

PARTICIPATORY UPPER MAE GUANG BASIN MANAGEMENT STRATEGY FOR CIVIL SOCIETY, THAILAND

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ABSTRACT

The research aims to analyze the model of the process of managing the level of obstacles and factors affecting success in managing the Mae Guang Basin, as well as suggesting a strategic and mechanical approach for effectively managing the basin as qualitative and quantitative research. The tools used to collect data are surveys, questionnaires, interviews, group meetings, workshops, and adversarial meetings. The results showed that the model and process of management of the Upper Mae Kuang watershed consisted of 4 types: 1) state-management 2) royal-initiated project management 3) community-based management 4) Management by private sector agencies or development organizations using the operating process according to the King Rama IX's science, namely 1) working step by step by starting out with the small things and going into large ones, 2) using the process of reforestation in the minds of people for learning, understanding, accessing, and developing, 3) promoting and supporting based on culture, natural resources and community environment, and 4) getting participation and cooperation from all sectors The level of problems and obstacles in the management of the Upper Mae Kuang Basin with the participation of civil society Quantitatively, there was a small degree in qualitative results, and the public sector lacked knowledge in watershed management in a holistic way. The awareness information between government officials and people was different, and in the implementation of various public resolution development projects there were some redundancies. Factors affecting the success of the management of the Upper Mae Kuang Basin consisted of 1) a body of knowledge that is consistent with the geographical social characteristics, and having a learning process that can raise awareness and create understanding based on culture, and wisdom, 2) an internal explosion that arises from understanding, awareness of the value system, access to opinions, guidelines for development and development, planning, decision-making, and action, 3) participation, awareness, love, and unity strengthened by a group processing network, and a mobilization of energy from all sectors including government, private sector, academics, developers and communities; and 4) holistic joint management that has a visionary drive, makes plans, getting people to work together, and manages all dimensions that emphasis on a relationship. Strategic proposals and mechanisms for the participatory management of the Upper Mae Kuang Basin by civil society are as follows: 1) Integrated Management Strategies by Mechanism of the Integrated Watershed Management Committee, Watershed Ordinances and Watershed Management Fund. 2) Strategies for driving the management process by mechanisms of the Institute of Natural Resources, Environment and Lifestyles for the Future that serve towards driving knowledge management as the axis of cooperation for the expansion of concepts, principles, and bodies of knowledge.

Keywords: Watershed Management Strategy, Watershed Management According to the Royal Initiative, Participation of Civil Society

INTRODUCTION

His Majesty King Bhumibol Adulyadej, Rama IX, was aware of the long-standing loss of forest watershed areas and therefore initiated the establishment of the Huai Hong Krai Development Study Center. Due to the royal initiative on December 11, 1982 at the Huai Hong Krai watershed area in the Doi Saket District of Chiang Mai Province, an experimental study on a development model based on the landscape and society of watershed areas for people to live in the forest sustainably was conducted in order to solve the crisis of watershed degradation and apply the knowledge gained from the research. A suitable sustainable development model for this experimental research is “the development of the source to the destination forest as the development of fisheries along the way to the development of agriculture and others” (The Office of the Special Committee, 1988) to extend the results further. On March 25, 1992, a royal initiative was given to apply this knowledge to the management of the upper Mae Kuang watershed area according to the Khun Mae Kuang forest development project based on the royal initiatives (FORUM 21st, 2018).

The Upper Mae Guang Basin is the upstream area of Mae Guang Udom Tara Dam covering six sub-districts: Thep Sadet, Pa Miang, Choeng Doi, Luang Nuea, Mae Pong, Doi Saket and Huai Kaeo Mae On district. It has an area of approximately 345,000 rai, with the highest peak of Doi Phu Lanka Luang at an altitude of about 2,031 meters above sea level. Mae Guang Udom Tara Dam has a population of approximately 27,032 people in the Upper Mae Guang River Basin, 11,400 households, 55 local houses in six sub-districts, two districts, and has evolved to be a settlement along with the establishment of Chiang Mai (2015). In 1839, the traditional ethnic group was the Thai Kageo (Twelve Panna) and the Lanna indigenous people lived their lives traditionally by farming in the hillside, farming and gardening areas on the high ground (Ongsakul, 2018).

Since 1992, the Mae Kuang watershed area has been managed according to King Rama IX's scientific idea for more than 25 years. Upstream forests produce water flowing into the Mae Kuang Udom Thara dam uninterruptedly. The communities in the watershed can live in harmony with natural ecosystems, while the watershed areas in the 13 Northern provinces, which are the origins of the four rivers, are the Ping River. The Wang River, Yom River and Nan River flow together to form the Chao Phraya River, which is an important bloodline of Thailand. Approximately 8.6 million rai has been destroyed. There are about 800,000 people living in and making use of the area to grow monocultures. Massive rate of herbicides, weeds, pests, bald mountain watersheds are in a critical state, affecting social life and the ecosystem as a whole, causing economic damage worth more than 469 billion baht per year (Pohjarern, 2016) The researchers realized the empirical figure of the Upper Mae Guang Basin to be an example of the success of effective management of the Upper Basin, so they studied the process model of success management and synthesized the watershed management strategy by engaging civil society in all dimensions in order to set an example of learning and expanding the development of mechanisms to drive the King Rama IX's scientific principle

LITERATURE REVIEW

In a study of the participatory upper Mae Guang Basin Management Strategy of civil society, the researchers understood the fundamentals of strategic management to apply as a guideline for conducting research. This study defined the process of determining the strategy, starting from analyzing problems and the need for watershed management, determining the direction and determining the strategy of managing the Upper Mae Guang Basin in a participatory form of civil society. Researchers will use knowledge and integration of various theoretical concepts to ensure that research integrity consists of concepts and theories involved in participation in development, with participation processes at the heart of development at all levels, which will contribute to the power of all parties to jointly think together. Receiving the rewards of collaborative thinking and the result of joint thinking lead to an effective development, which many scholars have described participation as

being conceptual, full of principles, processes, and practices as follows: Koomkhinam (1997); Srihuaian (2002); Bureekul (2005); Kasemsuk (2014); Subkapang (2016), The implications of public participation in the manner of the development process from beginning to end include joint thinking, joint analysis, joint planning, decision-making, implementation, management, monitoring and evaluation, as well as the allocation of benefits incurred and present.

Such knowledge has been pushed further into practice in line with the concept of Duangporn Hoontrakul, who expressed participation in the form of labor, and contributions toward joint equipment meeting as a member (Hoontrakul, 2007) Also, this idea is in line with Thawilwadee Bureekul's proposed 4-step participation process: stage 1 is involved in planning stage 2, participates in practice/implementation of stage 3, participates in the allocation of benefits, and stage 4 participates in monitoring evaluations by each mechanism in practice. In each practical mechanism, leaders and leaders must take into account the use of psychology as an important reason mechanism for successfully combining groups, such as understanding the culture of faith in leaders (Bureekul, 2005). This principle is consistent with the theory of social psychology with a view of social behavior and action and is consistent with Singhal's classification of social action in four steps: 1. Rational action; with values (Value) 3. Actions according to tradition (Traditional) and 4. An act of affection (Singhal, 2001). If this is the case, community groups are ready to work for the public in different ways, also known as civil society drives, so it must be understood that the term 'civil society' has different meanings and is used differently from time to time, as in a time when it was used in the sense of a civilized society focused on commerce and manufacturing rather than war (Ferguson, 1997). Later, in the late 1980s, the meaning of civil society was rebuilt and tied to a democratic regime as something that created stability for democracy (Kumar, 1993). Interestingly, in this sense, civil society has become an important variable to the survival of democracy or as a threat to democracy if so-called civil society deteriorates (Putnam, 2000). Therefore, considering conceptually, civil society was considered the intellectual product of the 18th century, especially in Europe, when citizens began to seek their position in aristocratic states, along with the regression of social order. However, during the 20th century, civil society was tied to many other ideas or words, such as civility (Elias, 1994; Shils, 1991). Participation and civic mindedness (Verba et al., 1995), public sphere (Habermas, 1996), social capital (Putnam, 2000), culture (Gramsci, 1971), and community (Etzioni, 1971) for example, are parts of a civil society viewpoint that emphasizes different dimensions and components.

From the foregoing, it can be seen that the concept of civil society focuses on state power, politics, freedom of the individual, economic functioning, social capital, etc. One explanation that may be mutually accepted is civil society. It is a joint effort of various institutions, organizations and individuals that voluntarily bring about mutual benefits between the family area, the state and the market (Anheier, 2004). Consequently, it is consistent with Choochai Supawong's definition of "civil society", which is "the way people in society see a crisis or problem in a society that is complex and difficult to solve with a common objective that leads to civic consciousness, coming together as a civic group or organization; the government sector, private businesses or the people that are in a partnership jointly solve problems or take some actions to achieve the objectives with love, reconciliation, and generosity under a management system that is linked as a civic network" (Supawong, 1997).

Sustainable development concepts and theories mean that communities can make changes in the way they desire and the balance of the environment is maintained for that change over time (Office of the National Economic & Social Development Council, 2017). People's Participation Development is a philosophy that focuses on activities that community citizens have realized assuming the roles as developers rather than just being developed. Thus, community citizens can benefit from the development of watershed resource management concepts and theories, which are not just about managing areas according to the natural ecosystem definition, but managing the collaborative eco-social-cultural relationship between people as managers and the use of resources

and as a social unit on the basis of management. One living in a social harmony that is based on a coherent and non-fragmented existence and natural resources, which requires close consideration of relationships, will see that the management of watersheds by communities has a very diverse dimension: community rights, environmental natural resources, biodiversity, ecological aspects, balanced development of areas, beliefs, rituals and traditions, and the lifestyle aspects of people linked to nature.

RESEARCH METHODS

Location of the Study

The Upper Mae Guang Basin, as the location of the study, covers the Thep Sadet Sub-district, Pa Miang Sub-district, Choeng Doi Tambon Luang Nua, Mae Pong Subdistrict, Doi Saket District, Huai Kaeo Subdistrict, and Mae On District with an area at approximately 345,000 rai of land. The area is important for the ecosystem and the establishment of communities in the past. It is a well-resourced basin in all aspects benefiting communities around the basin. Whether it is the utilization of agriculture, fisheries, and consumption, it is important for locals to use as water transportation routes that allow people to exchange cultures, ideas, and information which develops a diverse mix of cultures in the Mae Guang Basin (Figure 1).

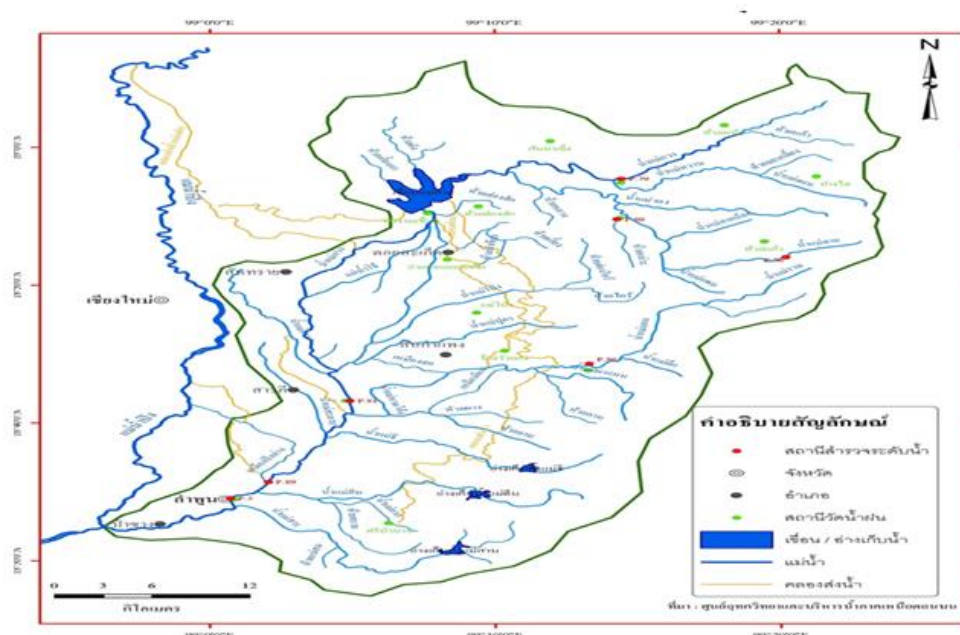


FIGURE 1
ROUTE OF THE UPPER MAE KUANG RIVER BASIN

Source: Sustainable management of watershed areas according to the Royal science, wisdom, and social landscape: Mae Kuang River Basin

Population and Sample

This is a participatory research from all sectors involved in the Mae Kuang River Basin, consisting of the Mae Kuang River Basin Network Committee, relevant government personnel, experts, academics, community leaders, local scholars and people in the area by defining the sample groups and key informants into three groups as follows:

The first group, the Mae Kuang River Basin knowledge-removing stage, consisted of the River Basin Network and Scholars Committee of Luang Nuea Sub-District Community (Huay Kang Nam), Pa Miang Sub-District Community (Nam Mae Kuang), Thepsadet Sub-District Community, (Nam Mae Wan-Nam Mae Wong), Huai Kaew Sub-district (Nam Mae Lai), Choeng Doi Sub-District, and Mae Pong Sub-district with questionnaires distributed to 400 samples, 10 interviews, group meetings, 5 river basins, 250 people, workshop 80, critique forum 80 people.

Group 2: A forum to extract knowledge from local government officials and the Mae Kuang River Basin Network Committee. Interviewing 10 people, group meetings with 5 river basins of 80 people, workshop with 80 people, critique forum with 80 people.

Group 3: Academics, experts and executives of government personnel involved (This population does not have to be in the 5 sub-basin areas of the Mae Kuang River Basin). Interviewing 10 people, group meetings with 5 basins of 80 people, workshops with 80 people, critique forum with 80 people.

Tools for Research and Quality Inspection

1. Tool creation process - the tools for this research consisted of a questionnaire, an interview form, and a form for brainstorming questions.
2. Tool quality inspection - to check the quality of the tools, the researchers used the tools created. For the research study, the validity was tested by determining the Index of Conformity (IOC) by the assessment results classified by experts and passing the assessment criteria.

Data Collection

1. Document analysis is a study of documentary data by researching the collection of primary source documents, including information technology, thesis research, articles, journals, books and other related publications, which are systematically compiled as databases for research and presentations in group meetings, workshops and activities at all stages of research.
2. Field studies are the area of community data collection after studying the documents to provide a framework for conducting various actions to check the accuracy and the most up-to-date information while exploring physical characteristics. Informal interviews, stakeholders such as the Mae Guang Basin Network Committee, government personnel involved experts, academics, community leaders, local sages and local residents.
3. Setting the stage workshops for group meetings is to raise opinions from all relevant parties at the five branch basin levels to take lessons in watershed management, analyze demand problems and guidelines for participatory watershed management development.
4. Data analysis and synthesis is where all the information is processed to prepare for a summary of the lessons and outline strategies and mechanisms for managing the Mae Guang Basin civil society participatory event, and present it in the forum of the stakeholders' criticisms in order to obtain complete and reliable information.
5. Organizing a critique forum is for presenting information on the strategic lessons and mechanisms in the Mae Kuang River Basin management with the participation of civil society for all stakeholders to be informed of the strategy and verify the correctness. It is also to allow for suggestion and improvements to add additional information to make the work complete.

Presentation of the Data Analysis Results

This research obtained data from the analysis of two parts, namely qualitative data and quantitative data by dividing the presentations into qualitative data. The field surveys, interviews, group meetings, critiques, and information from various relevant sources were used to support the presentation to confirm what the researchers found in each issue. The questionnaire will be presented in the form of a table using descriptive statistics to describe variables such as frequency, percentage, mean, and standard deviation according to the variable characteristics along with a descriptive essay

RESEARCH RESULTS

This research is divided into four areas as follows:

1. The model and process of management of the Upper Mae Kuang Basin consists of four types: 1) The management model by government agencies is the implementation of roles and duties with a budget plan that has been allocated from the agency. Each one has its objectives, goals, and performance indicators as a determinant. 2) The management model by the implementation of the Royal Initiative Project is carried out by a working group consisting of personnel and staff from relevant agencies. There is a center stage in coordinating operations, planning, and setting objectives and goals. 3) Community-based management model. This is an implementation of a lifestyle according to cultural traditions with the Village Committee and the Natural Resources and Environment Conservation Group as the coordinating center with the participation of community members and agencies. 4) The management model by the private sector and NGOs is to promote and support community activities according to the needs of the community or jointly plan on managing the activity process.

The nature of watershed management activities consists of five activities: 1) Protection and maintenance of natural resources, such as patrol activities, suppression of regulations, and 2) restoration and improvement of ecosystem efficiency, such as planting three types of trees. There are four benefits such as reforestation, building upstream check dams. 3) Development, promotion, support and development of the community economy such as career development, support for production factors, creating learning processes, sustainable use of resources, development of community economic system based on resources. 4) Development of group participation processes and networks such as group process development, group formation and watershed conservation network, watershed management committee, cultural activities based on Sued Cha Ta Forest culture, and streams of environmental education activities. 5) Development of learning centers for model communities, for example, Baan Pa Sak Ngam, a model of river basin rehabilitation under the royal initiative, Baan Mae Kampong, a model for ecotourism management, and the Ban Pang Champi community, a model for the restoration of natural water resources.

The process of watershed area management is driven by the principles, concepts and theories of His Majesty King Bhumibol Adulyadej Rama IX as follows: 1) Proceeding step by step from small to large management. The Upper Mae Kuang Watershed area is defined as the operational area divided into three phases: Phase 1 - 30,000 rai watershed area; Stage 2 - 70,000 rai area; and Stage 3 - 245,000 rai area covering the upper Mae Kuang watershed area for training purposes, management of skills, and creating role models for effective operations. 2) Using the process of reforestation in the minds of people who learn to understand and develop the starting point of development is to plant a forest in the minds of people to raise their understanding and awareness, and then gradually deciding to consider the appropriate operating guidelines in accordance with the characteristics of the geographical society as necessary. 3) Promotion and support based on culture, natural resources and community environment; each community has a cultural and wisdom base that has been accumulated as a way of life support that takes into account the cultural base of the community as the connection towards change in the development approach that leads to happiness. 4) The process of participation and cooperation from all parties is the process of mobilizing resources from all sectors, reducing conflicts, creating justice, and simplifying joint operations.

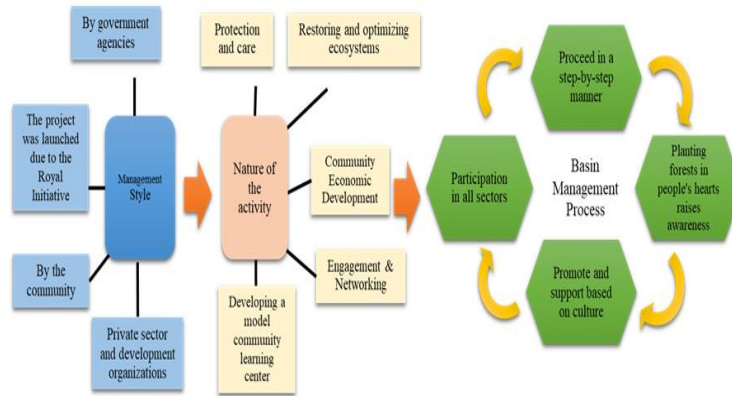


FIGURE 2
MAE KUANG RIVER BASIN MANAGEMENT MODEL AND PROCESS

2. To analyze the level of problems and obstacles in the management of the Upper Mae Kuang River Basin with the participation of civil society. From the study, nine problems and obstacles in the management of the Mae Kuang River Basin were identified as follows: 1) People in the Basin area have a feeling of ownership of natural resources only in their own communities. 2) There is little enthusiasm for activities that show little awareness, love and cherish for the local natural resources. 3) Information reflecting people's problems and needs has not been put into place, such as solving problems and development at the local level. 4) The implementation of government development projects/problems is redundant. 5) People have little knowledge and understanding about holistic watershed management. 6) Government management is limited and often in delay. 7) There is a different perception and understanding between government officials and people. 8) There is a lack of fair use of natural resources and the environment in the watershed. 9) Integration of local wisdom with modern management is still not possible. The results of the analysis of the questionnaire concluded that the majority of respondents did not actively participate in the management of the Mae Kuang Basin. The respondents who participated in the Upper Mae Kuang River Basin management were mostly community leaders. What are the preconditions for the success of the watershed management in order to be able to propose strategies and mechanisms for the management of the Upper Mae Kuang Basin with participation by civil society?

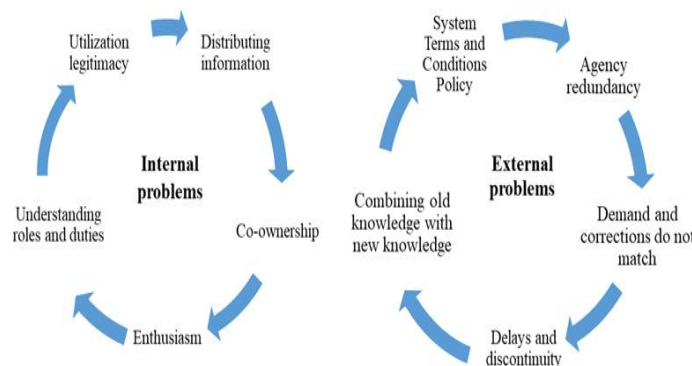


FIGURE 3
A PARTICIPATORY ANALYSIS OF PROBLEMS AND OBSTACLES IN THE MANAGEMENT OF THE UPPER MAE KUANG RIVER BASIN BY CIVIL SOCIETY SECTORS

3. The success of watershed management in terms of ecosystem structure showed that the upper Mae Kuang watershed area had fertile quality. The watershed forest resource has changed from a dense forest of 7.93% of the watershed area in 1990 to a watershed forest with 51.62% of the watershed area in 2016. The amount of free water flows into the Mae Kuang Udom Thara dam in the year 1993–2000 with an average volume in September of 43.63 million cubic meters, thus increasing to 44.47 million cubic meters in the period of 2001–2016. This event demonstrates the efficiency of watershed functions in collecting water and releasing water from the ecosystem more efficiently. The way of life of the watershed community reflects the pattern of “people living in the forest with support”. The community has learned the King's science, principles of sufficiency economy lifestyle, sustainable use of watershed resources, adapted from the traditional way of phasing out rice farming on the area. Continuing the Suan Miang lifestyle, developing an agroforestry system, planting complementary crops according to the Royal Initiative, three benefits leading to four positive outcomes such as planting coffee in combination with upstream forests, planting persimmons, adjusting agriculture to be integrated into the system, and learning to collect, develop, and add value to their trade. From the forest products and ecosystems, it was found that 1) the upper highland areas were utilized in the agroforestry system and ecotourism; 2) the central areas where the slopes of the foothills to the slopes along the creek were utilized as land with terraced farming, combined with mushroom cultivation, seedling propagation, ornamental flowers and plants, and processing of agricultural products, and tourism - homestay 3) The lower area, which is relatively sloped - flat, has a form of utilization of the area in the form of farming - paddy - mixed plantations and livestock, fisheries and cultural conservation tourism, and environmental conservation.

Factors affecting the success of the management of the Upper Mae Kuang Basin consisted of 1) knowledge that is consistent with the geographical social characteristics and learning processes that can raise awareness and create understanding based on culture, wisdom and way of life, 2) explosion from the inside out, which arises from understanding and awareness of the value system, access to opinions, guidelines for development, planning, decision-making, and taking action, and 3) participation, awareness, love, unity, strengthening through the network group process and mobilization of energy from all sectors, including government, private sector, academics, developers, and communities. 4) Co-management is a holistic approach that drives work with a vision, has plans, works together, and manages all dimensions in a relationship that is connected together.

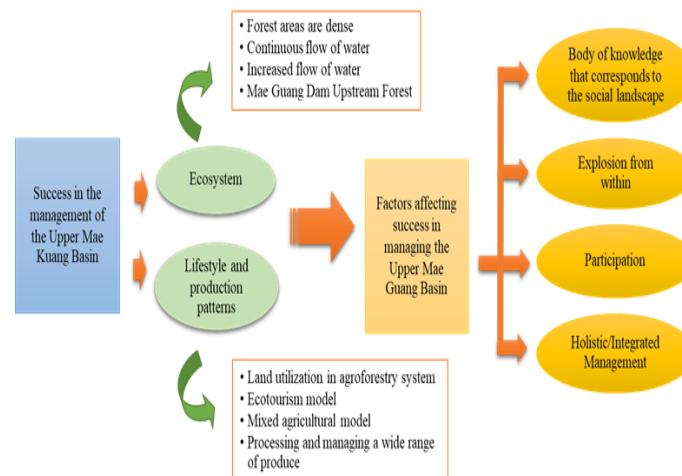


FIGURE 4
SUCCESS OF INTEGRATED BASIN MANAGEMENT

4. Strategies and Mechanisms for the Management of the Upper Mae Kuang Watershed Area with the Participation of Civil Society. From the study and analysis of the management process of the Upper Mae Kuang Watershed area, it was found that there are strategies and mechanisms for managing the location. The upper part of civil society participation is as follows:

1) An integrated management strategy with the mechanism of the Basin Management Committee, the Basin Laws and the Watershed Management Fund, is a landscape ecology with interrelated components as a structure and function. Watershed management must consider management in its surrounding components. It is not possible to focus on one component because the ecosystem is holistic, and any change will have an effect on the management system of the watershed ecosystem, therefore it is to be integrated or practice the form of integration management. It was found that in the Mae Kuang watershed area; there are integrated management strategies as follows:

- 1.1) The integrated committee mechanism in watershed management operation in the form of a committee is structured as a watershed council consisting of representatives from all sectors, including communities, public, private, academics, developers, jointly plan and coordinating budget plans in each region. The convergence part is a watershed management plan and jointly operates in accordance with the roles, duties, missions according to the skills.
- 1.2) Mechanism of watershed regulations by the watershed council or the watershed committee jointly consider the regulation. Rules and conditions serve as a guideline for defining the roles and duties that should and should not be done, and conditions need to be considered for dealing with problems, obstacles, prohibitions, and penalties.
- 1.3) Watershed Management Fund Mechanism is the mobilization of factors for watershed management operations, that is established by the Funding Committee to manage with transparency as the source of fund from the government supports, makes donations, and provides mobilization in various forms of capital.

2) Strategies to drive management processes The Institute of Natural Resources Environment and Way of Life for Future /Green Academy are responsible for driving knowledge management as the axis of cooperation to expand ideas, principles, and bodies of knowledge.

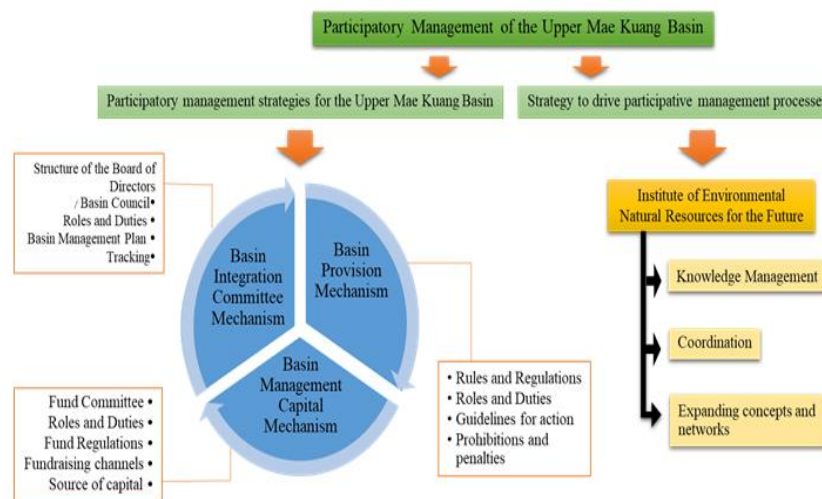


FIGURE 5
PARTICIPATORY MANAGEMENT OF UPPER MAE KUANG BASIN

DISCUSSION AND SUMMARY OF RESEARCH RESULTS

The key factor contributing to the success of participatory watershed management is the application of both old knowledge, which is a community way of life, and new knowledge, which is a process-based management model. Participation of leaders and groups mix and adapt according to

their social landscape, which create leaders and visionary groups to drive activities. Through the process of learning together, there is a social and cultural significance of the people in the community, because the basis of the community's way of respecting, trusting and accepting the ideas of leaders has resulted in an explosion from within. Consciousness and willing participation and the readiness to demonstrate the power has lead to the effective integration of spatial collaboration, groups and work networks, thereby creating people and leaders along the processes. In this movement, there is a need for community-based participatory management of the Upper Mae Kuang Basin, which is in line with the concepts and theories related to local and community-based development. Participation in the dimension of People's Participation Development under the concept of Leadership Theory, which results in the creation of leaders that will lead to mobilization of cooperation to work with morale, resulted in providing quality work, being creative, and sharing responsibility. Therefore, creating good leaders will lead to participation in various activities. It is one of the main theories that help people get highly involved with participation in community development (Reeder, 1974; Erwin, 1976; United Nation, 1981; Cohen & Uphoff, 1981; Kasemsuk, 2013; Kokpol 2009) This is in line with the work by Siwaporn Chaiput's (2012) "*A study of people's participation in watershed management: a case study of Mae Kuang River Basin Community, Chiang Mai Province*". It was found that people's participation in watershed management consisted of finding problems, causes, and needs in watershed management. The gathering of community leaders and the awareness-raising phase shaped ideas and created ideologies in order to motivate people in the community to participate in activities by using a forum to exchange experiences through the learning process. The continuation of knowledge is in accordance with the research by Sriwichailamphan (2013) who studied on integrated water resource management in the Mae Taeng River Basin Chiang Mai Province. In terms of water management in each area, it was found that the important factor in the participation in water management in the Mae Tang River Basin was the strength of the community, and there was a strong cooperation in water management by the people in the community's core communities. The positive results can be attributed to a strong and selfless act amongst individuals in the public, and building a clear network of water management operations by using a system of linkage between upstream, midstream and downstream by user groups, stakeholders, community leaders and local governments.

Everyone must be involved in the learning process and water management together as the participatory and integrated process will lead to a greater outcome for sustainability. Management of the Upper Mae Kuang Basin is a model of success in bringing King Rama IX's science to drive and expand the results until achieving true success and being a working model that can lead to the proper lessons of watershed management operations. This upper Mae Kuang can be applied in the watershed management with the participation of other civil society sectors, namely: 1) Integrated Management Strategies by the Integrated Watershed Management Committee Mechanism, The Watershed Ordinance and Watershed Management Fund, and 2) the strategy to drive the management process by the Institute of Natural Resources, Environment and Livelihoods for the Future serving as a central hub for knowledge management into a practice that is consistent with the research done by Sukkorn, Vipasinimit & Siranathaseth (2017) which is consistent with the research study of Communities Participation on Strategic Management of Wang River. The results in terms of the KHOMKHWAN Model are composed of eight strategies as follows: 1) K=Knowledge Management Dimensions 2) H=Human Resource Development and Leadership motive Building 3) O=Organizing for collaborative management 4) M=Management for creative practice 5) K=Knowledge Sharing from operational experiences 6) H=Homeland Natural Resource Awareness 7) W=Wisdom integrated locally and modernly 8) A=Authentic Continuity of Activities, and 9) N=Networks for Community Integrated Management

SUGGESTIONS FOR APPLYING THE RESEARCH RESULTS

Based on the research results, the researchers have recommendations for the management of the Upper Mae Kuang River Basin with participation by civil society both in terms of policy and policy implementation and recommendations for future studies as follows:

Policy Recommendations

- 1) To formulate a strategy for the management of the Mae Kuang Basin with the participation of civil society to be successful, the government and the people sector will have to adjust their roles, and be open to new ideas, processes, and methods of operation.
- 2) The management of the government sector must improve both the system, the model, the process and the implementation project by emphasizing the integration of links as a key guideline.

Policy Implementation Proposal

- 1) Implementation through the process of participation of civil society in determining the strategic direction including project plans and activities so that all sectors can carry out various activities according to their role appropriately.
- 2) Once the Mae Kuang Basin Management Strategic Plan has been obtained with the participation of civil society, a workshop should be organized to transfer the plan into quarterly a action, and the final results will be monitored. In the period of operation, the person in charge of each project prepares a performance report with a summary of the overall performance in order to assess the operating situation within the framework of that plan.

Recommendations for Further Research Work

- 1) The process of driving strategies and integrated systematic watershed management mechanisms should also be studied as a guideline for other watershed management strategies.
- 2) The network optimization in watershed management with the participation of civil society should be studied on a continuous basis in order to achieve the concept of integration in watershed management that will lead to the creation of tools and mechanisms for operating efficiently.

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