

## **CHAPTER V**

### **DEVELOPMENT PROCESS OF WATER RESOURCES MANANEMENT BY CUMMUNITY'S PARTICIPATION**

According to the information collected from the community on water resources condition and situation in the past and present, water demand, and the need for water resources development, as well as the suitable technology from the Royal Irrigation Department, the number of rainfalls and the capacity to reserve water are too low. The community cannot reserve water to use in the long run resulting in water shortage. There are two technological ideas that the Royal Irrigation Department finds suitable for the community which bring in water from Lam Ta Pern Basin and to build an electrical water pump station. These two methods should help produce more water for community members to use in their many activities. As a result, this study has collected all the information needed for the community to learn about the situation and problems in order to find the right solutions with the help of everyone in the community.

Through the brainstorming method, the process of researching, collecting, and analyzing the situation and presenting all the information to the community with the purpose of creating awareness and encourage participation among community members to find the most suitable solution. The public forum consists of the following steps.

1. Setting the objectives of the public forum or setting up a key issue for the discussion for the most effective outcome of the discussion
2. Inviting participants to go on stage for the discussion as well as collecting 20 representatives from Ban Na Mai Community to attend the discussion. The discussion period is 1 day.
3. On-the-stage Agenda

- Presenting the analysis of the community's water situation using the diagram to illustrate
- Grouping the attendees into 2 groups with 7-8 people each to analyze strengths and weaknesses of the community before sharing and together finding the most appropriate way to manage water resources.
- Establishing an organization and the pattern of community's water resources management

The integration process used in this study has led to the strong water resources management, in which its outcome can be separated as show below.

### **5.1 Informing existing water situation of Ban Na Mai**

The objective of this public forum is to find the way to the most suitable water resources management through the participation approach. The meeting location is at the office of Ban Na Mai's leader because it is convenient to commute and has all the tools ready for the stage.

There are 16 attendees who are the leader of Ban Na Mai Community, his assistant, members of the Tambon Administrative Organization (TAO), representatives from the Housewives Group, the cattleman group, youth group, farming businesses, the District Agricultural Extension Office, the elders, teachers, the civil society, and some from the researching process selection and interested individuals who wish to help solve the problems.

The information presented on stage includes the situation of water resources in the community and the idea of using the right technology received from the Royal Irrigation Department with the community. The water problems occurring in the community nowadays require supports from all parties especially community members to together help find the most effective water resources management method.

### **5.1.1 Water situation of the community**

Important water resources of the community are rainfall and community's water reservoirs such as manmade ponds. In the community, there is a total 5 manmade ponds, 1 well, and 80 water holding containers, which together can contain around 331,084 cubic meter/year. However, the demand for water in the community is 41,520,917.59 cubic meter/year. This clearly shows that the demand for water, by far, outnumbers the existing supply.

Demand for water resources development, the solutions to water problems that the government has proposed are not suitable and cannot generate enough water for the need.

1. 53 households or 36% of the total household in the community does not have water supply system and still need clean water for consumption and 120 households or 80% lacks clean water for domestic consumption.

2. 105 households or 70% of all households are poor and their main income is from agriculture which depends on rainfalls. Out of the 70%, 30% has built their own ponds to hold water.

In addition, the quality of water in the community is also poor as the water is not clear and contains floating sediments. Therefore, the water is only suitable for agricultural purposes. It cannot be used for domestic consumptions especially for drinking. The main source of water is from rainfall and water distribution from local authority during drought. Water for daily consumption is from the water supply system which only covers 96 households and is set to release the water only twice a day in the morning and the evening. Because there is not enough water supplies, the people in the community have together thought of ways to conserve water by maintaining the pipeline, turning off the valve after using, and trying to consume less water. For the water used for agricultural activities, they have chosen the plants that require less water and cultivated only in the raining season to conserve as much water as they can to use during drought.

Due to the development in the past, there are still some people in the community who still cannot reach water. The evidence is enough to say that there is

no efficient water management method because there is no integration between the people and the government in solving water shortage.

### **5.1.2 Use of suitable technology for the development of the community**

There are two technological concepts from the study of academic from Royal Irrigation Department which are the diversion of water from Lam Ta Pern Basin and the setting up of the electrical water pumping plant.

1. The water diversion from Lam Ta Pern Basin is the process of moving the water available during raining season to reserve on the mountain dam and, through the law of gravity, allow it to flow down the mountain using a water distribution system which helps lead the water to flow into selected locations.

#### ***Pros***

- Helps reduce drought areas
- Helps reduce the cost of draining water from other areas as there is no cost to the use of gravity
- Helps increase the people's quality of life

#### ***Cons***

- The community can not manage this technology.
- Ecological system impact from process of project
- Production system of community change to industrial system

2. The setting up of water pumping plant is to use the electrical system to pump the water into the area and uses the pipeline system to help distribute water to needed destinations.

#### ***Pros***

1. The Royal Irrigation Department will partly support this project.
2. There is a role model that the community can learn to operate the project.

3. The people will have enough water to use and their quality of life will be increased.
4. The design of the construction had to come from the participations of the mutual thoughts and decision-making of community.

### *Cons*

Does not have a safe location for the plant. The plant will have to be built on the area close to the canal and dangerous utility poles

## **5.2 Analysis of Community's strength and weakness in water resources management**

The presentation of the situation of water in the community comparing demand and supply of water available allows the people in the community to see a clearer picture of the situation and condition as well as evaluate the appropriateness of the projects proposed. After the presentation, the people are separated into groups to analyze strength and weakness as well as debate their findings. The community can then use this information to analyze and plan the new concept for an effective and suitable water resources management. Their findings are summarized in Table 5.1.

**Table 5.1 Strengths and Weaknesses of Ban Na Mai Community**

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>- Willing to participate</li> <li>- Have the developing mind</li> <li>- Kind to each other/willing to help each other</li> <li>- People forum every month</li> </ul>	<ul style="list-style-type: none"> <li>- Lack of experiences and a leader to start the development</li> <li>- Most of the people are poor</li> <li>- Lack of knowledge, ability to innovate, and motivation</li> <li>- Lacks of a good strategic thinking development</li> <li>- Lack of knowledge and skills in water resources management</li> <li>- Lack of government supporting budgets</li> </ul>

The people in the community find themselves strong in participation and teamwork because they always participate in both community's activities and government agencies' activities. They tend to help and support each other like relatives. There is a monthly community meeting for the people to meet and discuss. There are also teachers and experts to educate the people on agricultural knowledge and together help solve the problems such as improving the condition of soil. However, their main weaknesses are the lack of experiences and leadership, inadequate technological and development knowledge, and poor economic status, which could delay the development process.

The people also analyze their community's social capital such as geographical condition, social status, environment and other resources available in the community in order to find the community's strengths that can be used to help develop and solve the problems occurring in the community. However, their inability to think multi-dimensionally limits their self analysis which limit to many factors leading to water resources management problems. Table 5.2 explains the 6 factors form public forum related to the management of water resources in Ban Na Mai Community.

**Table 5.2 Factors related to Ban Na Mai Community's water resources management**

Related Factors	Details
1) The situation of water in the community	The water crisis of Ban Na Mai community has become obvious since the quantity of water in several resources in the community has showed the sign of shallow water and lacked maintenance in water storage. There were water shortage problems on consumption and usage including on professionally related, especially the drought season.
2) The social context of the community	Mostly, the villagers were agriculturists. Consequently, the activities on land use were relevant to water use in several water resources in the community in order to develop an economic system of the community members for their better quality of lives.
3) Water use behavior	In today's world, technological and behavioral changes have led the community to a different water use behavior from the past and have an impact on the water situation in the present world which can lead to a more appropriate water resources management. Ban Na Mai Community has learned how to choose the right crop to grow according to rainfall intensity; for example, because cassava is suitable in hardy area of loamy sand, it is very widely cultivated in Ban Na Mai. Cane, on the other hand, requires a large amount of water, thus it is only cultivated in the area of individuals who have their own water supply. For the cultivation of rice, the community depends on rainfalls and changes the kind of rice according to rainfall intensity in each year.

**Table 5.2 Factors related to Ban Na Mai Community's water resources management (Continued)**

4) The water resources management of the government	The guidelines in water management from the government at the present day are not comprehensive and respondent to the current problems, area conditions, and community social context. In the past, mostly problems were fixed independently. For instance, the Royal Irrigation Department and the Department of Fisheries have involved in developing community water resources, yet it lacked proper planning for equal water use for the citizens. For the immediate problems, there was an issue with water distribution during the shortage. The problem-solving of the government in the past still has not fixed the water shortage at the present day.
5) Suitable technology for the community	It is necessary to find the technology that is suitable for the location and can also respond to the needs and help solve the problems in the community without causing any chronic problems to the community in the long run. It should also be the technology that the people in the community can operate on their own such as dredging up their own ponds to hold water on their own land.
6) Government and community's ability to develop	The ability of the community and government in choosing the right technology suitable for local conditions, the allocation of land use, the selection of appropriate crops, and the guidelines of water management in correspond with the water quantity in the community should all be taken into account.

The above factors are relating to one another. For example, the current water situation can indicate the use of water for agricultural needs and the community's economic system. Past developing plans do have an impact to the current water situation and can clearly show how water resources have been

managed with the use of the aforementioned 6 factors. Therefore, it is important to spare in mind these 6 factors when selecting the most suitable solutions to the problems and to include relevant people and organizations to together analyze the problems and brainstorm for an effective development plan.

Water resources management of the community starts from the idea of developing a plan that the community can operate and start with the tools available in the community according to the information received from the community itself not from outsiders because any projects started from outsiders will not give enough details and understanding to the people in the community. Therefore, it is important to have the community choose the technology that they find suitable for their own knowledge and understanding and, most importantly, can manage and operate on their own. In short, it is the use of the relationship between human and knowledge, human and resources, and knowledge and resources. (Seree Pongpitch, 2005)

The analysis has shown that the thinking of both groups is similar to each other which can its concluded as follows.

Ban Na Mai Community has a waterway. During raining season, the water will flow from the mountain top passing Mu 9 and Mu 10 which are connected to Mu 5. The distance from Mu 9 and Mu 10 to Mu 5 is around 10 km. Along this waterway, there are some public area which used to be the area of Mu 10 covering 15 rai and 30 rai. These areas have not been developed or used in a long time and some parts of the area have water permeating out year round. As a result, the community has agreed to develop this area by

- Dredging 2 ponds, sized 15 rai and 30 rai, in the mentioned area
- Creating a waterway connecting these ponds to Mu 10
- Building a Hmong dam or a concrete dam to keep and contain water in the waterway during the raining season using the materials available in the community

Even though the water obtaining from this idea are from the big development project of the Royal Irrigation Department, the communities in Mu 9

and Mu 10 can operate this project by themselves. However, Ban Na Mai Community started in its own area by dredging the waterway that is 1.5 kilometer long and 10 meter wide. If the waterway is two meter deep, its capacity to hold water will be 30,000 cubic meter. Five dams will also be built with a 300 meter distance away from each other. The water obtained from this project will be used for domestics and farming needs. This water resources management plan is derived from the old knowledge of the community's water management as dredging up waterways has existed long ago. Therefore, the participation of the people in the community is more sustainable than waiting for the development from the government.

### **5.3 Establishment of Community Network in Water Management Organization**

After the community had establishment of Water Organization and they had meeting of inter-community was set after work hours on February 21st, 2010, Attendees are the leader and his assistant of Mu 5, representatives from TAO, the housewives group, businesses, villagers, the sub-district leader, the leader of Mu 10, and representatives from schools. There are also some related participants involved which make it a total of 17 members.

Selecting suitable persons to take seats on the team depends on seniority and appropriateness; for example, villages headman are selected the Chairmen and Mu 9 and Mu 10 leaders are the Vice Chairman. It also includes selecting the members for each community to have an equal role in water resources management. Although the members are ordinary people in the community, each team can create a network to work and learn about water resources management. The members of each team are the representatives of each community to help operate the activities as well as to lead the development of their community's water resources management and take it to the next level. The committee consists of

- |                          |   |         |
|--------------------------|---|---------|
| 1) Chairman              | 1 | person  |
| 2) Vice Chairman         | 2 | persons |
| 3) Committee member mu 5 | 7 | persons |

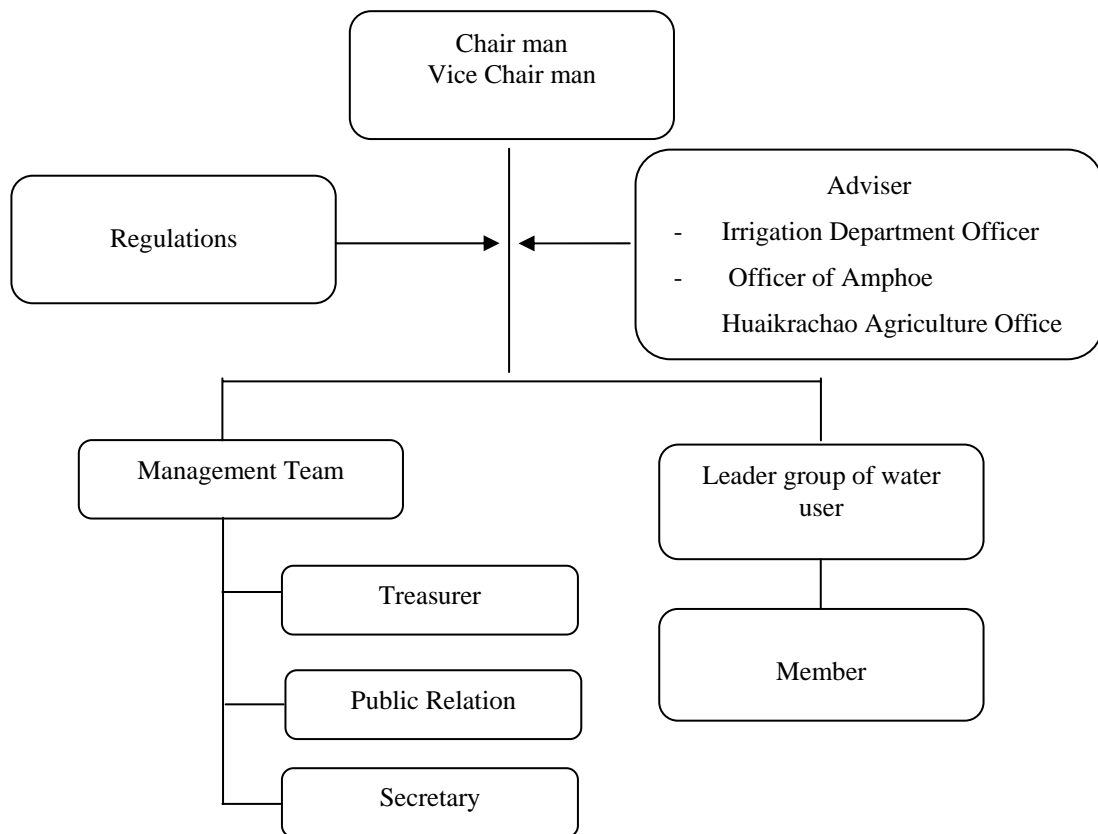
- |                           |   |         |
|---------------------------|---|---------|
| 4) Committee member mu 9  | 1 | persons |
| 5) Committee member mu 10 | 4 | persons |
| 6) Secretary              | 2 | persons |

After the committee of Community Network in Water Management Organization has been established, there was an open house to introduce the members and to explain the plan to everyone in the community. The purpose of setting up a committee is to help the community to learn how to operate and understand the structure of different networks. Getting together as a team does not only help increase the power of the community but reduce weakness of the community on starting and leading new development projects. Therefore, the operation of the committee will help create learning, experiences and capability among the people in the community. The community will be able to depend on themselves in strengthening their ability eventually.

When we focus only on the water resource management of Ban Na Mai, the local people established its own water organization, the organization has a committee which are the representatives of the community and are entitled to benefits, rights and power to operate as shown below (Figure 5.1):

1. The chairman and vice chairman of water users who are respectable, have high credibility and justice, and dedicated with the duty of overseeing the water distribution system
2. The Advisors who are from the Irrigation Department and the Agricultural Department Extension Office whose duty is to advise, educate, and create awareness of water and how to use water wisely
3. The regulations which have been established to control water users for the judged and fair water usage.
4. The Treasurer whose duty is to manage the budget for the use of water resources management.
5. The public relation officer whose duty is to announce the news beneficial to the people and to publicize the operation to the people in the community as well as to set up meetings and record the activities of water users.

6. Secretary was ready for the meeting, meeting discussion, record-keeping in a group of water users, and look after the premise.
7. The leader group was responsible for collecting the demands in water use, planning on water use, controlling water circuit according to the agreement, arranging shifts of water use, and leading members in maintaining canals and sub-basins.
8. The member who are the people of Ban Na Mai Community who want to use the water and participate in the activities as well as willing to strictly follow the regulations established by the organization.



**Figure 5.1: Structure of Ban Na Mai Water Organization**

The local people further discussed that the committee members of the Water Organization should have a board of community's water users through the election of the board members.

In order to have an effective management, the Water Organization of Ban Na Mai Community requires a set of regulations, rules, work instruction, activity plan and a regular meeting with the people. The format of Ban Na Mai Community water resources management is as follows.

1. It is required that the community members are the water user members of the organization and should attend the meeting on the 16<sup>th</sup> of every month.
2. The term of the board member is 1 year.
3. Water conservation regulations are appointed as follows
  - All water distribution related tools must be carefully used and maintained and any damages or problems occurred should be reported immediately.
  - The crops for cultivation should be selected to suit the geographical condition and climate especially during summer when water is scarce. The recommended summer crops are vegetables, beans, and corns.
  - The cultivation plan will be announced on the 16<sup>th</sup> of every month at the monthly meeting.
4. A justified water distribution is appointed by
  - Together set a water supply plan and a time schedule the round to take turn to use water according to suitable priority of need.
  - Together appoint a regulation for water users.
5. All members allow the committees to arrange shifts in water use.
6. The leader group is responsible for water use planning, arranging shifts, controlling water circuit according to the agreement, managing shifts for water use, and leading members in maintaining canals and sub-basins.
7. A list of water users must be record in order to keep track of all the members. It is important for the planning stage of water distribution plan. The record

consists of some information such as name and each individual's type of cultivation. The person in charge of this duty is the treasurer.

#### **5.4 Water management planning of Ban Na Mai community**

With the information and suggestions obtained from the meeting, the committee has gotten together to set up a planning schedule to use as the tool to combine all the ideas of the community as one. The planning schedule is well-planned and includes the operation objectives. The committee meeting is held frequently in the evening for an hour at the office of Ban Na Mai leader. There are 17 attendees and the researcher to help draft the plan.

The draft was done as a sample plan to help explain the main idea and benefits of each activity for a better understanding on the content and benefits of the project. Everyone in the committee has the saying in the projects. Each individual's idea is openly shared and the discussion on the details and tools needed of each activity is well covered. The draft is to help build up the understanding on the importance of planning that can help smooth up the continuous operation process by holding on to the plan as one. Overall, the final plan will help show the development and strengths of the community. Its content is concluded in Table 5.3 below.

**Table 5.3: Integrated Operation Plan of Ban Na Mai Community**

Objectives	Indicators	Activities	Capital Resources
<p>1. To allocate permanent water resources for the community</p> <p><b>Sub-objectives</b></p> <ol style="list-style-type: none"> <li>1. Dredging 2 ponds in the old creek covering 15 rai and 30 rai</li> <li>2. Dredging the waterway connecting the original waterway from Mu 10</li> <li>3. Building check dam or concrete dams to hold water in the raining season using the materials that are available in the community</li> </ol>	<ol style="list-style-type: none"> <li>1. Two ponds</li> <li>2. A waterway that can help increase water supply</li> <li>3. Five check dams that hold water in the waterway</li> </ol>	<ol style="list-style-type: none"> <li>1. Set up a committee to manage water resources</li> <li>2. Meet and discuss the possibilities and together plan the operation with related departments such as TAO and the Regional Irrigation Office 13, Tha Muang District.</li> <li>3. Setting up the operation plan</li> <li>4. Obtain corporation from the community to help build up the dam such as preparing tools, materials, budgets, and labor.</li> <li>5. Project evaluation process</li> </ol>	<p>TAO, The Royal Irrigation Department, Office of Lands, Kanchanaburi, The Department of Water Resources, Kanchanaburi Province, Office of Fisheries, Kanchanaburi Province.</p>

**Table 5.3: Integrated Operation Plan of Ban Na Mai Community (Continued)**

Objectives	Indicators	Activities	Capital Resources
2. An effective water resources management	Enough water from the resources	1. Establish the water resources management committee 2. Plan the water allocation plan that will generate enough water to cover the whole community	

Community has dredging two ponds in the old creek covering 15 rai and 30 rai for hold water at mu 9 and mu 10 that who had dredging the waterway one check dam / 300 meter that to hold water in the raining season using the materials that are available in the community at Ban Na Mai community. By the way the plan above will help tie up all the ideas and guide each step of operation in the order it should be. Having a clear list of objectives will help create a fair and effective operation which will then lead to the correct and suitable solutions to an effective water resources management.

### **5.5 Investment and resources provision by the community**

After the planning process comes the investment and resources provision process. A meeting is held after work hours for two hours at the community leader's office to tell the people about the work that has been accomplished since the last meeting and to ask the people to participate in the investment and resources provision in any forms they can such as labor, money, tools and any other kind of help that can be helpful. The result of the resources provision process is concluded in Table 5.4 below.

**Table 5.4 Participation in the investment and resources provision process of Ban Na Mai Community**

Activities	Details	Undertaker
Building up permanent water resources in the community	<ol style="list-style-type: none"> <li data-bbox="496 439 1042 483">1. Exploring for correct waterway</li> <li data-bbox="496 618 1042 797">2. Cooperating with related water resources development departments such as the Water Resources Department, Department of Fisheries, and Department of Lands.</li> <li data-bbox="496 797 1042 842">3. Cooperating with Mu 9 and Mu 10 and TAO</li> <li data-bbox="496 898 1042 976">4. Cooperating with Tambon Sra Long Rue (TAO) on the pipeline system</li> </ol>	<p data-bbox="1074 439 1380 562">TAO, TAO members, and Assistant of Village's Leader</p> <p data-bbox="1074 618 1380 741">Committee members, Assistant of Village's Leader,</p> <p data-bbox="1074 797 1380 875">Ban Na Mai Village's Leader</p> <p data-bbox="1074 898 1380 1066">Committee members, Assistant of Village's Leader, TAO members, villagers,</p>

During this process, the people in the community have the chance to openly share their opinions as they all have participated in the investment. The participation is voluntary and does not matter whether it is in the form of money, labor, or materials. However, in some stages of this process, related departments have to get involved; for example, an expert from the Water Resources Department is needed to help explore the waterway. It is also necessary for the community to receive supports from the government in terms of knowledge and budget. The knowledge on water resources management is very important for the community to successfully solve the water problems in the community, thus related departments and scholars should provide sufficient supports to help the community achieve its objectives.

This clearly indicates that even though the community can allocate resources for the planned water resources management, resources from the outside like knowledge and supports from the government are necessary because the local problems facing have been existed for a long time to the point that not just one organization can solve. Therefore, the creation of a strong network is important to

help create learning and exchange experiences as well as strengthen the community to finally be able to stand on its own.

## 5.6 Follow up and evaluation process

In the planning process, the community had gotten together to plan the way to operate and cooperate with related organizations and authorities by assigning responsibilities to the people involved, thus they have learned how to achieve their objectives after the planning process. The people in the community were also able to fully participate by sharing their ideas during the planning process.

Finally, the last process is the evaluation process which is needed to analyze the result after the operation has completed to find out whether or not the objectives have been achieved. If the first problem has been solved, they can continue on with the next. The evaluation process is done through the discussion among community members in the meeting to conclude the problems and burdens during the last operation. Therefore, the work of the community is actually an experiment for the people to learn. The operation of the community can be concluded in Table 5.5.

**Table 5.5: Activity and result of process of Ban Na Mai Community**

Activities	Undertaker	Results	Problems/Solutions
The community meeting to discuss about the solution to water resources management	Network of Community of Water Management	Participation from the people and related organizations and authorities such as TAO and the Regional Irrigation Office 13	<p><b>Problem</b> Meeting time was during work hours.</p> <p><b>Solution</b> Include other topics especially about the living of the people in the meeting to encourage them to attend.</p>

**Table 5.5: Activity and result of process of Ban Na Mai Community (continued)**

Activities	Undertaker	Results	Problems/Solutions
The correct exploration of the waterway	Wang Pai TAO and Ban Na Mai TAO	In progress	<b>Problem</b> As the process is depending on the expert who is busy with other duties, it has become very slow. <b>Solution</b> TAO 's participation.
Cooperating with the related department about water resources development such as the Department of Water Resources, Department of Fisheries, and Department of Lands.	Assistant of the Village's Leader	The budget has been transferred to the local authority already. The project can be proposed to obtain the funds. For the support from the Department of Water Resources Management, the community can directly propose the project.	<b>Problem</b> Authority budget transfer. <b>Solutions</b> 1. Propose the solutions to water resources problem to related departments and authorities 2. Try to operate the project independently
Contacting the Hydro and Agro Informatics Institute	Assistant of the Village's Leader	Received supports in terms of information, texts, and VDO recording of other area's water resources development as a guide to Ban Na Mai Community operation.	
Cooperating with Mu 9, Mu 10, and the Minister of TAO	Network of Community of Water Management	The Local Administration Office supported the operation with human resources such as the expert to help explore waterways.	
Sourcing materials for the dam	Villagers and Network of Community of water Management	Use natural resources found in the community such as bamboo and wood.	Preparation stage

The community can plan its operation by using the stage to hold a meeting where the committee members can discuss and learn together. The committee has assigned each individual some duties to accomplish such as cooperating with water resources development departments, cooperating about the land and the plan of the creation of the electric water pump station, cooperating with students guardians to set up an association. Having said, it is the starting point for the people in the community to learn how to work as a team, build up a network, and cooperate with government agencies. The operation allows the community to gain experiences through self dependence. Even though not all activities are successful, they have learned the mistakes, limitations, and obstacles which will certainly be beneficial to them in future projects.

For project evaluation process, the indicators are very important to control and direct the operation to go as planned. During this stage, the results obtained from the operation are the main factors for the project to go on. Problems and obstacles found during the operation are valuable for the next project. As the community has learned how to solve the problems, to choose priority of the steps of operation, and to find the indicator for each activity, it will be able to carefully analyze each activity and expect about the results that they will obtain from what they had worked on. Therefore, working as a team will help strengthen the community for the better future.

## **5.7 Benefits from participation**

The benefits obtained are from the participation of the people in the community in the thinking and operating process and they are the benefits that can actually respond to the need of the people in the community because the people in the community have opened their hearts to the project and felt the sense of belonging thus creating a smooth operation because everyone is fully cooperating and willing to support the committee. The most important thing is the local knowledge has been used to develop the capability of the community. Therefore, it can be said that all the benefits occurring are from the participation of everyone in the community. Any

results from the operation are acceptable to everyone because they are from the decision that everyone has agreed on.

## **5.8 Conclusion**

The development process of water resource management in Ban Ma Mai operation of the community started with the study of the status of water problems in the community and the capability of the community to find the suitable method of water resources management. After that, the committee was created to represent the community in all kinds of operation in order to ensure a sufficient amount of water for the community. The community together learns and experiences through participation for the integrated water resources management that allows the community to be able to depend on itself. There are 5 steps of participation in which each one is very important and related to one another; for example, once the situation and problems are known (Step 1), the committee must be prepared on the thinking, the understanding, and the ability to operate and plan (Step 2) following by the investment and resources provision (Step 3) and the evaluation process (Step 4) then enjoying the results and benefits obtained from participating in the project (Step 5). The outcomes of the participation are the set up of 1) Community's of Ban Na Mai water organization and 2) Community Network Water Management Organization (Mu 9 and Mu 10).

Furthermore, they helped each other to draft plans of investment and resource provision, the follow up and evaluation process, and the end benefit received from the public participation.