes as participatory land demarcation, mutual agreement, conservation activities and database system setting, etc. So, this study needs to examine the variation due to the central, regional and community level as affected by meticulousness of process and relationships of stakeholders (see Figure 1).

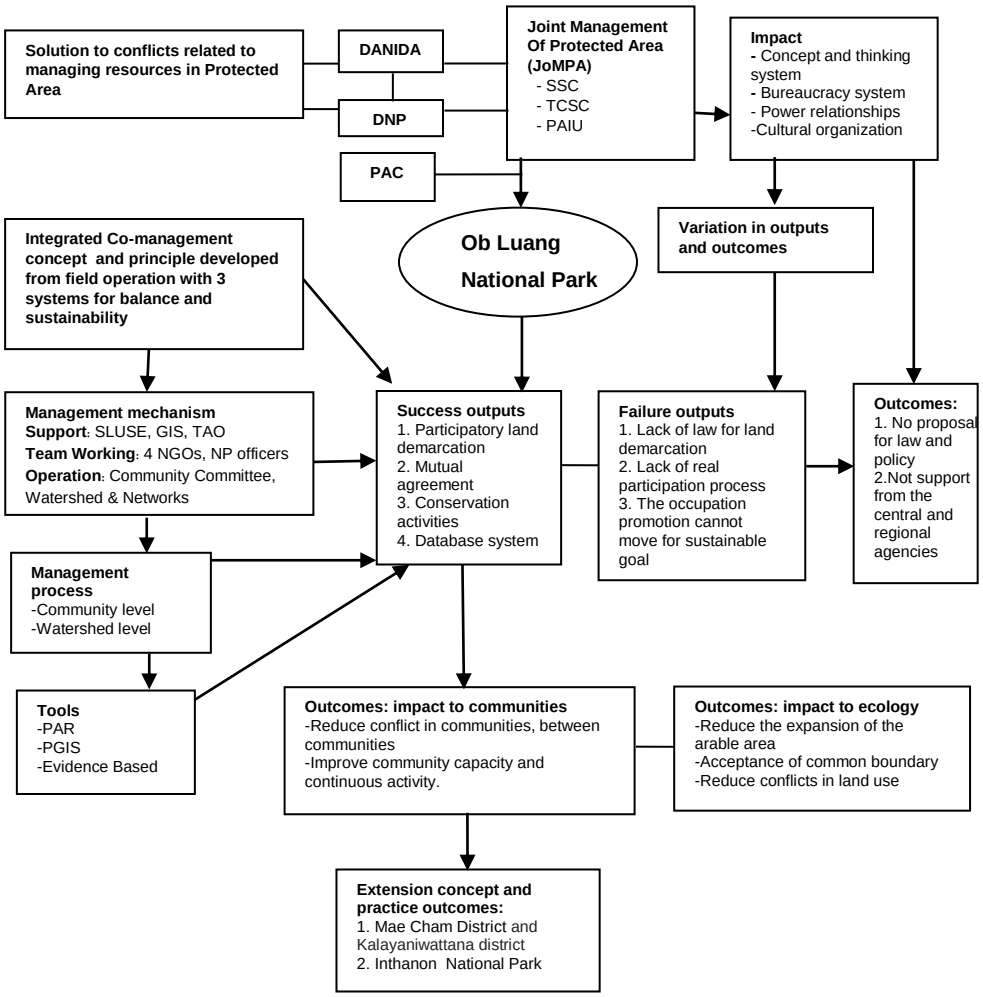


Figure 1 Conceptual framework

Methodology

1. Study Area

The JoMPA project in Ob Loung National Park, Chiang Mai province was divided by the following 6 watersheds: Mae Tia - Mae Tae watershed (23 Villages) , Mae Pae watershed(17 Villages), Mae Soi watershed (10 Villages), Mae Long-Mae Tung watershed (8 Villages), Mae Hod watershed(5 Villages), and Mae Pa Pi watershed (5 Villages). For land use types in each watershed Figure 2.

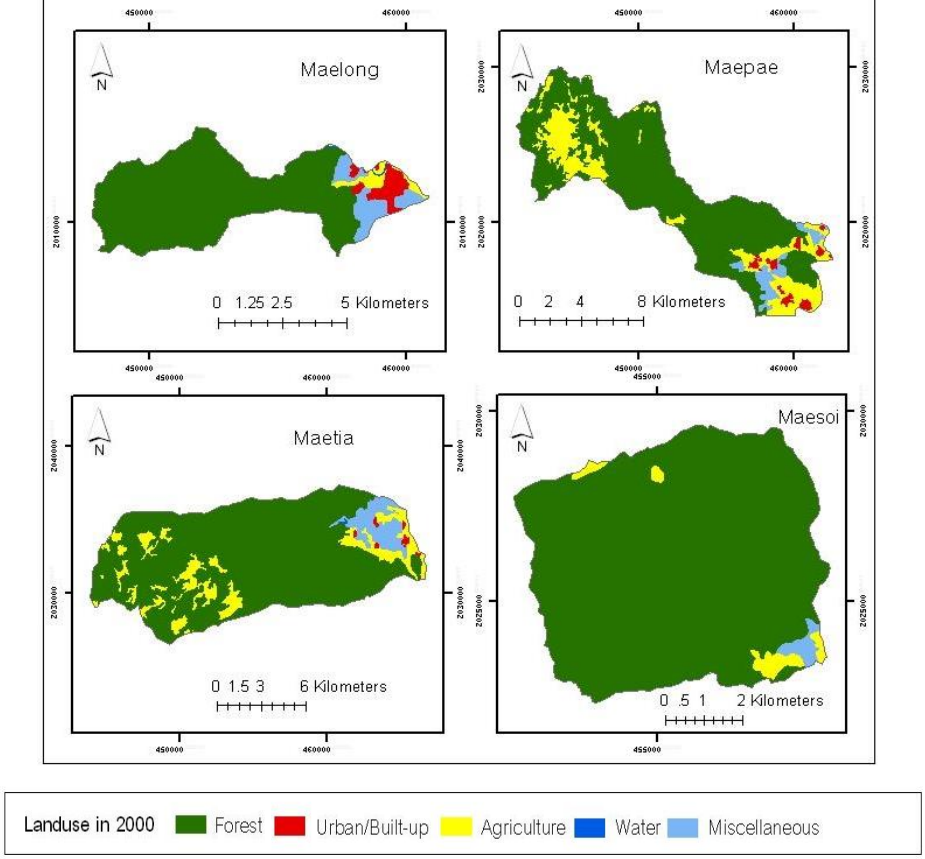


Figure 2 Land use types in 4 watersheds (2000)

(Source: Sangawongse, S., 2010)

2. Participants

The stakeholders in Ob Luang National Park are key informants as follows: 1) Community leader groups as village chief who work with Natural Resources and Environmental Conservation Committee with 3 persons from Ban Sob Tia Tai, Ban Tung Pun and Ban Cherng Doi and Sub-district Administration Organization as a mayor and chairman of Sub-District Municipality with 2 persons of Doi Kaew Sub-District Municipality 2) Officers of Ob Luang National Park, and Protected Area Regional Office 16 (Chiang Mai) as team working with committee of community, watershed and national park with 3 persons and 3) non-governmental organizations as team workings at watershed with 4 persons. In addition, SLUSE work as academic support team working with Geo-Information Watershed Center with 2 persons.

3. Data Collection

This research collected comprehensive information and study in-depth case studies. The collected data are quantitative data and consisted of data from agencies such as communities leaders groups, National Park officers and NGOs. Data was also collected from sampling stakeholders who were selected for case studies during this study period. The following methods of data collection would be used: 1) In-depth interviews as a research method for obtaining some data which could not be collected from the general interview. In-depth interviews included all stakeholders as the leaders of community organizations at the watershed level, officer of national park and NGOs.The 14 samplings select from 23 villages at Mae Tia - Mae Tae watershed, Doi Kaew Sub-District Municipality, National Park officers and NGOs. 2) Spatial data is geo-referencing data such as topographic maps, aerial photographs, and satellite images which provide details in land utilization.

4. Data Analysis

Data analysis was conducted by dividing results into two topics as secondary data of the JoMPA project at central, regional agencies and Ob Luang National Park, and the analysis of ten outputs of operation results that measure of success and failure. Then, a comparison chart was made from the project's outcomes and outputs were both successful and unsuccessful at two levels are the central agencies as Protected Area Innovation Unit and regional level, protected area as Ob Luang National Park levels. In addition, the results from in-depth interviews led to the current activities as well as problems and obstacles in the implementation of joint activities and use content analysis and comparative with the operation results of the central and regional agencies in tables of analysis results and qualitative summary.

Results

Based on this research, it was found that the JoMPA project in Ob Luang National Park was successful and unsuccessful that effect to cause of variation at the community level. The key factors that affect the variance of co-management at the local level, originated from central and regional agencies.

Case study of Mae Tia - Mae Tae watershed

For results achieved that used a new engagement process between staff and community stakeholders by a discussion with each other for the approach to clarifying land use based in the forest. This leads to a land-based planning process involving all parties at the watershed level. The successful outputs are participatory land demarcation for land use boundary, the mutual agreement on utilization of the special use zone areas, conservative activities for restoring natural resources, and a database system**.**

Table 1 successful outputs in Mae Tia **-** Mae Tae watershed

	Outputs	Success	Analysis
1	Participatory land demarcation	Land use boundary as arable and forest area (23 communities).	By use the color aerial photographs at 1: 4,000 scale (2004) with participatory process support from NGOs as SDF, IMPECT and SLUSE.
	Outputs	Success	Analysis
2	Mutual agreement	Assignment agreement between communities and watershed level**.**	Take care of Don Keaw Tambon Administrative Organization.
3	Conservative activities for restoring natural resources	Fire break, surveillance, natural resource conservation, firefighting and reforestation by Community and Watershed Network Committee.	Support from the community initiative fund and outsider as SCG.
4	Database system	Maps and books for each villages and portable version at the headman office.	Support from Geo**-** Information Watershed Center and NGOs**.**

The example of regulations for the natural resources conservation at Mae Tia-Mae Tae watershedas as "Regulations for the natural resources conservation at the village level (special use zone) Huai Khanoon, Village No.9, Doi Kaew Sub-district, Huai Sompoi, Village No. 8, Doi Kaew Sub-district, and Pa Kluai Pattana, Village No.14, Mae Soi sub-district, Chom Thong District, Chiang Mai province"

Clause 1: This regulation shall be called "Regulations for the Natural Resources Conservation the Village Level".

Clause 2: Under this regulation, "Committee" refers to 21 committees assigned to conserve the community forest.

Clause 3: The assigned committee shall implement this regulation strictly.

Clause 4: Natural resources shall mean the forest, wildlife, aquatic animals, soil, rock, and mineral. It is also the main responsibility of the assigned committee to take care of this matter.

Clause 5: Forest resource management

Clause 6: Cultivation land/ residence/ public land

Clause 7: Utilization of land (Nawapramote, 2013).

Moreover, the mechanism to enforce the agreement, in this committee, included the Conservation Community Committees, Watershed Committee and Don Keaw Tambon Administrative Organization. The following factors that make successful results are the concepts and practices are completed, clear, and proper for the entire of land use problems. There are the key guideline under the following frameworks and set the management mechanisms as key elements to drive the process of participatory management. However, these were coordinated with multi-level and party stakeholders. The process must be included to bridge the objectives with its purposes and operation plans. Strategic planning can be set out only if the concept is completely outlined for further operations based on a situational analysis of each area and tools play a key role on the co-operators or performers of all levels. Accordingly, it is essential to create complete tools in response to the needs of the involved parties such as government officials, NGOs, and locals, that tools are PGIS, mapping, evidence base can be defined as documents, photographs, motion pictures, etc. The agreement is likely to be achieved only if the problems are broadly shared and discussed both formally and informally with regards to all required information through appropriate mechanisms, tools, and procedures based on evidence. And the commitment refers to regulations made as the guideline for resources utilization. However, this commitment must be agreed by all involved parties since it is formed among community members to avoid land expansions to the forest area and trespassing by outsiders through the enforcement of community's regulations before the national laws. There must be a sequence of operations that join with the action plan together and focus on output results for each setting activities. Then the practice with regard to relations and relationships for each plan activity before and after. Finally, the outcomes are the impact of ecology such as reduce the expansion of the arable area, acceptance of common boundary and reduce conflicts in land use at watershed level.

The success of tools such as PGIS can extension for land-forest management at Mae Cham District and Kalayaniwattana district and the local agreement of natural resource management and development as municipal law at Ban Luang Sub-district, Chom Thong District, Chiang Mai province can promote and support natural resource and environmental management at Inthanon National Park.

The failure outcomes that varied in the operation level are as follows:

1) Due to the Department of National Park, Wildlife and Plants, the guarantee of community right in land use demarcation boundary and common agreement with national park. It is no law that guarantees of special use zone areas. That may be because of laws that conflict themselves and because the policies of the executives are unclear.

2) After the implementation of the boundary in land use and forest areas, it is no real participation process for effectively drive natural resource management activities in forest

areas and there is a lack of participatory natural resource management in participatory forest areas.

3) Lack of alternative career promotion activities for sustainable production. This had been done at the end of project in 2008, no funding was provided and the long-term sustainability of production was required.

Table 2 Failure outcomes at Ob Luang National Park

	Failure outcomes	Analysis
1	There is no law that guarantee special use zone areas**.**	The national law and policy cannot be integrated into policy of district and province.
2	Lack of real participation process for effectively driving natural resource management activities in forest areas.	The problems related to relationship with district/ watershed institute that due to uncertainty of roles and duty.
3	No funding was provided to drive alternative career promotion activities for sustainable production in the long-term.	The support of knowledge and information that has not been achieved for operation that needed time such as operation about knowledge and understanding the local community.

There are factors leading to problems and obstacles that affected the results, which can be summarized as law and official regulations for the government's role and more influence on the operational level. Because the process with reference to the announcement of the special use zone that will have to wait for the approval of the policy statement. The management mechanism, the communities and watershed committees lack work experience, development/ management skills and monitoring work. The community engagement process takes a great deal of time and there is no serious push from all sectors at the local level. It causes delayed operation and is a hindrance to the implementation process. And the tools have some problems as some plans and activities are not clear. The budget distribution is not thorough, and the equipment used is strictly limited.

The failure outputs and outcomes as variation from the central and regional agencies are problems of the management mechanism that involve the thinking system, system of bureaucracy, power relationship and cultural organization.

Table 3 The failure outputs and outcomes from the central and regional agencies

	Outputs	Outcomes	Analysis
1	Government/ public and stakeholders seriously participated in the protected areas management process.	The management mechanism could not be implemented in accordance with the plan, principles and policies set forth in the log frame of the project.	1. The bureaucratic system has problems with organization and management mechanism that work as routine work. 2.The Protected Area Committee (PAC) is not able to fully support and coordinate at the regional level.
2	The operation of participatory land demarcation in the protected area and the mutual agreement on utilization of the special use zone**.**	There was no affirmation area after the definition of land use areas and forest areas.	The law and practice at national park level is not clear, restrictions on the cumbersome functions of responsible agencies and top executives often use their legal authority.
3	The natural resources management plan**.**	There was no participatory integrated forest management activity.	Support but not through participatory approaches and processes.
4	The local communities should be promoted on occupation and income without giving any negative effect to ecosystem**.**	It cannot be driven by sustainable career options in the area.	Because the program ended and closed in 2008, it cannot fully support community activities and no such activity that drives the development of sustainable production systems that are a significant achievement of the project
5	The development/ improvement in operational potential of personnel.	Reports of training and oversea visiting trip but still not successful in terms of achievement.	1.The nature of the training is only a tool to carry on and the result is not transmitted. 2.There are no training results and work to deploy in the implementation of the project.

Factors affecting the failure outputs and outcomes are as follows:

1) Concept and thinking system at the executive and regional level, they did not transfer and share co-management concept ideas and participatory management approaches as the new ideas for all the policy and practice officers at the central and regional level.

2) The management mechanism at the regional and community level, the problems of Protected Area Committee (PAC) were held back with their main role working as routine behavior and hardening work. There are barriers to collaboration at the regional and local level.

3) The nature of the office setting up the Protected Area Innovation Unit for the implementation of the project area management. This was a good start for the project, but during and after the operation it did not create new mechanism to drive the management of the national park. They did not think to create the new role of the offices for the new national park management that to drive a real participation. Therefore, there was no support for the people who come to be the prime rate and it was found that most operational problems often lack people responsible for ongoing operations.

Discussions

Co-management is considered to be the weakest linkage of two concepts, natural resource management by government and human/political ecology for conflict resolution and it introduces the necessary parts to create for concepts. The first concept was the government agencies take care the natural resources and ecosystems management. It was found to be a state-based concept that emphasizes the conservation of natural resources and basics of an ecological forest. It then expands the power to control and manage natural resources through the use of various laws (Anumanratchathon et al., 2002). The second concept is natural resources management by the paradigm of human ecology and the concept of ecological politics that attaches importance to human beings. The forest is a common property that benefits users in multiple dimensions which links the use of community rights. It is considered as a complex management system that strengthens community power from social capital, culture and local knowledge that are the negotiating power of the state. (Boonkhamyuang, 2003; Ekasingh, 2000; Ganjanapan, 2000; Ramitanon,1993; Santasombat, 2000 & Wittayapak, 2000). This concept also lacks linkage between physical ecology, other power groups and real-world contextual conditions. However, the fragmented solutions, lack of a holistic view and a lack of facts in the area requires participatory thinking to fill in weaknesses, and reinforce the strengths of resource management (Makarapirom, 1999).

The collaborative management at the community level, the stakeholders work as groups working that joint together in the issues and facts at the area. They were learning and

sharing knowledge for management mechanisms. Moreover, they used empirical data as the participatory land demarcation and common maps from the real area for conflict resolution.

The tools are different from participatory land use planning that uses no detailed maps and lacks common ground realignment. The use of facts in the area and the decision to solve the problem benefits all parties equally. The co-management style works as an organization management system that is more closed system based (Thomas et al, 1982). But while natural resource management is more open system-based, it has already been done as Joint Forest Management Resolution-JFM (Sinithipong, 2015) and (Ostrom, 1990 and 2010) on shared management experiences in the international context (Boonnark, 2011). However, there is a difference between the use of empirical data commonly accepted in shared management processes and the diversity-based management mechanisms.

Based on the achievement of the joint management project in protected areas: a case study of the Ob Luang National Park was conducted based on the analysis that the failure outcomes are the variance of co-management that arises from both the external and the internal organization in the area of operation. The failure of the project is the variability of co-management for this research that is based on the synthesis of the impact of the influence of four factors that can be considered as four-dimensional and are as follows:

1) Factors related to understanding concepts and thinking systems of executives and practitioners at all levels. Concepts related to people, forest and co-management are about managing shared resources that the concepts are effective. But the co-management that is used in Ob Luang National Park is different from central and regional concepts because of this integrated co-management concept with the conceptual framework developed by the team working in the area. For practice, the area of operation has used the cooperation of all parties that using knowledge and problem learning process plan and resolve common problems of all stakeholders in the area. The use of empirical data is accepted commonly in the problem management.

2) The bureaucratic factors are the structure and the system, management, budgeting, personnel, rules and routine working. There are corresponding works that the bureaucracy has structural problems with such as a delay in administration, centralization of power, issues of decentralization and transfer of mission and adherence to the laws. For budget management in the Ob Luang National Park area, from the beginning they have managed their plan and a shared budget, prepared a joint action plan, and integrated plans/ frameworks for joint implementation. This has made it possible to clearly separate responsibilities and in accordance with the action plan, allow for the implementation of the plan and budget setting. However, the officials and villages can manage activities related to the use and natural resources management by a budget supported from outsider sources.

3) Power relations of executives and practitioners as well as those who received benefits. Although the power relationships of the community are under the control of the state, the power structure of modern communities is a complex overlapping relationship and a multi-dimensional network of powers so it causes conflicts throughout. There is also consistent work in the distribution of resources that underlie the power of inequality and a social network for defining rules to support the resource management and bargaining power of the communities. At Ob Luang National Park, it was found that the people in non-formal relationships use the process of talking, learning, and exchanging knowledge. Existing empirical data has been used in conjunction with co-operation in real-time problem solving and villagers have more confidence. The groups working did not use the subject of the law for joint working because they were different in role and status at the area.

4) Organizational culture factors of bureaucracy. The specific culture is supposed to be work-oriented with evaluation and the support of the top executives, but it was in conflict with the actual organizational culture which emphasized the satisfaction of the supervisors rather than achievement. Because the agencies misunderstand the co-management concepts and processes, they have no fully supporting in the area.

Conclusion and Recommendation

The study results found that the using of co-management by the Joint Management in Protected Area (JoMPA) project at Ob Luang National Park provided successful outputs at the community level as participatory land demarcation and mutual agreement. After defining boundaries participatory resource management, some part of wilderness areas are varied and required. But they are not tangible nor significant, especially the sustainable development career opportunities, which are being blasted into all areas and have not yet been processed. The achievement of implementation in the JoMPA project is incomplete, the primary cause is concerned with the central and regional support, resulting in new patterns of propulsion in the area, and the theoretical analysis can be concluded to be influenced by concept and systems of thinking, organizational structure and system of Thai bureaucracy, power relationships and cultural organization that make the resulting variance and achievement of the project not yet complete. At the local level, the academic support has played an important role in advocating and has added details on both the rationale and co-operative. This results in a degree of achievement and provides new, empirical knowledge that supports the problem-solving process of all stakeholders and makes for more complete co-management.

However, the concept of participatory resource management or co-management is considered to be completely logical. When confronted with a powerful context, the view that co-management affects the status quo and formal powers make the co-management faced with the problems, obstacles that all variances. In this complex context the co-management

concepts have been adapted and are considered to be the core theoretical knowledge to drive resource-intensive solutions. The traditional resource management concepts were focus on the rights and the uses of local communities, the complex management concepts were lack the contextual perspective of economic, social change and integrated of all systems.

Policy recommendations are as follows: 1. Reorganization of centralized power brought success to a case study for the expansion resulting in other local conditions. The supporting of academic are the interdisciplinary scholars and technical connection in long-term as the results for more academic authority will contribute the new policy changes. 2. If we are unable to reform the power of bureaucracy and decentralization, we should support the capacity building in community organizations, local governments and partnerships at the district level. Moreover, the development of information and knowledge for the use of natural resources management can be leveraged through more communication, dissemination and extension. Finally, development of local laws and acts can help promote the rights of local communities. The laws can be enforced and serve as a model for expanding both the area and the policy.

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