

Analysis of Public Participation in the Design of Flood Expansion Areas in Nakhon Sawan Province and Phitsanulok Province, Thailand

by

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Abstract

Flood expansion areas (which are often referred to as “Monkey Cheeks” in Thailand) are a key measure to deal with repeated floods in Thailand. Moreover, it may also solve drought issue because remaining water can be used in dry season. Lack of participation in the past led the Royal Irrigation Department (RID) to assign two consulting companies to conduct a participation process in four provinces over the design of such flood expansion areas. The process included representatives from the communities, local government, local NGOs, the RID and a provincial university. Moreover, the RID implemented a pilot project of Monkey Cheek concept (Bang Rakam Model 60) in Phitsanulok Province in 2017. The RID informed farmers to change cropping patterns in order to enable the presence of a four-month flood (August to November). RID assumed that all farmers could adapt to do fishing during flood event.

The main objective of this study is to analyse the public participation in the design of the flood expansion areas in Phitsanulok and Nakonsawan Provinces. To achieve this overall objective, three specific objectives were defined; 1) to identify and analyse the main stakeholders, their stakes and their expected roles in the public participation process, 2) to assess the participation process, and 3) to analyze actors’ interactions and outcomes of negotiation. Individual semi-structured interviews were conducted with eighty-five respondents. To assess the participation process, I used evaluation criteria as defined by Rowe and Frewer (2000) and I also conducted qualitative assessment.

Consulting companies organize the public participation process via surveys to collect the opinion of rural inhabitants on the project and via inviting public representatives to discuss project design. However, the status of these representatives was unclear. Moreover, although public consultations provided an opportunity for public representatives to express their opinion, little decision was taken. By contrast, in the Bang Rakam Model 60 area, the RID implemented the model with little public consultations. Eventually, local inhabitants had limited say in the design process. This study puts forward the ambiguities in implementing a public participation process that explicitly aimed to genuinely associate rural inhabitants in the decision-making.

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Abbreviations

AIT	Asian Institute of Technology
BRM	Bang Rakam Model
DWR	Department of Water Resource
DoF	Department of Fisheries
EIA	Environment Impact Assessment
FS	Feasibility Study
JICA	Japan International Cooperation Agency
MOAC	Ministry of Agriculture and Cooperatives
MSP	Multi-Stakeholder Platforms
NCPO	National Council for Peace and Order
NESDP	National Economic and Social Development Plan
OPM	Prime minister's Office
RID	Royal Irrigation Department
TAO	Tumbon Administrative Organization
UNDP	United Nations Development Programme
GCF	Green Climate Fund

Chapter 1 Introduction

1.1 Background of the Study

Flood is one of the main issues in terms of water management in Thailand. In 2011, the worst flood in modern Thai history occurred. A total of 69 provinces in Thailand were affected, involving more than 13 million people, as well as 680 casualties (Poaponsakorn and Meethom, 2013).

In 2012, the Thai state scheduled 350 billion baht for a master plan of water management after the 2011 flood (Khamhongsak and Kuaicharoen, 2013). The final report of the project for defining measures to limit floods for Thailand agricultural sector was presented as part of the master plan on water resources and flood management. It was publicly announced by the Strategic Committee for Water Resource Management (SCWRM) in January 2012 with due endorsement by the Office of the National Economic and Social Development Board and cabinet approval in due course. The master plan consists of eight work plans and two action plans. In one of these plans, the Ministry of Agriculture and Cooperatives (MOAC) was in charge of defining water retention areas. In addition, the Royal Irrigation Department that serves under MOAC was in charge of designing and implementing these water retention areas.

However, the budget was canceled in 2015 (Ministry of Finance, 2015) because of opaque public participation in decision-making (Khamhongsak and Kuaicharoen, 2013). For this reason, the water management project under this budget was canceled. The National Council for Peace and Order (NCPO) initially reconsidered old water management plans for flood mitigation. However, Thailand faced water shortages during the drought in 2015 that led citizen to expect appropriate solutions to solve both flood and drought by the government (Fredrickson, 2012, Prachachat economic news team, 2015). Many inhabitants in Sukhothai Province consider that the main cause of flood is lack of effective water management planning and the fact that the government copes with urgent situations slowly (Bodeerat, 2014). In 2016, RID started again efforts to implement the water management project by increasing public participation and attempting to obtain public acceptance (Team Consulting Engineering and Management Co., Ltd, 2017). The Regulation of the office of the prime minister on Public Consultation B.E.2548 (2005) stated that the development projects in Thailand must be based on public hearing before the projects starts, and they must promote public participation in the project implementation. This is the main reason that RID employs the consulting companies to conduct the feasibility study.

Consequently, RID assigned two consulting companies (Team Consulting Engineering and Management Co., Ltd and TWI consultant Co., Ltd) that are members of a Team Group of companies. For this dissertation, I use the term “Consultants” or “Companies”, which refers to two consulting companies. The companies undertook the feasibility study of the Monkey cheek project in four provinces which are located in the lowland area above Nakhon Sawan province including Sukhothai, Phitsanulok, Pichit and Nakhon Sawan Provinces (Figure 1.1). The main concept is using paddy fields as a flood expansion area which is applied the monkey cheek concept of King Rama IX.

The study was completed in April 2017 in terms of implementation of the suitability of the area, engineering design and economic assessment, Environmental Impact Assessment (EIA) and encouraging public participation in the project area. In August 2017, RID proposed the final report of this study to the government for consideration of new grants in the future (RID interview, 2017). At the present (April 2018), the project was approved and RID start implementation (study in detail of engineering and negotiate with people in the construction area) according to interviewed central RID (2018).

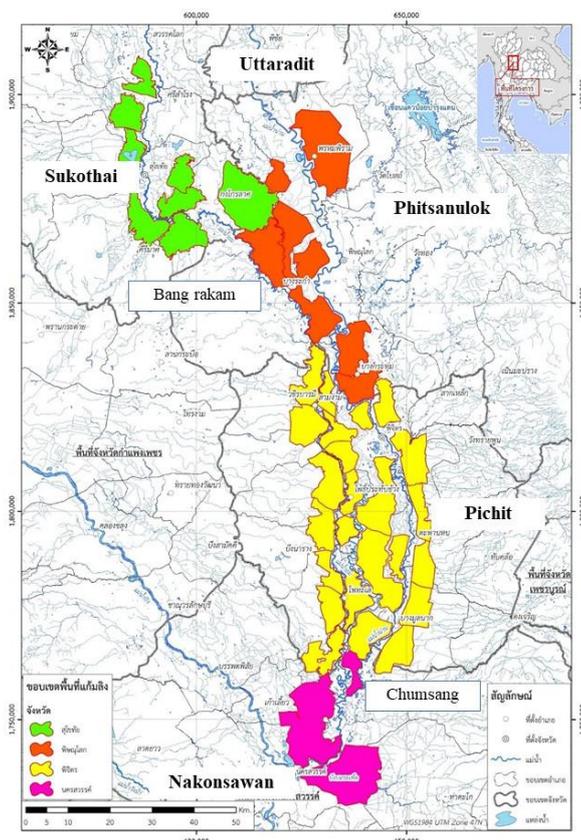


Figure 1.1: The initial monkey cheek project area at lowland area above Nakhon Sawan (Team Consulting Engineering and Management Co., Ltd., 2017).

The main actors of the water management project are the government offices, mainly the Royal Irrigation Department (RID), and local inhabitants. RID is in charge of the design of the project that responds to the national strategy for flood management. Conflicts between government agencies and the public in the past led to the invitation of a third party, i.e., as consulting companies that RID employed to conduct the feasibility study, EIA and public participation process in the field. Public participation is the main task of the companies, which had to build up a good relationship between RID and local communities (Team Consulting Engineering and Management Co., Ltd., 2017). For this dissertation, the word of “public” refers to representatives of communities and affected people in the project area. Most of the local inhabitants are farmers.

The companies conducted two processes: 1) public information, to provide information on the Monkey Cheek project to the communities; and 2) participation, to obtain the views of stakeholders and negotiate some issues which influence on public acceptance for this project (interview with a staff member of one of the companies, 2017). These issues of negotiation were, for example, the boundaries of flood retention areas, the depth of water that inhabitants would get during a flood event and the amount of compensation fees which they would get.

However, the feasibility study is a preliminary study for project consideration and the companies did not conduct the public participation process to the local inhabitants directly. They created local committees as a working team in the field, which included representatives of the communities and relevant agencies (e.g. Subdistrict – or Tambon - Administration Organization, local RID offices, Agricultural offices) as intermediaries to inform the villagers. Because of limited time and budget, the companies did not organize participatory activities at village level (interview with a staff member of one of the companies, 2017).

Moreover, the RID actually implemented a Monkey Cheek in practice in a small part of the area under consideration in above-mentioned plan. This took place as part of the “Bang Rakam Model 60”, which the RID plans to develop later in other irrigated areas. Government agencies under MOAC cooperated with the Third Army Area (Military unit in Phitsanulok province) to run this model since February 2017. The Royal Irrigation Department (RID) in charge of the project, the project area is cover two provinces (Sukhothai and Phitsanulok province). Farmers have to start rice farming earlier (April) than usually (in May). RID allocated water for farmers’ fields in April 2017 and informed farmers to harvest rice before the beginning of August 2017. The main purposes of Bang Rakam Model 60 are: to reduce flood impacts in Sukhothai province and downstream, to save the government budget in terms of compensation fees (in case that rice yields are impacted by floods) and to create job opportunities (fishing) for farmers in during the flood period. However, a scholar from Naresuan University wondered whether all farmers could become fishermen during the flood period.

In December 2017, the RID promoted the success of Bang Rakam Model 60 in the media. Moreover, the RID plans to expand the model area in three irrigation schemes (Yom-Nan, Plai Chumpon and Naresuan) in 2018, in an overall area of 18,720 hectares (0.16 hectare = 1 rai). This will be referred to as Bang Rakam Model 61 (The Nation, 2017).

The study aims to analyse the public participation process around these two flood expansion area projects. The analysis was made in particular in two areas: Bang Rakam District, Phitsanulok Povince and Chumsang district, Nakhon Sawan province; These two areas face recurrent floods and are among most affected areas in these two provinces (Thongpan, 2013 and Phitsanulok Royal Irrigation Office, 2011). The difference between the two study areas is that Bang Rakam District is located in the irrigation scheme area under the responsibility of RID, whereas Chumsang district is mostly located outside irrigation scheme areas. In addition, two areas have the different status of the project. Bang Rakam district is a part of the above-mentioned Bang Rakam Model: this area was thus both part of the public participation process for the main flood expansion area project and was part of Bang Rakam Model 60. By constrat, Chumsang district is still in the preparing stage of the main Monkey

Cheek project that is not implemented yet. Individual interviews with actors were conducted in October to April 2018.

This study was implemented using two approaches. The first is Rowe and Frewer framework (2000) which was adopted for assessing the public participation and evaluation of public participation process.

The second approach is the Actor-oriented approach that was used to assess the actors' understanding, goals and their interaction with others. The interactions between actors were studied for the following issues: Location of the Monkey Cheek areas, Amount of water in Monkey cheeks and duration of flood events, Irrigation water in dry season, financial compensation and Prevention of damages to the road system. Mixed-method was used to analyses the participation process in terms of a list of questions which relate to the evaluating criteria and semi-structured interviews. Actor-oriented approach is the study of arenas which are social locations or situations in which contests over issues, resources, values, and representations take place (Long, 2003) such as coordination or negotiation between actors in short-term interaction or more long-term. The first step is an understanding of stakeholders' characteristic: viewpoint, goals, strategies, resource and agency that can lead to their interaction in each arena

This approach focuses on characteristic of actors (stakeholders) and their interaction to show the relationship and information flows which provide a basis for reflection and action. It is important to understand the different actors who have different perspectives and goals in each situation. Actor-oriented approach helps to identify actors and their interests which are link to the interaction among them and realize their perceptions which can define the direction of solutions for all actors.

1.2 Statement of the Problem

According to Team Consulting Engineering and Management (2009), a ***flood expansion area is a lowland area which can retain or retard the excessive water in the rain season.*** The criteria for choosing the suitable land can be summarized as follows: recurrent flood area, near the main river, few communities in the area and local communities' acceptance for project implementation.

Two main objectives of participation are: to develop the quality of decision and to create commitment (Hemmati, 2002). In many cases, lack of participatory exercise in the planning process is a significant obstacle of effective participation (Hedelin, 2007). In particular, the level of participation in many Thailand projects can be generally be considered as being at a consultation stage only (Chompunth, 2012), i.e., a one-way communication flow from government officers to civil society (Rowe & Frewer, 2005). In fact, public hearings often provide limited choices with short term questions at the end of a policy process (Rowe & Frewer, 2000). Public hearings may have little influence on policy choices or public behavior. Additionally, often the main objectives are about trying to get public support instead of seeking informed consent and enable a democratic choice (Rowe and Frewer,

2000). Nine evaluation criteria proposed by Rowe & Frewer (2000) consist of two types: acceptance criteria and process criteria that each exercise should be considered. For example, an exercise that has poor process, but good acceptance, can be implemented. By contrast, a project may get little acceptance even though participants agree on the quality of the process. These criteria measure the level of effectiveness of participation methods. The assumption by the consulting companies that Chief of Tambon Administration Organization and the sub-district headman are both 1) legitimate representatives of farmers' interests and can explain farmers' interests and 2) can disseminate information. One of the goals of this study is to assess to what extent this assumption is true.

1.3 Objectives of the Research

1.3.1 Overall objective

The overall objective of this study is to analyze public participation in the design of the flood expansion areas in Phitsanulok and Nakhon Sawan province.

1.3.2 Specific objectives

- I. To identify and analyze the main stakeholders, their stakes and their expected roles in the public participation process
- II. To assess the participation process
- III. To analyze actors' interactions and the outcomes of negotiation in particular in terms of the characteristics of the flood expansion areas

1.4 Research questions

First axis. To identify main stakeholders

- I. Who are the main stakeholders?
- II. What are their stakes in the flood expansion area projects and their objectives?
- III. What are the expected roles of each civil society stakeholder in the preparation of the project?

Second axis. To assess the participation process that took place in 2016 and 2017.

- I. What are the objectives and methodology of participation?
- II. How participation was implemented in practice?
- III. To what extent the process enabled a genuine public participation?

Third axis. To analyse the actors' interactions and outcomes of the negotiation.

- I. What issues did actors negotiate? In which arenas?
- II. What were the outcomes of these negotiations?
- III. To what extent public participation influenced the project eventually proposed for the flood expansion area and the project implemented in Bang Rakam district?

1.5 Scope and Limitation

The scope of this study is limited to the geographical area of Bang rakam district, Phitsanulok province and Chumsang district, Nakhon Sawan province, Thailand.

Chapter 2 Literature Review

2.1 The twelfth National Economic and Social Development Plan (NESDP) 2017 - 2020

According to the eighth national research strategy, the research of water management in Thailand should take into account the twelfth NESDP to focus on water issue study which can fulfill the gap of knowledge of water management in Thailand (The National Research Council of Thailand, 2012). The fourth strategy for national development is involving green growth. The second goal of the strategy is water security and effective water management with six indicators as follows:

- Pipeline system for all villages
- Fairness of water management in twenty-five watershed management plans.
- increasing of effective water using in irrigation scheme area.
- increasing of effective water production and consumption.
- decreasing of flood damages and drought
- Irrigation scheme area increase 56,000 hectares per year

Enhancing of water management effectiveness to achieve stability, prosperity and sustainability is the one of encounters that importance in practical. It consists of five measures:

- Launching new water Act.
- Pressing integrated water management of twenty-five watersheds.
- Forwarding Strategic Environmental Assessment (SEA) to be an instrument in decision-making at policy level.
- Enhancement of water system (storing and draining).
- Enhancement of water utilization and water allocation in production sector.

2.2 Water situation in Thailand

Water resources in Thailand are abundant but the demand of water has been increasing. The summary of twelfth NESDB plan (2.2.4) stated that water management still lacks of participation process and assessment of three aspects (Environment, Social and Economics) before any project starts. This often led to conflicts among stakeholders. Thai government focuses on encouraging participation processes in public projects.

Irrigation management in Thailand has rarely incorporated farmer participation as a method to enhance service provision. The first participatory irrigation management occurred in the 1960s, during the government efforts to deal with the rise of Communist sympathizers in the population (Sangkhamanee, 2010). However, local people are rarely actively participating in water management (Khamhongsak and Kuaicharoen, 2013). On the other hand, in 2010, RID established joint management committee (JMC) for coordination between RID and communities in water management after the successful experiences of the Krasiew JMC, Suphanburi province (Ricks, 2015).

2.3 Flood expansion areas in Thailand

His Majesty the King Bhumibol Adulyadej initiated the concept of flood expansion area in 1995 after of a huge flood that was due to the continuing heavy rain in the northern part of Thailand as well as in Bangkok. He gave the advice regarding flood solving for the crisis. He said in his speech that *“Bangkok needs a floodway project like in California”*. At that time, he advised for building more dykes to protect from overflows and removing barriers to let water go downstream especially the roads.

These structures had to be done within 3 days. However, these works were not completed on time. As a result, Bangkok was severely flooded with the highest level of 2.27 meters above mean sea level. It led His Majesty the King to initiate the “Monkey Cheeks” project – or “Kaem Ling” project, in Thai (Suksawang, 2012). The project consisted in three main components including 1) dykes, 2) Monkey Cheeks or water retention basins, and 3) regulation equipment and pumping stations. These components worked in relation with the sea tide. His Majesty the King Bhumibol Adulyadej stated in 2003 that *“...Monkey Cheek reservoirs are needed in order to retain water when the sea water rises and water excess cannot be drained. During the flooding season between September and November, the seawater will push water in rivers until it reaches Ayutthaya province, which will make it impossible to drain excessive rain water into the sea. As a result, the areas along the Chao Phraya river in the lower Central Plains will remain flooded. Therefore, we need Monkey Cheek reservoirs to receive excessive water during the flooding season* (Suppaisarn, 2011). Urbanization is the main cause that leads to decreasing in flood retention area which can leads to the rising of flood damages. For this reason, RID seeks to use the rice field to temporarily store excessive water (Team Consulting Engineering and Management Co., Ltd, 2017).

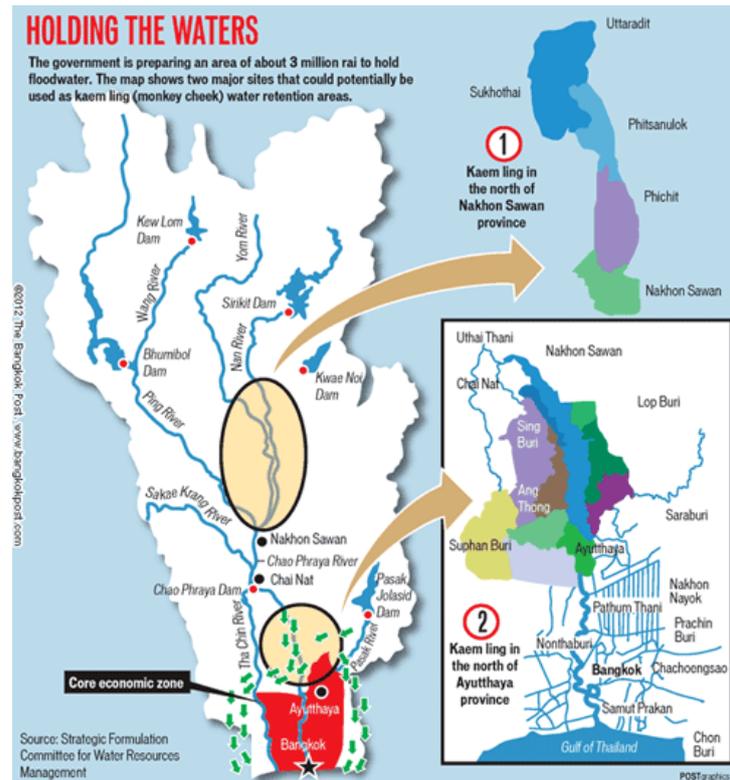


Figure 2.1: flood retention area under the water management project (The Bangkok post, 2012).

The Boong Chiang Tik monkey cheek project in Ubonratchathanee province was implemented for enhancing water quality, mitigating water shortages, storing water (monkey cheek) in rainy season, and alleviating flood. Moreover, this area can be recreation place (Department of Water Resource, 2014). There was no public participation in decision-making or planning of the project. According to Puanglad (2015), the villagers and the Subdistrict Administration were not involved in project design.

2.4 Stakeholder analysis

There are several stakeholder analysis techniques which can define the difference of each party by different means. A set of criteria which Creighton (1986) develop to identify stakeholders such as economy, proximity, use and social values while Selman (2004) uses an economic interest and motivation by principles or values. In addition, stakeholders' legitimacy, urgency and proximity can be used for stakeholder characterization (Mitchell et al, 1997 cited in Luyet et al., 2012). The snowball technique (King et al., 1998; Stanghellini and Collentine, 2008 cited in Luyet et al., 2012) help getting a list of stakeholders obtained through brainstorming, soliciting their opinions and allowing them to add further parties. The choice of the techniques will mainly depend on the project context, phase and available resources. Additionally, the integration of all stakeholders is one of principles for successful participation while failure of stakeholder identification may introduce biases in the

subsequent stage. Another consequence of unidentified stakeholders is the possibility that these appear later and have negative effects on the research or project (Luyet, 2005).

2.5 Public participation

Public participation includes a group of procedures designed to consult, engage, and inform the public to allow those affected by a decision to have an input into that decision (Smith, 1983). It is defined as the process that is integrating of public needs, values and concerns through two-way communication and interaction, and better decisions which are supported by the public are the main objective of public participation (Creighton, 2005) and distinguish three level of participation that imply increasing engagement (Figure 2.2): *Public communication* refers to a situation where information flows in one-way direction from the sponsors to the representatives of communities, *Public consultation* is the reverse of communication and *Public participation* means exchange information between the parties, two-way communication (Rowe and Frewer, 2005). Decision-makers should take into account public participation by recognizing the needs to realize who is affected by the actions and decisions they take, and who has power to influence their outcome (Reed, et al., 2009), i.e. the stakeholder as identified by Freeman 1984, “*any group or individual who can affect or is affected by the achievement of the organization's objectives*”. One of the main factors which can lead to effective participation is adequate information for making decision, two-way communication is a key point to achieve genuine public participation by public acceptance (Chompunth, 2012). “*Public participation has gained widespread recognition as a key water management principle. Despite this, the practical application of Public participation remains problematic*” (Mostert, 2003). Public participation has been defined and used in different ways. For instance, public participation, on behalf of government, is only the claim or suggestions and may not involve with decision making. On the other hand, public participation, in terms of people or scholars, is participation in government process prior to decision making.

Public participation consists of two main methods including public relation and participation. These methods correspond to different direction of data. Information means public relation techniques such as presentation, announcement, exhibition or summary information which are one-way communication whereas discussion, meeting and interview are two-way communication in terms of participation; therefore, mixed method is appropriate for project implementation with public participation (Chompunth, 2012).

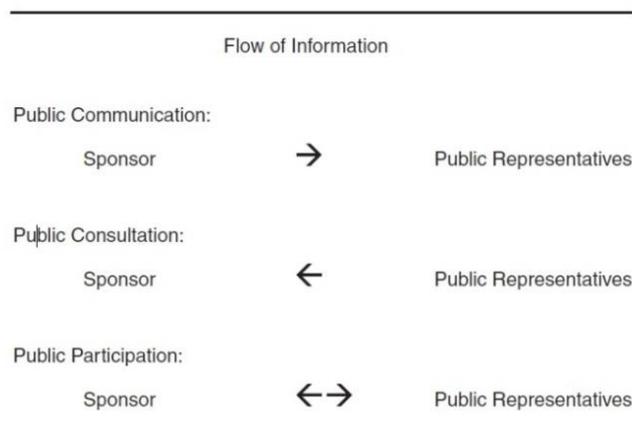


Figure 2.2: Three types of public engagement (Rowe and Frewer, 2005)

Participatory method is efficient when the content of development project eventually meets the needs of affected people. However, sometimes the decision had been made in advance (Faysse and Thomas, 2016). Most international natural resource management agencies have adopted public participation in development and implementation of natural resource management plans. However, evaluation of participation initiatives has largely focused on the proponents' perspective, and when it has addressed participant needs, has primarily explored satisfaction with the participation process and not the outcomes (Grant & Curtis, 2004).

Many authors highlight the benefits of participation on the quality of water management. Scholars and practitioners generally agree that the quality of participation have strongly affected the quality of decision (Reeds, 2008; Beierle and Cayford, 2002 cited in De Stefano, 2010). However, few studies have actually proved that public participation helps to reach better decisions.

2.6 Public participation in Thailand

Policy documents have set high expectations from public and stakeholder participation for maintaining and enhancing water resources. In Thailand, public participation process as public consultation and public relation should take place before the project beginning (Public Consultation regulation B.E.2548 (2005) No.5). Also, the twelfth National Economic and Social Development Plan for every five years include public participation issues in the strategies. For this reason, the particular natural resource management projects have to encourage public participation in the context of framework.

The Environmental Impact Evaluation Bureau of Thailand (2006) divides stakeholders into seven categories: affected people, agencies that conduct EIA report, agencies that consider the EIA report, state agencies and state enterprise (central, regional and local sector), researchers; scholars; NGO, mass media and public.

According to the Regulation of the office of the prime minister on Public Consultation B.E.2548 (2005), RID designed a participation manual based on the regulation and encourage public participation in the water management project (RID, 2010). For the water management projects, the manual advises to engage directly with stakeholders by participatory approaches such as meetings, workshops, debates, and consultations.

Table 2.1: Five levels of public participation as indicated in the RID participatory manual 2010.

Level of Public Participation

Inform →	Consult →	Involve →	Collaboration	→ Empower
- To inform public - Building knowledge (Problems & Solutions)	- To exchange information with public (Problems & Solutions)	- To associate with public. - Ensure public that their needs would be considered.	Partnership with public every step (define problem, develop choices to create the solutions).	Public can make a decision.
Commitment				
Public will obtain the information.	Recognition of public needs.	Work with public, reflect their needs to create the solutions.	Work with public, to create new proposal which including public views.	The decision of the public will be implemented.
Participatory pattern				
- Fact sheet - Share opinion via website - Informal discussion	- Public suggestions - Group discussion - Opinion survey - Public forums	- Workshop. - Consultation.	- Local committee - Create commitment - Participatory decision-making.	- Local committee - Create referendum - Making decision by delegated system.

The companies officially adopted the RID participation manual (RID, 2009) to work on participation process. Basically, RID has determined the term of reference (TOR) which the companies adopted to implement the project. Table 2.1 illustrates five levels of public participation which the companies used to create the participatory activities in their study of the Monkey Cheek project. Consequently, the companies organized the participatory processes which officially encourage civil society to participate in every step of the project by means of eight public consultations. Furthermore, the public could, once again in theory, express their views for making decision as a partner of the project (Team Consulting Engineering and Management Co., Ltd., 2017). The three main objectives of participation processes were: 1) to explain the concept of the project to the public, 2) to provide knowledge to the public for improving their understanding and find solutions and 3) to build a good image of RID. Consequently, the companies defined four principles of participation to create the participation process in the project as follows (Team Consulting Engineering and Management Co., Ltd., 2017):

1. **Proactive public relation:** bring the project information into the field.

2. **Two-way communication:** exchange information between organizers and participants in the meeting.
3. **Variety of media:** sufficient information by documents, radio, TV, social media.
4. **Public relation networking:** local agencies and representatives of communities will be personal media who can disseminate the project information to all inhabitants.

The feasibility study done by consulting companies divided actually stakeholders into two levels: the main target (direct stakeholders) and sub target (indirect stakeholders). The first levels included public, water user groups, community organizations, local organizations (district and sub-district level), relevant agencies and the Royal Irrigation Department. In addition, the companies set up the local working teams including these main stakeholders. The second level were indirect stakeholders that would get access to information only.

Multi-stakeholder platforms (MSPs) is one of tools which can enhance the conflicts over natural resources, ensure the realization of stakeholders in particular issues by discussion together on the roundtable (Faysse, 2006). For the monkey cheek project at the lowland above Nakhon Sawan, the companies encourage public participation by two techniques: public relation (information) and participation by MSPs. Local working teams of the project were created during implementation stage by MSPs in term of small meeting at district level. The meetings brought stakeholders together to discuss on the content of the project such as boundary of project area, water level for inundation area, and compensation fees. However, the feasibility study by consulting companies did not take place in the villages because of limited time and budget (interview with a staff member of one of the companies, 2017).

2.7 Evaluation of participation

Hassenforder et al. (2016) defined monitoring and evaluating (M & E) methods as the procedure which collects raw data on participatory process including the documents, participants' observation, interviews and questionnaires. First of all, the definition of effective participation should be clear before the evaluation begins, then evaluation criteria can be defined based on the particular situations and objectives (Chompunth, 2012).

According to Rowe and Frewer (2004), evaluation of participation practices is important for all stakeholders. There are several reasons for the importance of evaluation: to ensure the proper use of funds, to obtain lessons learned from the past for development in the future, to establish equitable representation of involved parties, and in terms of research reason: to increase understanding of human behavior. Evaluation of participation is difficult because the participation concept is complex, the criteria of failure or success participation are not obvious, there are no agreed upon evaluation method and few reliable measurement tools (Roserner, 1981).

It is difficult to define the effectiveness of a participation process because of the differences of objective, perspective and goals among stakeholders. Therefore, researchers should take into account the stakeholders' objective for generating criteria of effectiveness. In addition, the definition of effectiveness is a benchmark which can assess the outcome and process of participation exercises.

In addition, ongoing evaluation is essential to assess which strategies are needed, whether they are being implemented, and if they are having the satisfied impact for overcoming the challenges. Therefore, evaluating outcomes is important for identifying whether participation is leading to high quality of decisions and what impacts they have. (Carr, 2015).

Furthermore, evaluating criteria should be selected not only depending on the project goals, but also on the purpose, focus and timing of the evaluation. A good evaluation should be planned at an early stage, well organized and integrate three types of the criteria (Luyet et al., 2012).

Evaluation criteria

Luyet et al. (2012) reviewed the principles for successful participation including:

- A fair and transparent process that encourage equity, learning, trust and respect among stakeholders and the administration.
- The combination of local and scientific knowledge.
- The setting of rules in advance.
- An early involvement of stakeholders.
- The integration of all stakeholders.
- The presence of experienced mediators.
- Sufficient resources (e.g. information, time)

I used here the criteria proposed by Rowe and Frewer (2000). According to them, evaluation criteria may be divided into acceptance criteria and process criteria. The acceptance criteria related to potential public acceptance of a procedure, the process criteria related to the effective construction and implementation of a procedure (Rowe and Frewer, 2000).

Acceptance criteria: to evaluate participants' acceptance.

1. Criterion of representativeness: The participants should comprise a broadly representative sample of the population of the affected public.
2. Criterion of independence: The participation process should be conducted in an independent, unbiased way.
3. Criterion of early involvement: The stakeholder should be involved as early as possible in the process as soon as value judgments become salient.
4. Criterion of influence: The output of the procedure should have a genuine impact on policy.
5. Criterion of transparency: The process should be transparent so that the public can see what is going on and how decisions are being made

Process criteria: to assess the effectiveness of the process

1. Criterion of resource accessibility: Participants should have access to the appropriate resources to enable them to understand the issues at stake
2. Criterion of task definition: The nature and scope of the participation task should be clearly defined.
3. Criterion of structured decision making: The participation exercise should use/provide appropriate mechanisms for structuring and displaying the decision-making process.

4. Criterion of cost-effectiveness: The procedure should in some sense be cost-effective.

2.8 Methodology

Mixed-method provided a better understanding of research questions than either quantitative or qualitative approaches alone (Palinkas et al., 2015). Quantitative methods are used to obtain wide understanding of predictors of successful implementation and examine and confirm hypotheses based on existing conceptual model. Meanwhile, *qualitative methods are used to explore and obtain depth of understanding as to the reasons for success or failure to implement evidence-based practices or to identify strategies for facilitating implementation while quantitative methods are used to test and confirm hypotheses based on an existing conceptual model and obtain breadth of understanding of predictors of successful implementation* (Palinkas et al., 2015). The sampling strategies of Miles and Huberman is the model of qualitative research sampling adopted. The criterion of sampling in qualitative research are: sampling should consistent with the research objectives, the number of samples should sufficient to indicate the arenas of the studies, the summary of research finding should be cleared by the sampling, the sampling should be precisely and reliability, social ethnics and suitability of planning of sampling. Additionally, the size of sampling in qualitative research is not certain, depend on two criterions: data saturation and data sufficiency (Sutheewasinnon and Pasunon, 2016).

- Data saturation: the number of samples that is sufficient for interpreting the findings at the nothing left to learn point. This point is come from the redundancy of data collection.
- Data sufficiency: the number of samples should enough for defining results of the studies. The large size leads to the difficulties of data collection (Onwuegbuzie and Leech, 2007), and the small size which less than the data saturation leads to less reliable findings (Flick, 1998).

According to Sutheewasinnon and Pasunin (2016), the quantitative research, researcher can use random sampling for choosing the sample while qualitative research should have adopted the purposive or criterion-based for sampling technique. The main of this study is qualitative research thus I used the purposive sampling technique for selecting the respondents.

Chapter 3 Methodology

3.1 Study area

The consulting companies conducted participatory process under the Monkey Cheek project in four provinces (Sukhothai, Phitsanulok, Pichit and Nakhon Sawan), both irrigation scheme and outside irrigation scheme areas (Figure 1.1). The present study focused on Nakhon Sawan and Phitsanulok provinces (Figure 3.1).

Chumsang District

Nakhon Sawan province is the lowest area in the main Monkey Cheek project. Chumsang district is an area most affected by recurrent flood in Nakhon Sawan province (Thongpan, 2013). Furthermore, it is the meeting point of two rivers (Yom and Nan) that causes the drainage system not to operate during some periods (Nakonsanwan RID interview, 2017). This district encompasses twelve sub-districts, out of which nine are eventually in the flood expansion area project (Koiechai, Khok mor, Kha mung, Thub krit, Thub krit tai, Tha mai, Bang kieran, Nhong krachao and Pikun). The number of population in Chumsang district is 43,759 people, living in 12,106 households (Thailand information center, 2017). There are 55,593 hectares of recurrent flood areas (77.6 percent of district) Inundation takes place 8-10 times during 10 years. The district is an agricultural area that consists of 56,017 hectares of rice field (78.4%) which may be able to plant both Na-pee (*long variety rice*) and Na-brang (*short variety rice*) rices, 2,226 hectares of horticultural field (3.1) and 50.72 hectares of dry crop field (0.1%) (Thongpan, 2013).

Thongpan (2013) identified four adaptation strategies of farmers in frequently flooded area in Chumsang district, Nakhon Sawan are: adapting the production management, changing cropping calendars, reducing the production cost and off-farm jobs. The lesson learned from 2011 flood in Nakhon Sawan is that Chumsang District is the most flooded area in Nakhon Sawan, (Vongkamjan and Tiaonukultham, 2016).

I specifically studied ***Bang kieran sub-district***, because it is the lowest land in this district. It also faces drought, because most of the sub-district is outside an irrigation scheme area and local inhabitants cannot use groundwater due to salinization. Moreover, the whole area of Bang Khiean sub-district is planned to be a Monkey Cheek by the companies.

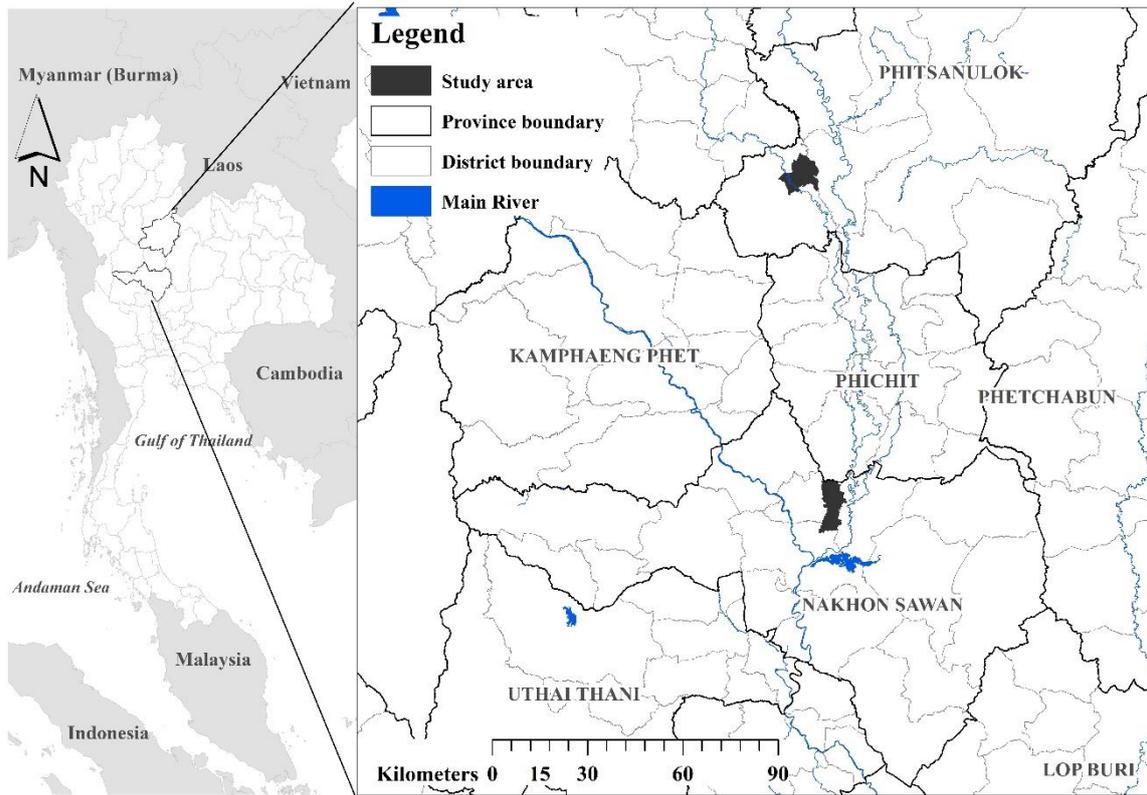


Figure 3.1: study area map (Own design)

Bang Rakam District

Phitsanulok province is located at the lower of the north of Thailand. This province is the transport center of the region and the geographical is suitable for agriculture (Phitsanulok Royal Irrigation Office, 2011). Bang rakam district always encounters flood every year because the overflowing of the Yom river which has no dam or large reservoir for water controlling in the rainy season and there is a plain area, causing flooding problems from the past to the present (Sayapan, 2014). The number of district area is 93,604 hectares which was flooded in 2011 about 19,877 hectares (GISTDA, 2011 cited in Phitsanulok Royal Irrigation Office, 2011). There are eleven sub-districts, six sub-districts are part of the Monkey Cheek project area by companies and 142 villages with 93,632 people (www.amphoe.com, 2016). In addition, the third RID office (Phitsanulok) surveyed this area and conduct public hearing with the representatives of communities and local inhabitants to develop three reservoirs (Takreng, Kheerang and Raman) as a monkey cheek network which is plan to implemented by 2013 (Phitsanulok Royal Irrigation Office, 2011). The project is called “Bang rakam model”. In 2017, RID implementing the Bang rakam model 60 (2017) by changing the crop period from May to April because of flood extension area project. Furthermore, RID plan to develop the model to be a master model at regional level in the future (RID interview, 2017). Basically, there are two period of rice field: November to April and May to August (Khamhongsak and Kuaicharoen, 2013). This study chose *Tha nang-ngam sub-district* because most of the subdistrict is considered as a monkey cheek is in this

area and because this sub-district is one of most affected by flood every year (Phitsanulok Royal Irrigation Project, 2011).

Bang Rakam district, Phitsanulok province is the one of areas in Bang rakam model which consists of four districts: Bang rakam, Prom Piram, Meaung phitsanulok in Phitsanulok province and Kong Krairat district in Sukhothai province. This area was already part of the area where the government planned to implement a monkey cheek project with the huge budget (350 billion baht) scheduled at that time (Khamhongsak and Kuaicharoen, 2013). Then, the model has been modified by RID in 2016, after the budget was cancelled. The new name of the model is Bang rakam model 60 (2017) which is the first area that RID implemented the monkey cheek project (April to November 2017) under the idea of supporting a shift in rice cropping period from May to April. For this dissertation, I chose Tha Nang-ngam sub-district to conduct inhabitants' interview because this subdistrict had the highest number of villages which are planned to be a Monkey Cheek of Bang Rakam district and some areas were already part of Bang Rakam Model 60.

3.2 Research Methodology

Methodology of this research was separated in 2 major stages; preparation stage and implementation stage. For preparing stage, I worked on documentation and conducted discussion with the actors in Nakhon Sawan province in June 2017. During the implementation stage, questionnaires survey (rating score of evaluation criteria) and semi-structured interviews organized in order to obtain actors' view, the characteristic of participation process, process evaluation and outcomes of negotiation.

According to Team Consulting Engineering and Management Co., Ltd. (2017), the companies divided stakeholders into two main groups. Primary stakeholder is the people or organization that affected by the project directly such as Public, Water user group , Tumbon Administrative Organization (TAO) and local organizations and RID. Secondary stakeholders consist of disaster (flood and drought) and protection organizations, private sector, mass media, scholars etc. For this dissertation, I focused on primary stakeholders as representative of local communities such as the president of District Officer, Tumbon Administration Organization (TAO) and sub-district headman.

Preparation stage

Preliminary data collection and field survey were conducted in June 2017. I interviewed three main actors (RID, consulting companies and local inhabitants) in Bangkok and Nakhon Sawan to obtain the information for research preparation and develop an interview guide. In addition, I visited the study area for field observation (paddy field, canals and water gate).

Table 3.1: Interviewed actors during preparatory field visit (May - June 2017).

	Actors	No	Content	Remark
State	The director of project planning Division, RID central office, Bangkok	1	The content of water management project and feasibility study which is finished by the companies.	
	RID local officer, Nakhon Sawan	2	- The content of water management project and feasibility study which is finished by the companies. - Water situation and water management in Nakhon Sawan province (focus on Bang kien district).	
	President of Bang Kiean and Khok mor TAOs.	2	- Information of water management project which is implemented by the companies. - water situation in the area. - change in cropping pattern - local team meeting	The company create small meeting to encourage stakeholder participation in water management project. (implementing stage of the feasibility study)
	Sub-district Agricultural Extension officer	2	- Information of water management project which is implemented by the companies. - water situation in the area. - local team meeting - change in cropping pattern which is the solution for farmers when their field used for retention areas.	Provide agricultural advices for farmers.
Private (companies)	Head of participation unit (project coordinator)	1	The content of water management project and feasibility study of water management project. Especially, Stakeholder participation process: Objectives, method and evaluation of the outcomes of the process.	Feasibility study is conducted by two companies in October 2016 to April 2017
Civil society	Farmers	2	Information of water management project which is implemented by the companies.	
	The head of water users group (WUG)	2	- Information of water management project which is implemented by the companies. - water situation in the area. - change in cropping pattern	Some of them are village or subdistrict headmen.

Implementation stage

I conducted actors' interview with a questionnaire for evaluation of participation process at the same time. I conducted data collection at two study areas in October to November 2017. However, I could not reach some areas because of flood at that time. Similarly, the study areas in Phitsanulok were inundated because of floods related to the Bang Rakam Model 60. For this reason, I conducted a second field trip in January and February 2018. Actors were interviewed to assess their opinion with regards to the results of Bang Rakam model 60. In addition, a scholar of Naresuan University and a staff member of a local NGO in Phitsanulok were interviewed. The scholar attended the meetings as an external observer whereas the local NGO participated in the meeting as a part of local working team member. However, some participants had two or three different "roles" and related stakes. For instance, some participants were farmers, village headmen and heads of water user groups. I tried to understand in depth the representatives' interests and strategies.

I also analysed three main actors (Stakeholders), roles and actors' purpose of the Monkey Cheek project (companies' study) by qualitative statement. Then, the effective of participation was evaluated by rating score of evaluation criteria and qualitative statement. In addition, I assessed the actors' interaction or relationship that relate to the project implementation in the field by qualitative statement.

3.2.1 Conceptual framework

The Royal Irrigation Department developed paddy field in lowland area as a flood expansion area. However, public acceptance may be able to influenced project implementation. For this study, three main stakeholders were considered (i.e. RID, consulting companies and civil society), play their own roles to encourage flood expansion area by their interests. Civil society include beneficiary of Monkey Cheek as Bangkok people and affected people of project areas, most of them are farmers. I focus on civil society as local inhabitants in the project area. However, representatives as president of TAO, subdistrict headmen, and head of WUG are selected by the companies. These people are the main target of meeting participants, and they are expected to participate in project design and disseminate project information to local inhabitants. Furthermore, the companies encourage representatives to express public views and problem of each location in the project design.

Central RID staff plays an important role as examiner of the companies' study. They also answered some of the questions of participants in the meetings and they assessed participation process conducted by the companies (gave comments to develop the process).

For this thesis, I emphasized on public participation process of the companies' project which took place in Bang Rakam district, Phitsanulok and Chumsang district, Nakhon Sawan. A significant point of this study is linkage of two projects. I assessed to what extent the outcomes of public participation process was used in BRM60.

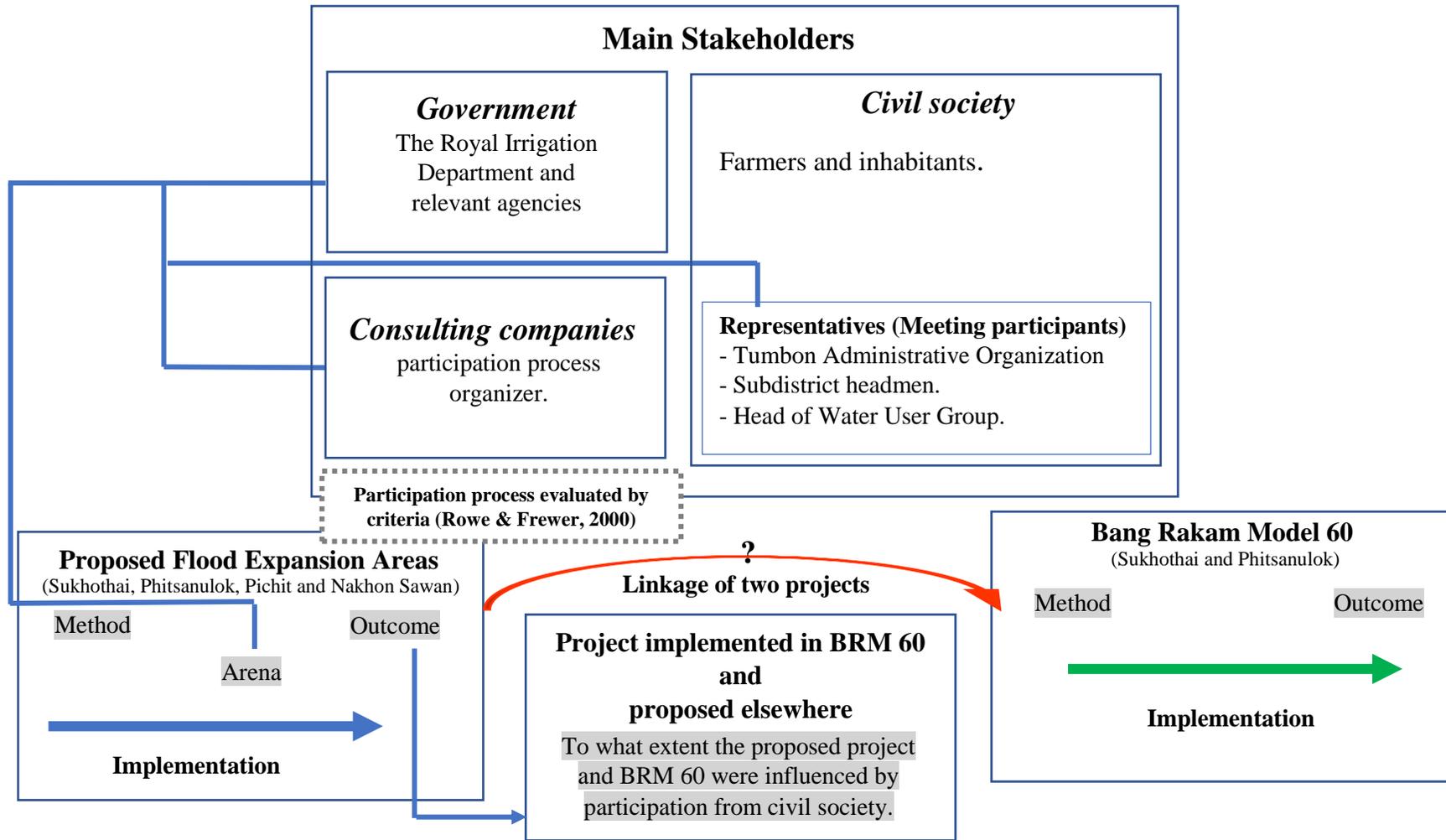


Figure 3.3: Conceptual framework

3.2.2 Research design

The overall research aims to contribute to the public participation through a focus on the characteristic of actors, participation process and outcomes of negotiated issues on the monkey cheek project at lowland area above Nakhon Sawan province. The research questions were answered, following the conceptual framework (Figure 3.3).

Analytical framework for evaluating participatory processes

The framework was based on Rowe and Frewer (2000). A successful participation process should consider several criteria which are associated with: maximizing the presence of relevant participants, distributing relevant information from all stakeholders, providing effective transfer of information in two ways. The following questions were used in the interviews, for each of the criteria.

Table 3.2: The list of question that adopted the criterion of Rowe & Frewer (2000)

Criterion	Question
representativeness	In your opinion, were the participants at the meeting genuinely represent the rural inhabitants who will be affected by the project?
independence	In your opinion, has the meeting been run in an unbiased way?
transparency	In your opinion, the proposal and objective of the meeting have been transparent to the participants?
Early involvement	In your opinion, was the meeting organized early enough to influence the decision-making process?
resource accessibility	In your opinion, did the meeting provide sufficient resources such as time and information (e.g. documents) to enable you to take part in the discussion effectively?
task definition	In your opinion, the nature and scope of task are well defined? (i.e you realized what was required from me in the meeting)
structured decision making	In your opinion, the structure and organization of this consultative meeting are likely to result in recommendations that will be logical/consistent?

An actor-oriented approach

There are five issues which are important in negotiation process: The delimitation of the Monkey cheek area, Maximal water level during a flood event and duration of the flood event, Possibility to do dry season irrigation, Compensation and Road. For this study, the approach was used to assess actors' understanding of the issue, their goals, the way actors interact with others, and, eventually, their learning from these interactions. Qualitative data used to elaborate actors' perspective and understand interactions between them.

The relationship among actors is indicated in the actor linkage map (figure 3.4). The arena of this study is the public participation in the water management project which RID assigned

the companies to conduct the feasibility study in the field. There are three main actors in the arena: RID (state), consulting companies (private) and civil society of the project area. The thickness of arrow refers to the assumed level of relationship between stakeholders. The companies work for their own profit. Their goal is to implement under the conditions of TOR between RID and companies. The evaluation of participation process in the feasibility study is done mainly to respond the RID satisfaction even though they many not have obtained the information at village sector because of time and cost limitations.

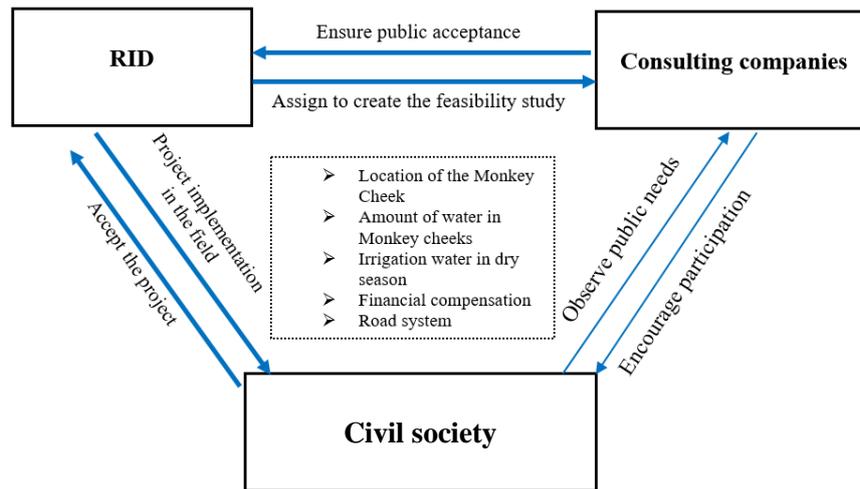


Figure 3.4: Actor linkage map

3.2.2 Data needs

Preliminary data was collected from field survey and actor interviews in the study area and secondary data corresponded to documents, printed materials and journal articles related to the situation, sound recording of interviewees.

3.2.3 Data collection

In this study, I applied qualitative methods for collecting and analyzing information. The collecting methods is semi-structured interviews with three main actors (Involved officers and water users). For the sampling method, this study used purposive sampling in general.

Sampling technique

Purposive sampling was used in the study. I divided the actors into three sectors: State, Private and Public. Table 3.3 illustrates the number of actors and the context of interview that I conducted in implementation stage.

- 1) I interviewed participants from the “public” (ie, those officially representing rural inhabitants) in the meetings for the design of the main flood retention area with the questionnaire in which I included questions regarding the evaluation of participation. I chose the participants based on lists of participants provided by the Consulting companies. Both meeting participants and organizers provided the information in

terms of negotiated issues and evaluated the meetings. Some presidents of TAOs assigned a head of engineering unit to join the meeting instead of them. In addition, some areas have no the water user groups

- 2) I also interviewed 40 inhabitants, 37 of 40 people are farmers (20 inhabitants in each of the two sub-districts). They were not asked about the participation process because they were not involved in the meetings which the companies organized. However, these inhabitants' voices were collected to explain their interests in detail, and the diversity of inhabitants could express different interests and their action for the project that the other actors may take into account. These inhabitants were chosen after discussions with the chief of Tambon Administration Organizations and the head of Water User Groups, to understand the diversity of these inhabitants and their interest. Sampling was made in order that the diversity of situations in the sample is broadly in proportion to what actors will explain about the whole farming population in the sub-districts.

Finally, I interviewed officers of the difference offices of the MOAC and experts. For Nakhon Sawan province, both District Agricultural officer and Fisheries officer have changed the positions at the time of study. Therefore, I cannot collect the relevant agencies' view. Additionally, I interviewed the scholar of Naresuan University and the head of local NGO in Phitsanulok. The scholar observed the meetings that the companies organized while the NGO is the member of Phitsanulok working team that the companies invited them to join their team.

Table 3.3: Interviewed actors of implementing stage (October to November 2017).

Study area	Actors	Interviewee
Bangkok	Central RID	1. The director of the first project planning division (irrigation project in the north of Thailand) 2. Project coordinator of the companies' study.
	Team Group of Companies	1. Vice president of the Team Consulting Engineering and Management Co., Ltd. 2. Head of public participation division 3. Water resource engineering 4. Environmental technical officer 5. Participatory experts (Companies' consultants)
Nakhon Sawan	Local RID	1. The director of Nakhon Sawan irrigation project. 2. Head of water allocation unit.
	Bang Kiean subdistrict	5 Chief of TAOs, 4 head of engineering unit of TAOs, 5 subdistrict headmen, 6 head of Wugs and 20 farmers.
Phitsanulok	Local RID	1. The director of Yom-Nan Operation and Maintenance project. 2. Irrigation Engineer of Bang Rakam model office.
	Relevant agencies	1. District Agricultural officer. 2. District Fisheries officer.
	Tha nang-ngam subdistrict	4 Chief of TAOs, 3 head of engineering unit of TAOs, 4 subdistrict headmen, 1 head of Wugs and 20 farmers.
	Scholar	Professor, Naresuan university.
	Local NGO	Head of the support community organization for environmental restoration center.

Table 3.4: Issues discussed with interviewees.

	Actors	No	Content	Remark
State	RID central officers	2	<ul style="list-style-type: none"> - Project implementation (current situation and the next step) - Linkage of two projects. - Feedback of the projects. - Evaluation of participation process (Questionnaires) 	
	District-chief officer	2	<ul style="list-style-type: none"> - The content of water management project and feasibility study which is finished by the company. - Participation in the meeting which the companies organize in detail. - Evaluation of participation process (Questionnaires) 	Phitsanulok officer moved to other areas.
	The director of the RID office and the head of water allocation units.	4	<ul style="list-style-type: none"> - Ensuring the information of final report and updating the situation of water management project. - Updating water situation in study area. - Evaluation of participation process (Questionnaires) 	
	District and sub-district Agricultural and fisheries Extension officer	6	<ul style="list-style-type: none"> - Information of water management project which is implemented by the company. - water situation in the area. - local team meeting - change in cropping pattern which is the solution for farmers when their field used for retention areas. - the issues of negotiation. - Evaluation of participation process (Questionnaires) 	<p>Three officers for each district.</p> <p>* two Nakhon Sawan officers moved to other areas.</p>
Private	Companies	5	<ul style="list-style-type: none"> - The content of water management project and feasibility study. - The content of the meeting which the companies organize in detail. - Evaluation of participation process (Questionnaires) 	
Civil society	Participants in the meeting as representants of rural inhabitants (Tambon Administration Organizations/ headman of sub-district)	32	<ul style="list-style-type: none"> - Information of water management project which is implemented by the company. - water situation in the area. - change in cropping pattern - local team meeting - the issues of negotiation. - Evaluation of participation process (Questionnaires) 	19 people of Chumsang distric and 13 people of Bang rakam district
	Rural inhabitants	40	<ul style="list-style-type: none"> - Information of water management project which is implemented by the company. - the issues that they are concerning. 	20 people per study area.

			- the issue of negotiation (public acceptance: the level of water, compensation fees)	
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Primary Data

Primary data were used in producing the information collected by the following methods at the same time;

- Semi-structured interview

The interview of actors was conducted individually with the list of questions as an interview guide, to understand the actor’s perception on the project of flood expansion area. Additionally, the interview guide included the questions on evaluation of the participation process. The document was prepared on English and translated into Thai for field data collection. It is based on open-ended questions and use a rating scale for the questions of evaluation criteria. The score ranges from 0 to 5: 0 = strongly disagree, 1 = disagree, 2 = slightly disagree, 3 slightly agree, 4 = agree and 5 = strongly agree. In addition, I explained the definition of technical terms to interviewees before the interview begins.

These questions with regards to the evaluation of the participation process were asked to representatives of civil society, to RID officers and to other staff of public agencies who attended the meetings.

Secondary Data

- a) Local map of study areas and irrigation system mapping.
- b) Term of Reference of the feasibility study, final report by consulting companies, meeting documents and unofficial report of Bang Rakam Model 60 by RID officer.

Data explained above was done by at sub-district, district, provincial and national level. Relevant research, documents, information were collected from Chumsang district, Nakhon Sawan and Bang rakam district, Phitsanulok province.

3.2.4 Data Analysis

Mixed-method (Qualitative and quantitative) was used to analyze data and information from primary and secondary sources, using Excel.

Qualitative Analysis

Data obtained from individual interviews was qualitatively analyzed. The technique was used to examine the stakeholders’ perception, their interactions, and participation process and outcomes in detail.

Analysis

Table 3.5: Analytical framework of the study

Research Objectives	Analyses	Major variables	Analytical Tools
To identify and analyze main stakeholders, their stakes and their expected roles in the public participation process	Analysis of stakeholder identification.	<ol style="list-style-type: none"> 1) Characteristic of Stakeholders 2) Stakeholders' objective/interest 3) Role of stakeholder in the water management project. 	<ol style="list-style-type: none"> 1) Qualitative assessment
To assess the participation process	Analysis of participation process in practices.	Evaluating criteria <ol style="list-style-type: none"> 1) Representativeness 2) Independence 3) Early involvement 4) Transparency 5) Influence 6) Resource accessibility 7) Structured decision making 	<ol style="list-style-type: none"> 1) Quantitative assessment 2) Qualitative statement
To analyze actors' interactions and the outcomes of negotiation in particular in terms of the characteristics of the flood expansion areas.	Analysis of actors' interactions and outcomes of negotiation.	<ol style="list-style-type: none"> 1) The issues that actors negotiated in each arena 2) The outcomes of these negotiations 	<ol style="list-style-type: none"> 1) Actor-oriented approach 2) Qualitative statement

Chapter 4 Results

This chapter is divided into seven parts that consist in 1) the initial proposal of monkey cheek projects, 2) the participation process, 3) inhabitants' stakes, understanding and strategies vis-à-vis the project, 4) the assessment of the negotiation issues; 5) participants' assessment of the participatory process; 6) actors' assessment of the participatory process; 7) acceptance of stakeholders.

1. INITIAL PROPOSAL OF THE MONKEY CHEEK PROJECTS

1.1. Bang Rakam Monkey Cheek

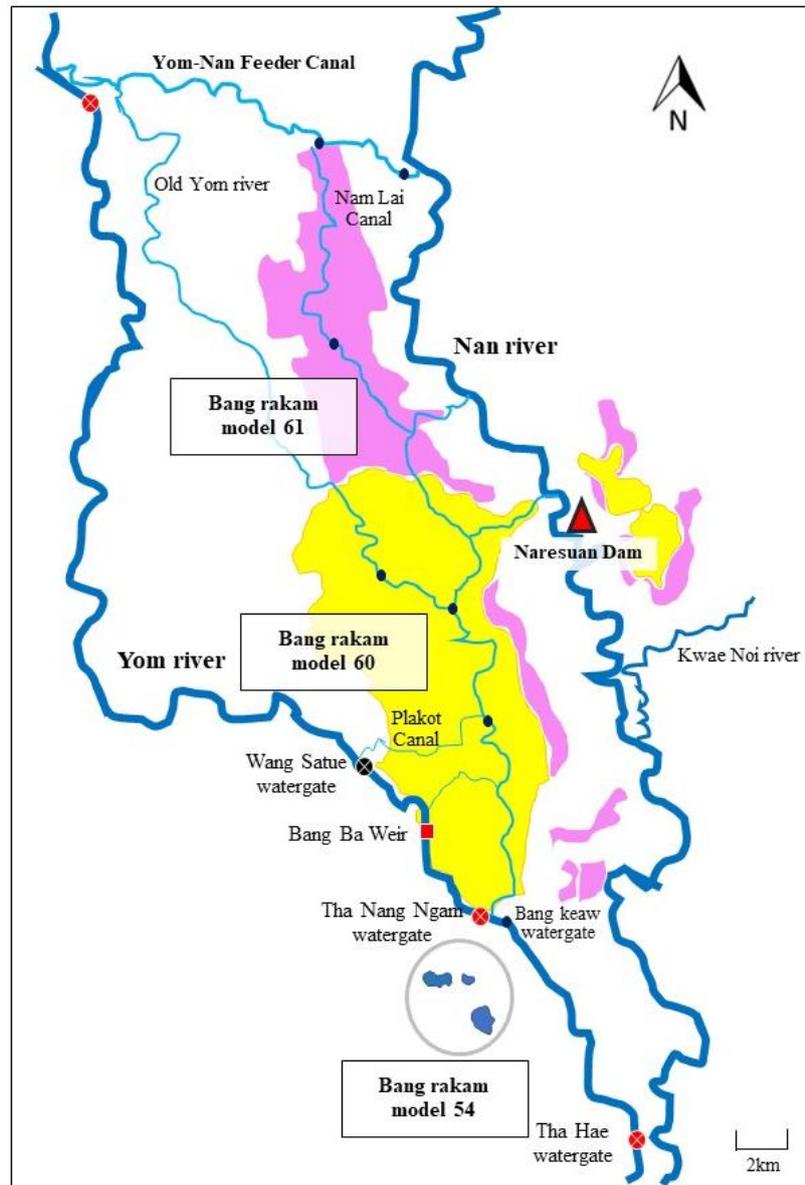


Figure 4.1: Location of the various Bang Rakam models (Own design).

Bang Rakam Model 54

In August 2011, the then Prime Minister (Yingluck Chinawat) encouraged coordination of government agencies under the Ministry of Agriculture and Cooperatives (MOAC) for flood alleviation based on four key concepts (Preparation, Response, Recovery and Prevention or 2P2R). After the 2011 flood, the government tried to implement flood mitigation measures which are conform to local livelihoods, in order to reduce the impacts of flooding. Both structural and non-structural measures were proposed. *Structural measures* entail reservoir construction or improvement of irrigation systems. *Non-Structural measures* encompass Preparation of Disaster Mitigation Planning, Financial compensation, Building local knowledge and database development. MOAC adopted these concepts (2P2R) to create Bang Rakam model 54 (B.E. 2554: A.D.2011).

- *Preparation*: get ready for the situation that will happen (warning system).
- *Response*: rapidly react when the situation occurs. For example, sending staffs go to the flood area as soon as possible.
- *Recovery*: Impact alleviation and compensation in flood period and after the flood occurred.
- *Prevention*: sustainable protection against possible flood damage that RID was in charge to develop in Bang rakam district, Phitsanulok province to be a model area (Kerdsakul, 2012).

In Thai, Rakam has two meaning; 1) name of a small plant, scientific name: *Cathormion umbellatum* (Vahl) Kosterm, Genus: Leguminosae and 2) suffering. Furthermore, mass media had already presented the story of Bang Rakam like the place of suffering by flood in 2011 (Boonwanno, 2017). Although BRM60 took place in some part of the district (8,704 hectares in Bang rakam district while the model was implemented on 42,200 hectares in two provinces).

Figure 4.1 illustrates the concept of Bang rakam model. The Yom River passes in the middle of Bang rakam District. The right side of the river lays outside the irrigation scheme area (Bang rakam sub-district) and the land is higher there than on the left side, which is an irrigation scheme area (Tha-nang-ngam and Chumsang Songkram sub-districts). According to Boonwanno (2017), after the 2011 flood, the right side never faced flood. However, flood occurs on the left side every year because it is a flood plain located between the Yom and Nan Rivers.

In the Bang Rakam Model 54, RID focused on prevention by implementing structural measures, such as the building of three reservoirs in Bang Rakam sub-district: Takreng (Village No.9), Kherang (Village No.5) and Raman (Village No.6) (see Figure 4.1: Blue shape in grey circles). These ponds are located outside the irrigation scheme area and were supposed to retain 32 million m³ of water (Boonwanno, 2017). This amount was small compared to the calculated need to store approximately 400 million m³ of flood water (RID interview, 2017). Since these reservoirs are shallow, RID maintained them by dredging. Then they developed a temporary road system around the reservoirs. Thus, farmers could not pump water into their field directly. Therefore, RID created Sai-Kai canal around the reservoirs and constructed a sluice gate for a drainage system. In addition, RID created sub canals which are linked to the Yom river and an irrigation system from 2012 to 2014. However, the model did not function completely because these reservoirs are located higher than canal system (President of TAO interview, 2018). The reservoirs were filled by rain more than the irrigation system and limited amounts of water in the irrigation system led to an incomplete filling of the reservoirs (President of sub-district interview, 2017).

Bang Rakam Model 60

Characteristics

The Yom-Nan Operation and maintenance Office, Phitsanulok province, was established in 2016 to develop the Yom-Nan river network for flood and drought alleviation in Utaradit, Phitsanulok and Pichit province. Such network had been proposed since 2004 (Boonwanno, 2017). The part of Bang rakam district situated on the left side of Yom River has no reservoirs to retain water during a flood period. In 2016, the Minister of Agriculture and Cooperatives (S. General. Chatchai Sarikallaya) assigned the Royal Irrigation Department and relevant agencies of the MOAC to coordinate for planning of cropping pattern changes, in order to use land as a monkey cheek area during the flood season and to reduce flood impacts. The project is called “Bang rakam Model 60” that is the project of integrated water management in flood expansion areas that is officially name similar to the Bang rakam model 54 (RID, 2017). However, the concepts of these models are different. The model area (Figure 4.1: Yellow shape) is located in an irrigation scheme area under Yom-Nan Operation and maintenance Office, Phitsanulok province. Consequently, RID can control water, since they have a coherent system of pumps and gates. The area of the irrigation scheme is 42,400 hectares that consists of three Operation and Maintenance Projects (Yom-Nan, Plai-Chumpon and Naresuan). The Monkey Cheek area in Bang Rakam district is 8,704 hectares out of a total of 42,400 hectares (Yom-nan Operation and maintenance Office, 2017). Furthermore, RID plans to construct watergates (Tha nanggam and Thahae watergate) for the development of irrigation system in Bang Rakam model area (See figure 4.1: Red circle). At the present, RID hired other consulting companies to conduct an EIA for the construction of these watergates (TAO interview, 2017).

Also, the director of Yom-Nan Operation and maintenance Office, Phitsanulok province stated that the RID discussed with the communities in district meetings since 2014 about the demand of local inhabitants as follows; 1) inhabitants want to harvest rice before flood events; 2) local transportation should not be disconnected to the cities during the floods; 3) inhabitants wanted to start the second crop in December (RID interview, 2017). 4) they cannot cultivate rice in dry season because of water shortage (lack of water supply).

Consequently, RID developed four key points to create the Bang Rakam Model 60, on the left bank of the Yom River. The project had the following characteristics (RID interview, 2017):

1. Right period of flood: Flood should occur after harvesting period. This concept brings about changes in the moment of dowing rice from May to April thus rice will not have affected by flood in Bang rakam model 60 (RID interview, 2017).
2. The water level should not affect the main road at Klong Pla-kray village, 16°46'09.9"N 100°06'55.0"E (RID interview, 2018), ie the road system should be above 41 MASL. Therefore, RID plans to uplift the road (RID interview, 2018).
3. Flood period “will be kept short” (3-4 months).
4. Water will be available for irrigation in dry season, both in terms of quantity and sufficiently early so that farmers harvest by the end of July.

The Army is related to all sectors of state agencies. Thus, RID coordinated with the Army to implement Bang Rakam model 60. According to a president of TAO interviewed, the Army “has more power to negotiate with the communities”. Although farmers are unwilling to change cropping pattern, RID just informed and implemented the model in the field. “*if we did not accept to plant their rice earlier than usual, then we would not get compensation in case of floods*” (Phitsanulok farmer interview, 2017). Farmers did not get benefits from the BRM60,

but the threat in case is lated farming. Farmers desire to start second crop in November because it has more suitable weather for rice production than December (cold weather leads to low yield).

According to RID (February, 2017), the detailed components of Bang rakam model 60 are as follows.

Conditions

- Farmers in affected areas have to register on a list at the agricultural office of district.
- Registered famers have to start rice cultivation during 1-30 April.
Registered famers have to use highbred rice such as Gor-Kor61 (90 days), Gor-Kor41 (105 days) that are short-term rice species.

Recommendations

- After harvesting period, registered famers must not farm until 1 November 2017
- In case of natural flood before 20 August 2017, if farmers did not finish harvesting, the government should pay for them by a compensation rate which has been defined by the ministry of finance at national level.
 - o For affected residents: 33,000 Bath per Household
 - o For affected rice fields: 1,113 baht per 0.16 hectares (not more than 4.8 hectares)

RID proposed four assumptions of Bang rakam model 60 as follows (Thai Pbs, 2017):

- The flood expansion area can alleviate flood problems in the lower part of the Chao Phraya Basin.
- This project (Changing cropping pattern) can save the government budget for flood compensation in case of of rice being flooded.
- RID can save on maintenance budget for repairing irrigation structure in case of huge flood.
- Local inhabitants could have job opportunities from fishing during flood events.

Comparison with Model 54

The Bang Rakam model 60 area is included in the Monkey Cheek project area of the whole project (involving also Nakhon Sawan). In contrast, the Bang Rakam model 54 is not part of it (interview with a staff member of one of the companies, 2017).

The concepts of the two models are different. Bang Rakam model 54 focuses on structural measure (three reservoirs) to retain water in flood periods while the Bang Rakam Model 60 emphasizes integrated water management for flood alleviation using non-structural measures (i.e., using existing pumping systems so as to use agricultural fields as flood expansion area).

Coordination for implementation

The Royal Thai Government (2017) reported that the Bang Rakam model started by setting the Bang rakam model 60 (2017) coordinating center at Baan Mai Pho Thong sluice gate and Bang kaew sluice gate (see Figure 4.1). The agents who are in charge of the center include the army, RID, local authorities and water user groups that worked on monitoring and solving water issues

of Bang Rakam and Prom Piram Districts since 15 March 2017. HE Gen Chatchai Sarikulya, Minister of Agriculture and Cooperatives stated that cameras connected to the internet were installed for a real time water monitoring system of the water transport from Nan river to the model area, and farmers can start cultivation on 1 April 2017 and harvest rice in August, before flood event (Royal Thai Government, 2017).



Figure 4.2: Printed board located at the Yom-Nan Yom-Nan Operation and maintenance Office, Phitsanulok province.

Figure 4.2 shows the communication made to put forward the coordination between government organizations to implement Bang Rakam model 60. The blue text in the figure above is “water management for supporting of Na-pee (long variety rice) rice farming in flood expansion areas”. According to RID (2017), the Army play an important role for dissemination of model information and building knowledge in the field. Additionally, a representative of the Army joined the project meetings as a chairman of the meeting and visited the field with RID officers (RID interview, 2017). From the point of view of a scholar (Naresuan University) who observed the meeting, the presence of the Army influenced public voices in the meetings. Farmers understand that the Army is part of project committee (Farmer interview, 2017). Consequently, RID had more power to implement their project. According to an interviewed officer from RID, the main reason to start this model is that the law and regulation of pay practices are not necessary due to farmers lack of desire to obtain the compensation fees in terms of money, as they expect the government may able to allocate the water for agriculture in dry season (RID interview, 2017). According to a RID officer (2017), the villagers expect that water will not be released into the paddy field before harvesting period (May-August), and

support amount of water in dry season for short variety rice while the monkey cheek project (companies' study) areas have to wait for regulation of compensation fees in term of legislation.

Implementation in 2017

The BRM60 was organized in February 2017 while the participation process for the Monkey Cheek project started in January 2016. RID and the Army informed the farmers in local meetings (Phitsanulok farmer, 2017). According to an officer from RID, the relationship between RID and local communities in the Yom- nan irrigation area is quite good because RID and relevant organizations of MOAC coordinate with local sector for water allocation during cropping period. The irrigation project offices have weekly meetings to capture water situation in irrigation scheme area (Flood event of BRM60) and RID has joined sub-district meetings to communicate with local people (interviewed RID officer, 2017). For this reason, this officer argued that it will be easy to transfer the concept of Bang rakam model 60 to the village headman in the local meeting. According to interviewed RID local staff (2018), they are not sure that the plan of weekly meeting will be the same process last year. *“If public can deal with the situation, we need not to organize the meeting every week. We have many things to do”*.

The model has started with the start of a new rice crop period on 1 April 2017. According to Phitsanulok hotnews (2017), this is the first implementation of changing crop pattern in Bang Rakam model 60 area, which receives water from Sirikit dam. The area received 228 million m³ for the whole cropping period of 42,400 hectares of rice field that cover two provinces (Sukhothai and Phitsanulok), five districts, twenty sub-districts and ninety-three villages. Furthermore, the number of harvested field on 21 July 2017 was 12,800 hectares that can show the success of the model with changing of cropping period. RID argued that the model was finalized since 2015. However, it was not implemented because of drought (interviewed central RID officer, 2018).

In 2017, September 11, the third Royal Irrigation Office in Phitsanulok province organized the After-Action Review (AAR) in the middle phase of Bang Rakam Model 60 (Bangkokbiznews, 2017, September 11). The findings show that there is 97.5 percent of rice farming in BRM60 area that farmers had been able to harvest before flood.

However, early rain season in May 2017 and frequent subsequent rains led to excessive water in the system that affected the BRM60 area. The area of rice fields affected by Sonca and Talas storms was in July 2017 is 1,664 hectares. In October, 2017, RID planned to drain out water from the Monkey cheek area on 1st November 2017 (Post today, 2017, October 27).



Figure 4.3: Flooding (2017) in Bang rakam district, Phitsanulok province.

Figure 4.3 A and B show the flood related to the implementation of Bang rakam model 60 in Bang rakam sub-district. The right side of the bridge is officially outside the model area. The Bangkeaw sluice gate and the Bang rakam model 60 office are located on the left side of the bridge. However, the area was flooded on the side of Bang Rakam TAO. This shows that RID could not control that flood water remains only in the model area. RID officer argued that it was out of their control because of excessive water in the system (due to early rain and storms). However, the president of Bang Rakam TAO is unsatisfied by the result of BRM60 because fifteen villages of this TAO were affected by flood, only two villages joined the BRM60 (TAO interview, 2018).

Figure 4.3 C and D illustrate the affected area in Bang rakam model 60. On Figure C, the house is lower than the main road. The man points out floodwater height of 2011 flood compare with this year (brown color on the wall). Figure D demonstrates the height of floodwater in 2017 (Red arrow) at Than-nang-ngam temple that is located on the main road level. According to Phitsanulok hotnews (Oct 9, 2017), the Bang rakam model 60 area retained 400 million m^3 of water which affected the transportation system in the area. In practical, the volume of water in BRM60 area is 550 million m^3 that affected local transportation (Sub-district headman interview, 2017). RID implemented Bang Rakam model 60 without new structure. However, residential areas (both inside and outside BRM area) were affected by the model, water level over the main roads (interviewed president of TAO and inhabitants in Bang Rakam district, 2017 and 2018). According to interviewed central RID officer (2018), RID looked for financial support in order to uplift the existing roads in BRM area. Furthermore, RID submitted the proposal (Bang Rakam Model 60) to Green Climate Fund that may provide a large budget for development of the model in terms of improved existing structure of irrigation system (this fund was not approved yet in April 2018).

According to an interviewed officer from RID, the RID informed the residents by official announcement before they released water into the field (Bang rakam model 60). Weekly

meetings were organized by RID every Tuesday for project monitoring. The difference between natural flood and Bang rakam model 60 appears also in terms of the relevant organizations that support affected people. In case of natural flood, the central government publishes official announcement in disaster areas. Then, relevant agencies will support in terms of helping and financial compensation. In the Bang Rakam Model 60, the RID does not propose financial compensation to the public because the model can answer the farmers' demand (four key points) and save the state budget (compensation) at the same time. *"We provide water to farmers in April as a compensation in case of flood expansion area (BRM60)"* (central RID officer interview, 2018). RID considered that if the model had to involve compensation for farmers, there would be delays in its implementation.

In 23 December 2017, the representatives of relevant organizations (RID, President of Bang rakam district office, Military and Public) announced the success of the model on the National Council for Peace and Order (NCPO) television program (Thailand Moves Forward or Dern Nah Prathet Thai [in Thai]). The Headman of Tha Nang Ngam sub-district stated that the public was satisfied with the result of the model. According to The Nation (2017), RID acting director-general Thongplew Kongchan revealed that the RID planned to have an additional 18,702 hectares of floodwater retention fields (Figure 4.1: Pink shape) for the next flooding season, which will increase the capacity to store another 150 million cubic meters of water. *"The success of the floodwater retention fields under the Bang Rakam Model project this year proved that it could significantly reduce flooding problems in the lower Chao Phraya River Basin, and also reduce the severe flooding in Sukhothai. This will reduce the government's burden to compensate for damage caused by flooding"* Thongplew said.

Link with the main Monkey Cheek project

"The BRM60 is the part of the [main] Monkey Cheek project, to operate the system in reality and deal with urgent flood in Thailand. If the model is successful, we will develop the BRM60 concept to other Monkey Cheeks" (RID interview, 2017). The companies conducted the study and participation process during October 2015 to April 2017 while the BRM60 started to inform new cropping pattern for farmers in February 2017. *"BRM60 has not conducted EIA before model operation because the model is not under the criteria in law that the project should conduct EIA report. We (RID) assigned the companies to work on that because we just want to know the impacts of Monkey Cheek"* (interviewed central RID officer, 2018).

1.2. The main Monkey Cheek project on lowland areas upstream Nakon Sawan

The companies divided the project areas into three types: 1) Irrigation scheme area (73,290 hectares) that include Bang rakam model 60 area; 2) zones outside irrigation scheme area (116,379 hectares); and 3) "natural" monkey cheeks, such as Boraphet pond or Tha-le luang pond. These ponds are under the management of the Department of Water Resource. Therefore, the project emphasized on the development of areas outside irrigation schemes to be transformed into monkey cheeks (Companies interview, 2017). Basically, irrigation scheme areas hardly face with flood because RID can control water in the irrigation system. Nine sub-districts in Chumsang district are planned to become monkey cheek areas. The main monkey cheek areas are located in three sub-districts of this district: Bang kien, Thubkrit, and Thubkrit Tai. For Phitsanulok province, six sub-districts of Bang Rakam district are planned to become monkey Cheeks. The boundary of monkey cheek area may be modified after local meetings which the companies organized for encouragement of stakeholder participation in the project.

The five objectives of the main project are provided in the TOR of the contract with companies (RID, 2015):

1. To **conduct and prepare a report of feasibility study for monkey cheeks** in the irrigation areas north of Nakhon Sawan province and/or natural lowland areas for temporarily controlling floodwaters so as to reduce the peak floods in the Yom and Nan Rivers. The engineering and management options must be acceptable to local stakeholders in the areas;
2. To **carry out and prepare a report of an Environmental Impact Assessment (EIA)**;
3. To **promote participation of the people** and target groups in the project study from the beginning, probably in the form of a working group or local volunteer group;
4. To **carry out public relations and community relations activities** as well as integrated public participation and multisectoral involvement to show that the RID is committed to flood mitigation in a transparent manner and to really create opportunities for public participation in accordance with the Rule of the Office of the Prime Minister on Public Consultation, B.E.2548 (A.D.2005) and the Constitution of the Kingdom of Thailand in force at the time of study;
5. To **build local people's project awareness and acceptance** without violation of laws.

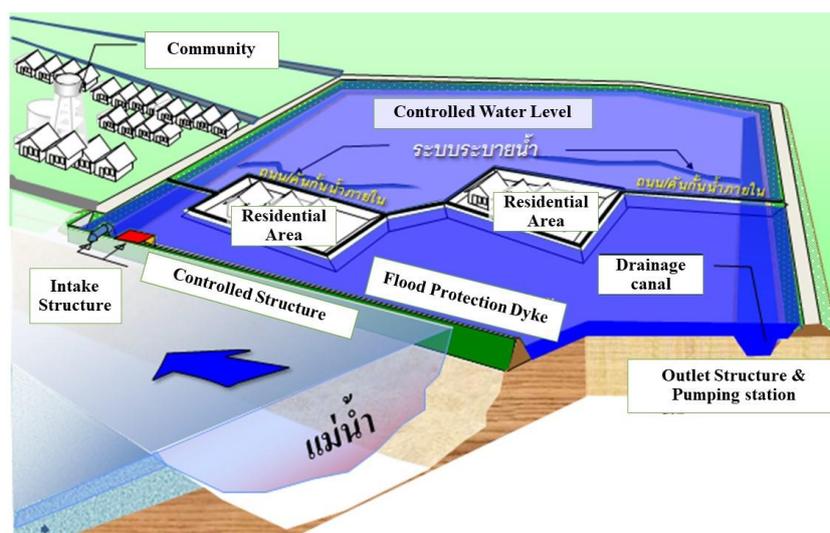


Figure 4.4: The components of a Monkey cheek
(Team Consulting Engineering and Management Co., Ltd., 2017).

A monkey cheek consists of five components (Figure 4.4) as follows:

1. **Flood Protection Dyke:** It prevents water located in the main river from uncontrolled flowing into the designated Monkey Cheeks. For example, rural roads, national highways, irrigation canal embankments, etc., are used as floods dykes. Any section with an elevation lower than the controlled water level plus freeboard needs to be uplifted.
2. **Community Flood Dyke and Road:** they provide flood protection for communities in the designated Monkey Cheeks such as houses, schools, temples, etc. In addition, access roads to communities may need to be uplifted.
3. **Intake and Outlet Structure:** The main function is to control inflows or/and outflows of a Monkey Cheek at a suitable time. Gate installation is required.

4. Canal/River Improvement: The canal/river improvement will increase the intake and drainage discharge efficiency of the designated Monkey Cheeks as well as the hydraulic capacity of canals or rivers.
5. Pumping station: A pumping station will drain runoff of localized rainfall in the designated Monkey Cheek and discharge the floodwaters entering into the Monkey Cheek via the uncontrolled section which does not adjoin the main river. In a case where the water level in the main river is higher than the one in the Monkey Cheek, the gate will be closed and the pump can be operated. In case the water level in the main river is lower than that in the Monkey Cheek, pump operation will be stopped and the gate opened.

The results of the Feasibility Study by Team Consulting Engineering and Management Co., Ltd were finalized in April 2017. The study area eventually consists of 69 retention areas in 4 provinces, 24 districts and 153 sub-districts (tambons). According to this study, the project should be able to store 2,049 million m³ of water (in both irrigated areas and areas outside irrigation schemes). There are 57,000 households situated in the project area and 120,000 households located at the two sides of Yom and Nan River and households situated downstream in Chao Phraya river basin will obtain benefits from the project. The benefits of the project are estimated at 11,300 million baht per year. If the project is approved: the cost of the construction, designing, buying some land is estimated to be 29,000 million baht. The cost of management (maintenance, electricity of pumping) is estimated to be 1,350 million baht per year, and the budget for the Environmental Information and Monitoring Program is 52 million baht per year. The purpose of this program is to monitor and solve the environmental impact of the project every year. RID plans to implement the project within 5 years.

The project plans to receive external funding with the support of UNDP. Martin Hart Hansen, the vice of UNDP Thailand representative stated that “*UNDP believe that RID can get the budget from GCF (Green Climate Fund), for this reason, UNDP spends 3.5 million baht to develop the project with RID*” (Ingkapatarkool, 2017). According to an interview with the consulting companies (2017), although the results of the Monkey Cheek project were used to propose the national project in the future; however, the project may not able to start because there are not yet regulation of compensation for affected people in case of the project. Therefore, the RID will start in areas where it does not need to pay this compensation, as Bang Rakam Model 60, and where there is strong public acceptance (interview with an officer of RID, 2017). Furthermore, the project design can be changed, depend on the central budget that the state allocates to RID. The companies’ study is a preliminary research on the monkey cheek project. RID just start implementation by studies in details after the Thai government approves the project (interview with a staff member of one of the companies, 2018).

2. PARTICIPATION PROCESS

2.1. Purpose, actors and principles

The companies conducted a participation process for the Monkey Cheek project to achieve six objectives as follow (Team Consulting Engineering and Management Co., Ltd., 2017):

- 1) To inform and build knowledge of the project to people and agencies.
- 2) To listen and exchange opinion among relevant agencies, people and RID for project operation.

- 3) To build understanding and good relationship between local agencies and local people, avoid mistrust, conflicts and encourage local communities to support the project implementation.
- 4) To create an open atmosphere and encourage local agencies and people to take action in the project development with RID from the beginning to the end of the project.
- 5) To encourage all stakeholders to participate in project development (consultation, working team, evaluating and monitoring)
- 6) To demonstrate the RID intention for water resource management and development that conform with the local livelihood.

Three main actors played roles in the participation process.

1) RID (project owner) has to respond to the water management issues urgently. “Work for public” is the main goals of state. Therefore, RID ran the Bang Rakam model 60 and assigned the companies to conduct the study in the same time. At least one person from Central RID staff joined each meeting that the companies organized in the field.” *RID staff can answer the questions in terms of central policy or planning that relate to water management. Furthermore, we provided some comments to the companies for the development of participation process in the meetings*” (interviewed central RID staff, 2018). Furthermore, the staff served as a monitoring team who approved all project documents before the companies distributed to the public. Local RID officers took orders from central RID as practitioners in the field. In addition, they know the water situation in the field because they are closer to the local communities.

2) The consulting companies (organizer) are private sector business. Their client was RID project and worked under the conditions specified in the TOR. “*We worked for RID. Therefore, the key of project success is RID satisfaction*” (interview with a staff member of one of the companies, 2017). According to a staff member of one of the companies: “*The companies’ study is only a preliminary study that focuses on observation of public needs and their acceptance*”. However, companies’ staff could not answer some questions which relate to the procedure of project development after the feasibility study.

First, an *information process* was set up via some media such as brochure, newsletter, local radio, Video, website, Facebook page and bulletin board. Second, a *participation process* was organized via meetings, which are illustrated on Figure 4.6. Furthermore, the companies created local working groups that included the representatives of communities and relevant agencies in each zone. Also, they organized local working team meetings to bring the members to sit together and discuss the situation of the area as focus group discussion. Figure 4.5 shows the procedure of project implementation by public participation process which relate to the companies’ activities. According to the procedure, the companies supposed to reach level five. It means the project can be implemented after decision was made by people. Eventually, the companies emphasized public hearings to have an idea of the demands of local inhabitants and to try to know public acceptance. In fact, the study did not get directly in touch with local inhabitants’ voice because the study area is large and they had limitations of time to organize meetings in local sector, sub-district (Tumbon) or village. In addition, the target group of the project was farmers. “*We did not discuss with non-farmers because our target area is on paddy field*” (interview with a staff member of one of the companies, 2017).

Local working teams are supposed to be situated at the Level 4 of the public participation framework proposed by RID, i.e. “collaboration” (Figure 4.5). They were created to answer the fourth objective of the project which is defined in TOR (to “carry out public relations and

community relations activities”) and the companies was supposed to build capacities of inhabitants and improve their understanding of the project, to ask their acceptance (Level 5, or “empower” according to the public participation framework of RID). The companies used the RID participation framework to conduct the participatory process in level 4. However, the way to assess public acceptance in the participation process was not clear. From the point of participatory process expert (companies’ consultant), the process did not reach the decision-making for genuine public acceptance. Therefore, the companies could not report that the rural inhabitants agreed with the project or not. In contrast, the companies reported eighty percent of sampled household (1,277 households) agree with the project in the final report. This information of the EIA report of the companies’ study.

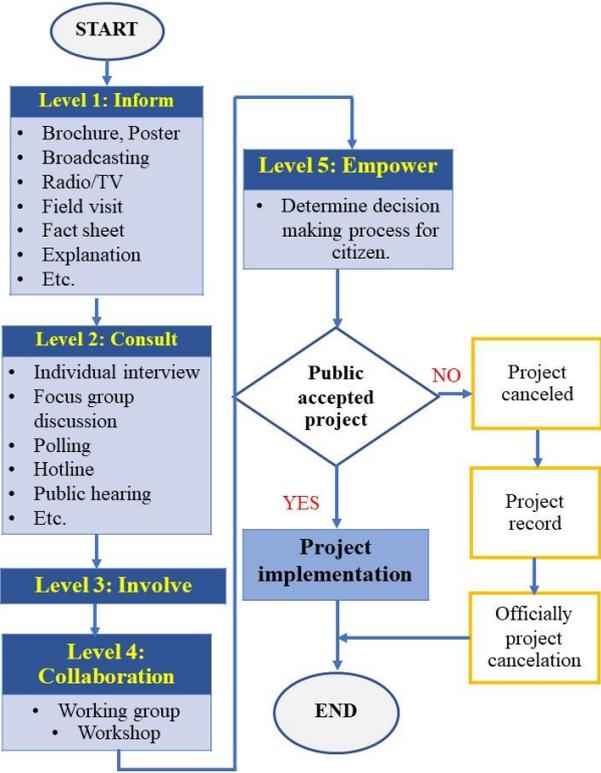


Figure 4.5: Procedure of project implementation based on five levels of public participation (RID manual, 2010)

3) **The civil society (study areas)** was divided into two groups: the representatives of the communities (the presidents of TAO, Sub-district headmen, presidents of water user groups), and inhabitants (most of them were farmers). Although non-farming rural inhabitants are also major stakeholders, the companies did not discuss with them (interview with a staff member of one of the companies, 2017). The representatives of communities were the key members of local working teams that the companies created in the study area. The Tambon Administration Organization (TAO) are the local authorities, they have more power than the headmen, to be involved development projects in the field. The presidents of TAO are directly elected by the villagers of TAO, they are government officers (*Karachakan* in Thai) that obtain from 21,860 to 26,080 baht per month (TAO Act, 2011 and Ministry of Interior, 2011). Similarly, the villagers elect the village headmen (*Phoo Yai Baan* in Thai) who receive 8,000 baht per month (Academic division of The Secretariat of The House of Representatives, 2016). The

sub-district headman (*Kumnan* in Thai) is elected by the headmen of villages as a head of them, as a community supervisor to communicate with local authorities and local people. They obtain 10,000 baht per month (Academic division of The Secretariat of The House of Representatives, 2016). Thepkhachon (2010) argued that the status of these headmen is unclear; they are not *Karachakan* in law whereas they serve as government employees in practice. Furthermore, some heads of water user groups are village headmen or TAO members, who also receive some monthly allowance from government. Some rural inhabitants without elective function joined the meetings (they were invited by the representative of community) while others never heard about the project.

2.2. Meetings

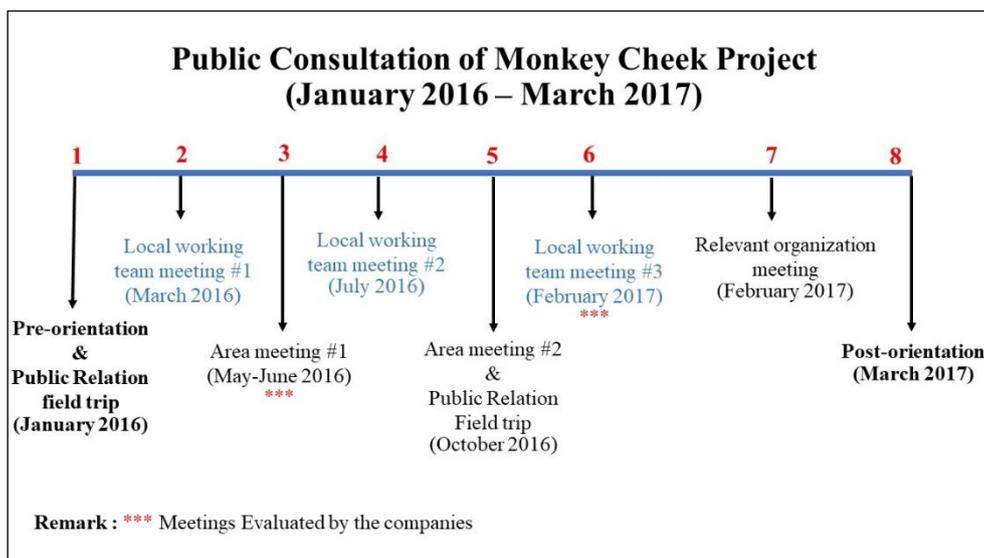


Figure 4.6: Public Consultation of the monkey cheek project (The consultants, 2017).

First of all, the companies went to the study area and met the local authorities in October 2015 for a preliminary survey. They met each province governor and the chief of districts in the study area. Furthermore, they met local NGOs and invited them to join the local working teams (Local NGO interview in Phitsanulok, 2018). Several keypoints of these field surveys were: 1) the project should encourage people to get involved thanks to genuine participation, 2) the public should get four main types of information (Monkey Cheek boundary, water level in Monkey Cheek, flood period in the project area and compensation guideline), and 3) city planning in Monkey Cheek areas should be made in such a way to ensure appropriate land use control and accordance with the project. The flood period should be this period unless reasonable compensation should be paid for affected people (Team Consulting Engineering and Management Co., Ltd., 2017).

Then, the group of companies worked on public participation based on eight public consultation phases as series of the meeting (Figure 4.6) with relevant organizations and the representatives of community. There were two levels of the meetings. The first is provincial level: two large meetings at the beginning and last stage of the study (pre-orientation and post-orientation). The second is district level: the local working teams including the representatives of sub-district, experts, local experts and the people who were nominated to join the meetings. There were

three local working team meetings at this stage for discussion of the project design such as the boundary of monkey cheek, the depth of water in the Monkey Cheek, compensation fees, the monkey cheek management and public consultation (interview with the consultants, 2017). Also, some area meetings were organized after each local working team meeting, for the representatives of village and some farmers (who joined the meetings) to inform about the project and to validate the result of negotiated issues which they discuss with the local working team before. These participatory processes were implemented in the project areas from October 2015 to March 2017.

The companies invited stakeholders of the project to participate in these activities. Both central and local RID officers joined the meeting each time (RID interview, 2017). Relevant agencies (e.g. agriculture, fisheries, TAOs, etc.) were invited in the meetings to ensure coordination among local actors. In addition, RID assigned the companies to study willingness to accept compensation for farmers and to consider the measure of appropriate and fair payment practices according to the guidelines of environmental impact evaluation (RID, 2015). They divided participants into sub-groups for effective discussion and all participants could express their views better than in larger meetings. In addition, the consultants provided documents to the group members. The participants received 300 baht per person for transportation cost for each meeting. However, one interviewed Tambon headman complained that *“they gave me only 300 baht, it is not enough for driving to another province. For this reason, I did not join the meeting”*.

The process was organized into 8 steps, each of which with specific goals.

Pre-orientation phase

First, two meetings were organized. The meetings were organized in two places: 1) Phitsanulok city for the communities in Sukhothai and Phitsanulok Provinces, and 2) Pichit city for the communities in Pichit and Nakhon Sawan provinces. These meetings were held to: 1) present the concept of monkey cheek project, 2) introduce the procedure of the participatory process of the project and 3) select local working team members (Team Consulting Engineering and Management Co., Ltd., 2017). The companies proposed a list of local team members which they prepared before the meeting. Participants could propose other people but they had to meet some requirements (local people, literacy, willing to join the activities, interested in flood and drought management).

During these meetings, four teams were set up. Local team members were selected based on their legitimate position first such as being the chief of district, sub-district, sub-district headman and the people who were proposed by participants. In practice, representatives just joined the meetings because of companies' invitation and they did not discuss with inhabitants in detail before the companies' meeting (representatives' interview, 2017). Therefore, they might not have expressed the specific demand of their constituencies in the meeting. Furthermore, some representatives had conflict with some villagers (inhabitants' interview, 2017). All representatives of communities, local experts and one scholar were directly invited to join the meeting by the companies via invitation letter or phone calling. Furthermore, the companies met the staff of local NGO in Phitsanulok to join the provincial working team. The team was supposed to represent the public of each area. Local team members consisted of representatives of communities who were selected by the leader of communities (headman of sub-district or village), local organizations and local experts of the study area. The companies created the teams for consultation on project design and for enhanced public relation on the

project at local level. Team members were divided into two main groups: those who came from an irrigation scheme area and those who came from a non-irrigation scheme area. There were nine teams, ten to fifteen people in each team (Team Consulting Engineering and Management Co., Ltd., 2017). In practice, the number of local team member increased to 300-400 people because participants disseminated the information on the project (interviewed staff of the companies, 2017). On the other hand, the list of local team member (document) showed that there are two people as representatives of each TAO. Participants complained however that some key persons were missing and that meetings at village level should be organized. The companies answered that any person could join the area meeting where they could share their views.

Public relation for mass media: the companies wanted to use mass media to communicate about the project. Two events were organized in Phitsanulok province. First, Mr. Somkiat Prachumwong (Deputy Director of RID) presented Yom-Nan watershed management to the journalists and went to the field by helicopter and participated in a ground survey on 2-3 May 2016. Second, the companies invited journalists to join the last meeting. They informed about the results of the study and Mr. Chamnarn Chutieng (Director of Yom-Nan Operation and Maintenance Project) summarized the Bang Rakam model 60 concept on 23 March 2017. He said that *“the farmers are willing that their land is used as Monkey Cheek”*.

Local working team meeting:

The meetings were organized at four locations because the study area was large and many issues had to be discussed. In each location, three meetings took place (Figure 4.6).

The locations of the meeting and the area concerned are as follows:

1. Ta pan hin District, Pichit province: Outside irrigation scheme area in Phitsanulok province (PL), outside irrigation scheme area in Nan watershed, Pichit province (PJ – Nan) and Outside irrigation scheme area in Nakhon Sawan province (NW).
2. Pho prathub chang District, Pichit province: outside irrigation scheme area in Yom watershed, Pichit province (PJ – Yom), irrigation scheme area in Dong setthi Operation and maintenance Office (DT) and Tha bua Operation and maintenance Office (TB)
3. Phitsanulok province: irrigation scheme area which RID local offices are in charge. Plai chumpon Operation and maintenance Office (PP), Naresuan Operation and maintenance Office (NS) and Kwae noi bumrungdan Operation and maintenance Office (KN).
4. Sukhothai province: irrigation scheme area in Yom-Nan Operation and maintenance Office (YN) that is the Bang rakam model 60 area and outside irrigation scheme area in Sukhothai province (SK).

In each meeting, the companies divided participants into sub-groups by zone and the staffs of the companies joined all groups and acted as facilitators of the discussion. Furthermore, the meeting evaluation took place in the third local working team meeting (February 2017) of four locations (340 participants in total).

Area meetings: the meetings were organized after each local working team meeting. Relevant agencies in the district level and communities level (e.g. TAO, headman of village and villagers) were the main targets of these meetings (Team Consulting Engineering and Management Co., Ltd., 2017). The companies presented the results of local working team

meetings and updated the project design. For example, local teams proposed to add or cut some area of monkey cheek in local working team meeting. The information was adjusted and presented in the following meeting. The main task of area meeting was public hearing. Participants could ask questions about the project design and propose their view in these meetings. They discussed about the guideline of Monkey Cheek management in case of the project. The companies proposed guideline of Monkey Cheek management that it should have two committees as Monkey Cheek Management Committee and Compensation (in case of Monkey Cheek) Committee. Two main points which the participants proposed in the meetings: local inhabitants should be in the two Monkey Cheek committees (Management committee and Compensation committee), and the compensation should be paid to compensate for actual damage and paid soon after the damage (within 1-2 months of flood period). In addition, evaluation meetings (questionnaire survey) took place at the first Area meeting (May to June 2016) in twelve locations and involved 977 participants (Team Consulting Engineering and Management Co., Ltd., 2017).

Table 4.1: the list of the second area meetings organized by the companies.

No	Date	Area	Meeting place
1	10 Oct 2016	Lowland of Dong setthi project (DT)	Po prathub chang district, Pichit
2	11 Oct 2016	Lowland of Pichit-Yom (PJ-Yom)	Po prathub chang district, Pichit
3	12 Oct 2016	Lowland of Tha bua project (TB)	Tapanhin district, Pichit
4	13 Oct 2016	Lowland of Pichit-Nan (PJ-Nan)	Tapanhin district, Pichit
5	14 Oct 2016	Lowland of Nakhon Sawan province (NW)	Chumsang district, Nakhon Sawan
6	17 Oct 2016	Lowland of Sukhothai province (SK1-SK3)	Sukhothai city
7	18 Oct 2016	Lowland of Yom-Nan project (YN) and SK4-SK8	Kongkrait district, Sukhothai
8	19 Oct 2016	Lowland of Plai chumpon project (PP) and Kwaenoi bumrungdan project (KN)	Phitsanulok city
9	20 Oct 2016	Lowland of Naresuan project (NS)	Prompiram district, Phitsanulok
10	21 Oct 2016	Lowland of Phitsanulok province (PL)	Bang Kratum district, Phitsanulok

Source: the minute of second Area meeting by the companies.

Meeting with relevant agencies: the meeting was organized to inform and discuss the results of the companies' study. The relevant organizations in the study area were invited. Four main points were discussed in the meetings. First, the Monkey cheek management should be sustained. Second, participants of Local working meetings expressed a concern about the increase in sediments in canals and an increase in maintenance costs in Monkey Cheek areas. Third, they also put forward that a compensation should be fair and paid timely. Fourth, City planning should conform to the Monkey Cheek management and Alternative jobs for farmers should be offered during the flood period.

Post-orientation: during a last meeting, the project manager and staff presented the results of their study. The participants proposed that Integrated Water Management in Monkey Cheek should be emphasized and coordinated by three sectors (State, Private and Public).

Table 4.2 presents the main issues addressed in each meeting. With regards to the participation process, the key comment from the participants in the pre-orientation and post-orientation meetings is that the companies should organize local meetings to obtain the farmers voice in the field. This result shows that the companies did not solve the issue while the result of the feasibility study state that most of inhabitants agree with the project (Team Consulting Engineering and Management Co., Ltd., 2017). According to the list of meeting participant by

the companies, the number of participant is limited. For two specific study areas in sub-district level, representatives did not join some meetings (See in Table 4.2). The scholar from Naresuan University questioned whether there could be genuine public participation in meetings due to presence of the Army, which joined meetings in BRM60. Another scholar who joined the meeting of the Monkey Cheek project (Non- participant observation), also noted that affected people may not have been in the relax atmosphere during the meeting, in a say that they could give their opinions (Scholar interview, 2017).

Recommendation of participatory process by the companies

According to Team Consulting Engineering and Management Co., Ltd., (2017), a weak point of the process is the participation process was not conduct at local level (villages). It leads to civil society does not know about the project in detail while this information is important for making decision. Therefore, the consulting companies proposed suggestions for the process in the next step of project development:

1. The meeting should have a limited number of participants, divided into sub-groups and encourage civil society to participate in the discussion.
2. There should be the creation of a public relation network for effective project coordination in the field.
3. Information should be provided thanks to a variety of media and emphasize on personal media in terms of informal discussion and monthly local meeting.
4. Public relation should be focused on impacts of human health and environment and the level of compensation.
5. The development of project should be communicated to civil society in each stage (preparation, construction and operation).

For this dissertation (based on participants' list), according to participant list of each meeting, few participants often participate in the meetings. For this reason, they do not know all information of the discussion. Some of them joined only large meeting as orientation and last meeting that the companies propose their own concept and the result of study. The key point is the similar comment of first and last meeting that show the limitation of participation process. [the companies should organize local meeting for affected people as farmers and inhabitants, to reach a guniene public participation].

No	Public consultation (Number of the forums)	Purpose	Activities	Result of the meeting	participants
1	Pre-orientation (2) [21-22 January 2016]	<ul style="list-style-type: none"> - To present the project - To create the local working teams of Monkey Cheek zone. 	<ul style="list-style-type: none"> - Project presentation: concepts, participatory process (how many meetings will have occurred) - Propose additional team members. 	<ul style="list-style-type: none"> - Project suggestions: maintain existing canal or natural monkey cheek, compensation should be paid for damaged paddy fields. - The list of local working teams was established <p>Recommendations:</p> <ul style="list-style-type: none"> - Bang Rakam model 60 should be studied in depth in terms of its benefits and impacts. - the project information should be disseminated to farmers by suitable media. <p>- the companies should organize local meeting for farmers (land owner, affected people), to encourage genuine public participation.</p> <p>Concerns:</p> <ul style="list-style-type: none"> - land expropriation and unfair compensation. - long flood periods lead will lead to late cultivation. - water management by RID is not conform to public demand. - The public may not obtain completely information in time. 	Phitsanulok = 176 Tha Nang-ngam subdistrict = 0 Pichit = 144 Bang khiean subdistrict = 0
2	1 st Local working team meetings (4) [21-24 March 2016]	<ul style="list-style-type: none"> - Jointly determine Monkey cheek boundary, water level in monkey cheeks - To obtain the comments and recommendations from public. 	Group discussion and presentation by Group members: Monkey cheek boundary, water level in monkey cheek, location of irrigation building in Monkey Cheeks, Road improvement and concerns.	<ul style="list-style-type: none"> - Determination of Monkey Cheek boundary and water level - Commitment of project development. <p>Bang Rakam district (Irrigation scheme area)</p> <ul style="list-style-type: none"> - two rice crop (April – July and November – March). - Some farmers can do fishing in flood period. - Normally, water height around 2-4 meters in flood season. - participants concerned flood event is not related to cropping pattern, damaged rice products, ineffective Monkey Cheek management and irrigation system and unfair compensation. <p>Bang Rakam district (Outside irrigation scheme area)</p>	340 Bang khiean subdistrict = 0 Tha Nang-ngam subdistrict = 0

				<ul style="list-style-type: none"> - Participants concerned lated rice cultivation, water level would drop early (it is not worth for fishing) and water scarcity in dry season. - Public was informed lately and obtained insufficient information. <p>Nakhon Sawan province (Outside irrigation scheme)</p> <ul style="list-style-type: none"> - two rice crop (April – July and November – March). - Participants expected water supply increase for agricultural land. - Participants concerned land expropriation in case of infrastructure construction. <p><u>Recommendations:</u></p> <ul style="list-style-type: none"> - the list of roads that should be uplifted. - List of water bodies that should be dredged to store water for rice farming. - Preparation of evacuated shelter in flood period. 	
3	1 st Area meetings (12)	<ul style="list-style-type: none"> - To present the result of 1st local working team meeting. - To discuss the guideline of Monkey Cheek management and compensation. - To obtain public opinions. 	<ul style="list-style-type: none"> - Presentation of the 1st local working team meeting to the participants. - Meeting evaluation by questionnaires (N=977). (Formative Assessment) 	<ul style="list-style-type: none"> - Adjustment of the boundaries of Monkey Cheeks, increase the water depth - Propose the roads that have to be improved - farmers do two rice farming per year and flood period during August to October. Some farmers do third crop in rainy season. - participants agree that the project is beneficial for local people and provide some suggestions to develop the project. - public should participate in determination of compensation. <p><u>Concerns:</u></p> <ul style="list-style-type: none"> - water quality in Monkey Cheek. - controlled water level should not affected houses or plantation. 	977 Bang khiean subdistrict = 11 Tha Nang-ngam subdistrict = 3
4	2 nd Local working team meetings (4) [26-29 July 2016]	<ul style="list-style-type: none"> - Group discussion: the guideline of Monkey Cheek management, compensation calculation, pay practices, 		<ul style="list-style-type: none"> - List of Monkey Cheek Committee: water management committee and compensation committee. 	390

		<p>funding for compensation and compensation committee.</p> <ul style="list-style-type: none"> - To obtain public opinions. 		<p>Main recommendations:</p> <ul style="list-style-type: none"> - representatives of the public should be in the two committees in the future (management and compensation) - Compensation should be paid based on the actual damage. 	
5	2 nd Area meetings (10)	<ul style="list-style-type: none"> - To consider the result of 2nd local working team meeting. - To obtain the comments and recommendations from public (water management, compensated guideline and production cost). 	Presentation of the 2 nd local working team meeting to the participants.	<ul style="list-style-type: none"> - The participants agree with the results of the 2nd local working team meetings. - Provide the production cost of rice farming as the guideline for compensation calculation. 	<p>821</p> <p>Bang khiean subdistrict = 5 Tha Nang-ngam subdistrict = 0</p>
6	3 rd Local working team meetings (4)	<ul style="list-style-type: none"> - Reconsider the result of two local working team meetings. - To obtain the comments and recommendations from the public. 	Meeting evaluation by questionnaires (N=416). (Summative Assessment)	<p>Main recommendations:</p> <ul style="list-style-type: none"> - People in the field should be the sub-committee members. - the boundary of Monkey Cheek should be defined at village level. - participants agree that the project should start in Sukhothai province first because there is the first place that is affected by flood. - If RID can allocate water in new crop period, the participants agree that they are willing to change the cropping pattern. However, they disagree to change to other species of plants in the field. - Compensation should be paid in a timely manner. 	<p>416</p> <p>Bang khiean subdistrict = 7 Tha Nang-ngam subdistrict = 0</p>
7	Relevant organization meeting (1) [20 February 2017]	<ul style="list-style-type: none"> - To consider the results of study. - To obtain the comments and recommendations from relevant agencies. 	Discussion: Monkey Cheek management by Urban Planning, regulation of controlled water pollution and state budget for structure construction, etc.	<p>Main recommendations:</p> <ul style="list-style-type: none"> - Monkey Cheek management: sediment in paddy field - City planning should conform to the Monkey Cheek management. - Reasonable compensation. - Alternative job for farmers. 	84
	Participatory process of BRM60 started in February 2017	<ul style="list-style-type: none"> - To inform the BRM60 concept to the communities by cooperation among relevant 	Local meeting	<p>Main issued</p> <ul style="list-style-type: none"> - RID ran the model without construction. 	

		agencies (RID, Army, Agriculture and etc.)		<ul style="list-style-type: none"> - water level do not more than 41 MASL (not ever the main road). - started cultivation in April 2017 and harvesting before August 2017 (Flood event: August to November, four months). - RID did not discuss about financial compensation in case of BRM60. 	
8	Post-orientation (2) [22-23 March 2017]	- To Present the result of the feasibility study by the companies.	Presentation of the study results by consulting companies.	<p><u>Main recommendations:</u></p> <ul style="list-style-type: none"> - the water level should not be higher than 3 meters. - unclear benefits of Monkey Cheek. - Integrated water management. - Natural Monkey Cheeks should be developed for the maximum potential to retain floodwater. - Monkey Cheek management:risks of sediments in paddy field - City planning should conform to the Monkey Cheek management. - Reasonable compensation should be provided. - Alternative job for farmers should be offered. - the companies should organize local meeting for farmers (land owner, affected people), to encourage genuine public participation. 	465 Bang khiean subdistrict = 1 Tha Nang-ngam subdistrict = 3

Source: the final report of the companies' study (Team Consulting Engineering and Management Co., Ltd, 2017).

2.3. Communication via other media

The companies organized the meeting for mass media to educate the project information to them, and they went to field trip with RID officers to explore the project area by helicopter and ground check at an important irrigation structure in Phitsanulok province. Finally, mass media were invited (by the companies) to join the post-orientation meetings in March 2017.

Since the Bang rakam model 60 was a pilot project that had already started, the media mainly joined meetings in Pitsanulok province (RID interview, 2017). Some documents were developed (brochure, newsletter and the meeting papers for meeting participants) to disseminate the project information, and people could access the information via social media as Facebook or website where they could get soft documents (interview with a staff member of one of the companies and respondent No. 60, 2017). RID approved all documents before the companies distributed them to the meeting participants (interview with a staff member of one of the companies, 2017). For this reason, the RID logo is present on all documents. Furthermore, the companies invited local people who were interested in the project to join their meetings by local radio.

Table 4.3. The list of media that the companies used to disseminate information on the project

No.	Media	Published	Number of media
1	Public relation for mass media.	two meetings and visits in the field.	2 times
2	2 Brochures	1. Introduction of the project (December 2015) 2. Results of the study (March 2017)	2000/each
3	5 Newsletters	1. Introduction of the project (December 2015) 2. Results of the first local team meeting (April 2016) 3. Results of first public hearing and second local team meeting (August 2016) 4. Results of third local team meeting (February 2017) 5. Results of the study (March 2017)	2000/each
4	Local radio	Project information and meeting invitation. (first meeting, first public hearing and third local working team meeting)	3 times
5	10 Meeting documents-	Distributed in the meeting.	
6	10 Bulletin boards	Showed at the meeting.	
7	Video	Introduction of the project (the first meeting in January 2016)	1
8	Website/Facebook	https://sites.google.com/site/monkeycheekyomnan/home https://www.facebook.com/ Monkey-Cheeks-แก็มลิง-1653769404877361/	1
9	Final report	Submitted to RID in April 2017	

Source: the final report of the feasibility study (Team Consulting Engineering and Management Co., Ltd, 2017).

The companies always distributed brochures, newsletters and meeting documents to all meeting participants (interview with a staff member of one of the companies, 2017). “*we got the document, one copy of each per person*” (interviewed meeting participant, 2017). Meeting documents illustrate the results of discussion in last meetings and project implementation in each step. The companies expected that the meeting participants (presidents of TAO or sub-district headmen) would transfer the project information to villagers via brochures newsletters and informal discussion. However, they gave only one copy per person of project documents. Figures 4.7: A, B and C show three of the five newsletters which showed information on the project. The first newsletter presented the project (e.g. concept of monkey cheek, feasibility

study by the companies). According to interviewed central RID staff (2018), land expropriation is the problem of monkey cheek project in the past. For this reason, the companies put key message into newsletter “this project will not expropriate land”. Second newsletter shows the result of pre-orientation and information of local working team (the number of members per province, roles of team). The third newsletter explained the measures to manage monkey cheek managements. Figure D and E presents the project brochures which explain the concept of feasibility study and environment impact assessment of the companies’ project.



Figure 4.7: Project documents by consulting companies.

Furthermore, the companies created a website and Facebook for project information via social media such as the minutes of the meeting, newsletter and video. In fact, the Facebook page was hardly updated (Figure 4.8). Some meeting documents were uploaded on the website (<https://sites.google.com/site/monkeycheekyomnan/home>). However, the minutes of third local working team meeting which states the results of discussion (water height in monkey cheek, flood period by the project and financial compensation rate) and the final report of the project were not available on the website (Figure 4.9). These documents were obtained for this study from local officers interviewed.

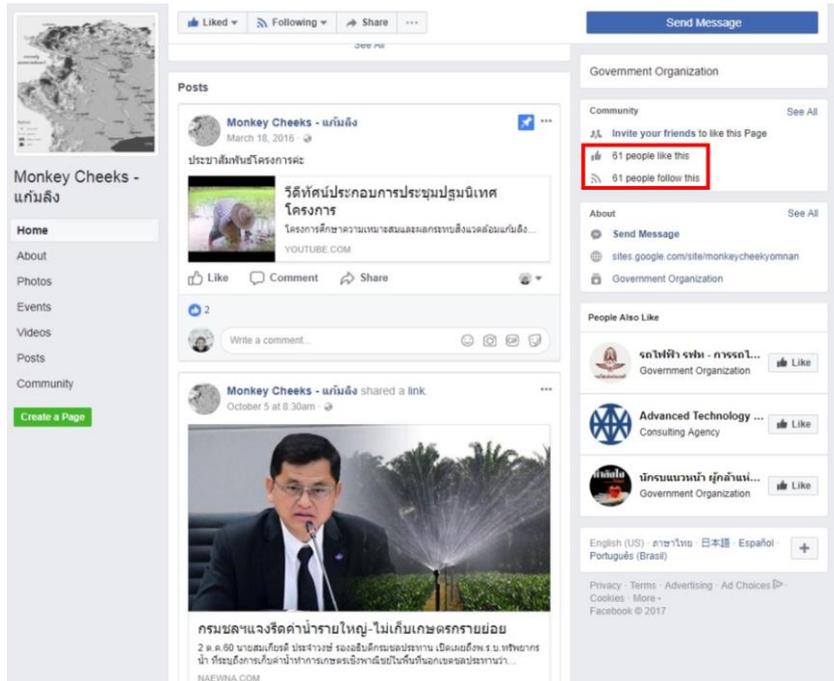


Figure 4.8: Monkey cheek Facebook page by consulting companies.
 (URL: [https://www.facebook.com/ Monkey-Cheeks-แก้มลิง-1653769404877361/](https://www.facebook.com/Monkey-Cheeks-แก้มลิง-1653769404877361/))



Figure 4.9: Monkey cheek website by consulting companies
 (URL: <https://sites.google.com/site/monkeycheekyomnan/home>)

In conclusion, participation process of the main project need to reach level five (empower). The companies put an effort to organize effective participation process by a variety of media and local working team for participatory project design. The next section illustrates results of participation in terms of actors' perception.

3. INHABITANTS' STAKES, UNDERSTANDING AND STRATEGIES VIS-À-VIS THE PROJECT

Bang Rakam Model 60

According to RID (2017), fishing is an alternative income-generating activity during the flood period. The slogan of Bang Rakam model is that “*Change the green land (rice field) to the white (inundated areas), reduce floods in the field and increase water for fishing*” (RID, 2017). The RID considers that farmers could generate income by fishing or they just catch fish for consumption. However, it does not mean that all farmers can become fishermen because some people have no fishing skills (Boonwanno, 2017). Moreover, some farmers can catch fishes at the floodgate where waterflow is strong while some of them cannot because they have no strong fishing skill for this site (interviewed Scholar of Naresuan University, 2017). The scholar argued that the number and type of fish in flood areas is different between natural flood and artificial one. Indeed, according to a farmer intervixed in Phitsanulok, there was less fish during the artificial flood compared to the fish during normal.

According to Boonwanno (2017), in the past, farmers in Bang Rakam district planted rainy season rice (Na-Pee) until the government introduced the new rice specie (Gor-Kor, ^{๗๖}) to the farmers in 1969. Then, they also started short variety rice (Na-Brang with a duration of 3-4 months) because they had to follow the state policy. Na-Brang led to increasing production cost and use of groundwater. In addition, farmers may not be able to use it because groundwater is not available in some areas (low level and salty). For this reason, farmers have seriously concerns about water scarcity in dry season. Officially, only long variety rice (Na-pee that is sown for six months) rice field can obtain financial compensation in case of flood. Therefore, RID negotiated with the Agricultural Department so that an exception should be made for Bang Rakam model 60. Farmers in the model area can plant Na-brang (short variety rice) and obtain flood compensation from the government as Na-pee rice (RID interview, 2017).

For this dissertation, I interviewed twenty respondents in Tha-nang-ngam sub-district, Bang rakam district (ie, part of Bang Rakamn Model 60). All interviewees never heard about the Monkey Cheek project while eighteen of twenty (90%) inhabitants have heard the name of Bang rakam model 60 (Table 4.4.). However, they did not understand clearly the concept: how long would be flood period, what is the boundary of the Bang rakam model 60 area (inhabitants in Phitsanulok interview, 2017). “*I don't know the concept of Bang rakam model but I have to accept it because otherwise I cannot get compensation in case of flood*” (Farmer in Phitsanulok, 2017). However, BRM60 would not provide financial compensation for farmers. Furthermore, only two farmers mentioned about an activity that they signed the document to accept the BRM60 even though they do not understand the concept. Villagers' perception is that the Army is the main actor of the project. “*The militaries said that they will release water in our field for monkey cheek area*” (Farmer in Phitsanulok interview, 2017). For this reason, the interview context is about Bang rakam model 60.

Table 4.4: Phitsanulok inhabitant's assessment by field survey

No	Question	Phitsanulok inhabitant's answer (20 people)			
		People	Meeting	Radio/TV	No
1	Did you hear about the Monkey Cheek project and if yes, from which source?	-	-	-	20
2	On which tumes of land Monkey Cheeks should be set up?	Public land.	Paddy field	I'm not sure.	I don't know.
		4	2	8	6
3	Usual alternative job in flood season	Fishing/ Local fishing	Shopkeeper	Labor	No
		12	-	1	7
4	Do you agree with the project?	Agree	Neutral	Disagree	No opinion
		-	-	-	20
	Reason	Benefits		Drawbacks	
		1) Water for rice farming (2). 2) Fishing (4).		1) Damaged main road/houses/field (16). 2) Late rice farming or cannot do second crop (3). 3) No job in flood season (3).	

All respondent said that the water level should not cover the main road because it separates them from local transportation. However, they face this problem in the model implementation stage in 2017. One household which is near Yom River is inhabited by marginalized people in the communities. They are labor (repairmen) who cannot swim and catch fishes. Furthermore, they have no land and house registration. For this reason, they have no right to obtain the survival bags because their household is not in the household list (respondent No. 77). Interview data from the field (Bang rakam district, Phitsanulok province) showed that seven of twenty (35%) interviewed people did not find a job during flood periods. They said that they had no skill for fishing. The rest of them have just a bit skill for local fishing (catch for consumption). They prefer rice farming to fishing because they know that when they will get income (Farmers interview, 2017 and 2018). *“There were a lot of fish at the beginning of Bang rakam model 60 period. However, it is not like a natural flood, we can find more fishes during normal floods”* (Farmer in Phitsanulok province, 2017).

In January 2018, I interviewed five other farmers to discuss about the results of BRM60. They were unsatisfied with what happened in 2017 because: 1) damaged road system and houses; 2) water scarcity (both because of low rainfall in 2017 and or competition of water users that included famers outside irrigation scheme areas); 3) late rice farming (see Table 4.4.). *“We stored water in flood event but now we have limited water for our rice field. RID drains water out of our land for lower area”* Interviewed farmers stated that the BRM60 had no benefits for them (Farmer in Phitsanulok interview, 2018).

According to the interviewed local officer from the Office of Fisheries, in the concept of Bang Rakam Model 60, farmers can start fishing from 15 August onwards. However, it conflicts with the spawning season (16 May to 15 September) during which the Department of Fisheries (DoF) announced that inhabitants should stop fishing (Fisheries officer interview, 2017). RID proposed to the DoF to exclude the BRM60 area from the official prohibition of fishing during the spawning season. In February 2018, RID still waited for the DoF response to their proposal

(RID interview, 2018). According to some interviewed farmers, fish species which are supported by the DoF are useless because they do not conform with the demand of market. *“The fish price is low if we sell the same species. Furthermore, some species are not suitable for this area, we lose much income from fish feeding (more than local species)”* (Farmer in Phitsanulok province, 2017). The DoF provided some fishes in the BRM 60 for increasing the number of fish that farmers can generate income from fishing (interviewed central RID officer, 2018).

The model focuses on rice fields, especially in terms of considering possible compensation (farmers could obtain the compensation in case of their field was affected by the model, ie if flood occurred before August). Actually, the flood could be affect other areas (out of paddy field). Furthermore, local inhabitants in Bang Rakam District have different occupation including farming, fishing, working as laborers of rice farming and breeding livestock (Pigs, dogs, chicken and duck). *“The project meeting invited rice farmers only”* (Farmer in Phitsanulok, 2017). Schools and temples are important places in the communities. There are the centers of communities when the residents have to do any activities such as local election or local meeting. These places can be evacuated area when flood occurs. However, the monk in Than-nang-ngam temple which is not far from the Bang rakam model 60 office had not been informed. *“I never discussed with RID officers about Bang rakam model 60”* (Monk in Tha Nang-Ngam subdistrict). According to the interviewed TAO president (2018), two of nineteen villages at Bang Rakam TAO have joined the BRM60. However, the 2017 flood impacted fifteen villages of the TAO.

Eventually, the president of the TAO disagreed with the Monkey Cheek project and BRM60 because he did not see the benefits of these project. *“RID should review the result of BRM60 before start the new one (BRM61), I disagree with the BRM61 also”* (President of TAO interview, 2018). Some farmers also claimed that the Monkey Cheek area should be in the public land as the three reservoirs built as part of the BRM 54 project. Local inhabitants considered that they had to follow the Bang Rakam Model 60 because of the coordination of RID and military in project area. In farmers’ understanding, the military said that they will put water in their lands for retarding flood downstream.

Areas outside irrigation schemes in Nakhon Sawan province

Farmers in Chumsang district produce Na-prang rice. They farm during two periods (Thongpan, 2013): first, after the annual flood (December or January) to March or April, and then they start the second crop after harvesting until August (Next flood period). The rice period depends on the water situation in each area, since Bang Kiean subdistrict is outside irrigation scheme areas. In some areas, farmers use an electric pump which is supported by the RID or the DWR. In other parts of the district, farmers can use groundwater such as in Khok Mor sub district while in Bang Kiean subdistrict they cannot because there groundwater is saline As the consequence, the relationship between RID and communities is less intense than in the Bang Rakam Model 60 area.

During the flood period, some farmers in Nakhon Sawan plant “Crown flower” (Scientific name: *Calotropis gigantean*) beside the main road. The price of this flower is between 70-150 baht per Kilogram, depending on the market demand. All residents in the areas live there as their main place of living and the main occupation is rice farming.

The new president of Bang Kiean TAO did not know about the project because he just changed the position in December 2016. Therefore, the head of water user group (WUG) was the key informant of the study area (for the present study). Water scarcity is the main issue in Bang Kiean Sub-district: surface water is often insufficient during the dry season and groundwater is often salty. Consequently, Bang Kiean farmers express concerns more vis-à-vis drought than with regard to flood. In the past, farmers in Bang Kiean Sub-district had a bad experience about one monkey cheek project because this project scheduled land expropriation. This project was actually not implemented. The head of the WUG said that Bang Kiean people do not like the word “Monkey Cheek”. *“For this reason, we (TAO members) had to change the word to “small reservoir” for the new water management project in TAO”* (TAO interview, 2017). Seventy-five percent (15 of 20 people) of Bang Kiean interviewed farmers never heard about the project (Table 4.5). Out of the five who heard about the project, one person is a member of the TAO council and the 4 others heard from local radio and local meetings. One interviewee told that some officers came to their village and tried to collect their signature in support of the monkey cheek project few years ago (Respondent No.40). *“They (Bang kiean residents) disagree with the project because it can affect livelihoods as land will be expropriated”* (Respondent No.4). According to central RID officer (2018), this issue occurred in the past but the current project would not expropriate farmer’s land *“we asked the companies emphasize on this issue in the newsletters, to communicate correct information into the field”*.

Most farmers thought that the Monkey Cheek area had to be public land such as Boraphet pond in Nakhon Sawan. On the other hand, three of twenty farmers (15%) agreed with the project because they expected that the project could provide water during the dry season in the area. In addition, nine farmers (45%) did not express their opinion because they did not understand the characteristics of the Monkey Cheek project. Participants in the meetings said that they did not disseminate information because no decision was taken during these meetings (Nakhon Sawan participant interview, 2017).

Table 4.5: Nakhon Sawan inhabitant’s assessment by field survey

No	Question	Nakhon Sawan inhabitant’s answer (20 people)			
		People	Meeting	Radio/TV	No
1	Did you hear about the Monkey Cheek project and if yes, from which source?	1	2	2	15
2	In which area Monkey Cheek should be built?	Public land.	Paddy field	I’m not sure.	I don’t know.
		18	-	2	-
3	Usual alternative job in flood season	Fishing/ Local fishing	Shopkeeper	Labor	No
		3	2	3	12
4	Do you agree with the project?	Agree	Neutral	Disagree	No opinion
		3	1	7	9
	Reason	Benefits		Drawbacks	
		1) Water in dry season (1).		1) Damaged rice field (3). 2) Late rice farming or cannot do second crop (1). 3) Do not want to receive more water in the area (2). 4) Monkey Cheek cannot solve flood (1). 5) Do not trust government (1).	

General assessment

Table 4.6 provides a global assesment for the 40 interviewed inhabitants. Although two projects (BRM60 and the main flood expansion project proposed by the companies) are based on the same concept, they differ especially in terms of the financial compensation. BRM60 did not propose the financial compensation to farmers while the Monkey Cheek project conduct the study on willingness to accept compensation (Questionnaire survey with farmers), it is the part of EIA study by the same companies. *“We (RID) provide irrigation in April as a compensation in case of flood expansion area in irrigation scheme areas. Financial compensation might pay in case the area that cannot obtain irrigation in April but it has to be Monkey Cheek in flood season”* (intervied central RID staff, 2018).

Four factors might influence on farmers’ perception for the Monkey Cheek project of two study areas as followed; 1) their relationship with RID influences on their perception; 2) Insufficient information for making the decision; 3) Bad experience with a previous project ; 4) lack of opportunity to express opinion. Difference of farmer’s viewpoints were expressed. Nakhon Sawan farmers tended to be against the project because there is less relationship between RID and communities outside irrigation scheme areas. Furthermore, bad experience about Monkey Cheek project in the past may leads to they have close-minded for project understanding. Another point is inhabitants did not obtain updated information (new concept of Monkey Cheek that RID would not expropriate their land) that they might against the project like the past. This is long-term issue that RID has to deal with it in the next step. On the other hand, Phitsanulok farmers in irrigation scheme area might join the project because of close relationship between RID and communities. In addition, farmers may have interested in irrigation in dry season and the possibility to start rice farming earlier than usual. However, local inhabitants required clear understading of the project. They often confused between implementation of BRM and the companies project. Most inhabitants had no opinion for project acceptance because they have got inadequate information for making decision. Moreover, they hardly express their voices in the participation process because they have no opportunity to join the meeting.

Table 4.6: Inhabitant’s assessment by field survey (both areas)

No	Question	Inhabitant’s answer (40 people)			
		People	Meeting	Radio/TV	No
1	Did you hear about the Monkey Cheek project and if yes, from which source?	1	2	2	35
2	In which area Monkey Cheek should be built?	Public land.	Paddy field	I’m not sure.	I don’t know.
		22	2	10	6
3	Alternative job in flood season	Fishing/ Local fishing	Shopkeeper	Labor	No
		15	2	4	19
4	Do you agree with the project?	Agree	Neutral	Disagree	No opinion
		3	1	7	29

Source: Field survey 2017

4. ANALYSIS OF THE NEGOTIATION ISSUES

During the local working team meetings, four main issues were discussed: The Monkey Cheek area, water level and flood duration in the Monkey Cheek area, financial compensation in case of flooding and roads. I asked them about a possibility of irrigation in dry season because this is the most concern of local people. In addition, the companies study willingness to change cropping pattern with farmers (part of EIA report). This issue was discussed in the meetings also.

The Monkey Cheek project by consulting companies

4.1. Negotiation issue 1: the delimitation of the Monkey cheek area

RID implemented the Bang Rakam Model 60 in the irrigation scheme area without the negotiating the area because the irrigation project offices have been in charge of this area. Furthermore, they could control the amount of water in the model area by themselves (RID interview, 2017). On the other hand, the delimitation of the general monkey cheek project area (four provinces) was made by the companies. They rate the priority of flood prone areas in four provinces. According to the summary report for post-orientation, the area that would become monkey cheeks were discussed in the third local working team meeting that involved 416 participants in the 4 locations of the meetings.

Three of four sub-district officers in Nakhon Sawan received project documents at the meetings. Although the companies put the list of villages which would be Monkey Cheek, they did not read it. For this reason, they do not know which village will be monkey cheek in their sub-districts and they really want to clarify the boundary of monkey cheek area from the project staff (Four interviewed TAO officers in Nakhon Sawan, 2017). The monkey cheek area has changed after the meeting that the participants propose to cut or add some area (interviewed the companies' staff, 2017). For Phitsanulok province, Wang thong district was added in the monkey cheek area by public proposal in the meeting (Scholar interview, 2017). In contrast, participants proposed to remove the irrigation scheme area of Plai Chumpon Operation and Maintenance Project (PP) because they claimed that this area was not suitable for Monkey Cheek (Team Consulting Engineering and Management Co., Ltd., 2017). Then, this area was removed after the meeting. Another reason is that some participants were interested in financial compensation in case of the project (interviewed staff of companies, 2017). Thus, they proposed to expand the Monkey Cheek area to their communities (interview with a staff member of one of the companies, 2017). In two study areas, the proposed monkey cheek areas increased one sub-district per each (Bo thong sub-district, Phitsanulok province and Nhong krachao sub-district, Nakhon Sawan province). However, one head of water user group complained that *"the companies designed the Monkey Cheek before, they did not ask us for consent"*. Furthermore, two representatives of one TAO in Phitsanulok disagrees with the project because the roads in this TAO had been improved already and the communities do not want to obtain more water. However, they did not express their opinion in the meeting because they did not want to have conflict with RID and the Army also (two interviewed TAO officer and sub-district headman, 2017). Finally, this TAO was planned to be the Monkey Cheek by consulting companies.

Eventually, in the report, the companies recommended the priority of areas that could be used for monkey cheek are first 31 outside irrigation scheme areas, then 38 the irrigation scheme area

will be used (see figure 4.10). Table 4.7 illustrates the study area in four provinces from the beginning (field survey) to the end (Post-orientation) of companies' study. The areas were added or cut based on proposal of meeting participants.

Table 4.7: The study area of the feasibility study by consulting companies.

Province	The beginning of the study (October 2015)		The study after local team meeting (August 2016)		The results of the study (February 2017)	
	Districts	Sub-districts	Districts	Sub-districts	Districts	Sub-districts
Sukhothai	-	-	5	35	5	35
Phitsanulok	5	32	6	42	6	40
Pichit	9	60	9	61	9	61
Nakhon Sawan	3	15	4	17	4	17
Total	17	107	24	155	24	153

Source: The third local team meeting report (Team Consulting Engineering and Management Co., Ltd, 2017).

In conclusion, most participants were not sure of the boundaries of Monkey Cheek at village level except Bang kien sub-district because all areas of this sub-district (14 villages) are planned to be a monkey cheek for this project. According to Team Consulting Engineering and Management Co., Ltd. (2017), eight of eleven villages of Tha Nang-Ngam subdistrict (No. 2,3,5,6,8,9,10 and 11) are planned to be a Monkey Cheek by the Monkey Cheek project while five of eight (No. 3,5,8,10 and 11) villages were part of BRM60 area (RID, 2016). According to central RID officer interviewed (2018), farmers located outside irrigation scheme areas (Nakhon Sawan and Pichit provinces) requested to use their land for flood expansion area as BRM60 because they expect irrigation in dry season. On the other hand, they do not understand the model concept that they have to retain water in flood event as BRM60 also. For this reason, RID could not implement the model in these areas. The main problem is lack of water available in Yom watershed during dry season as RID cannot allocate water to these areas (central RID interview, 2018). Furthermore, public communication is the main task that RID have to deal with the situation.

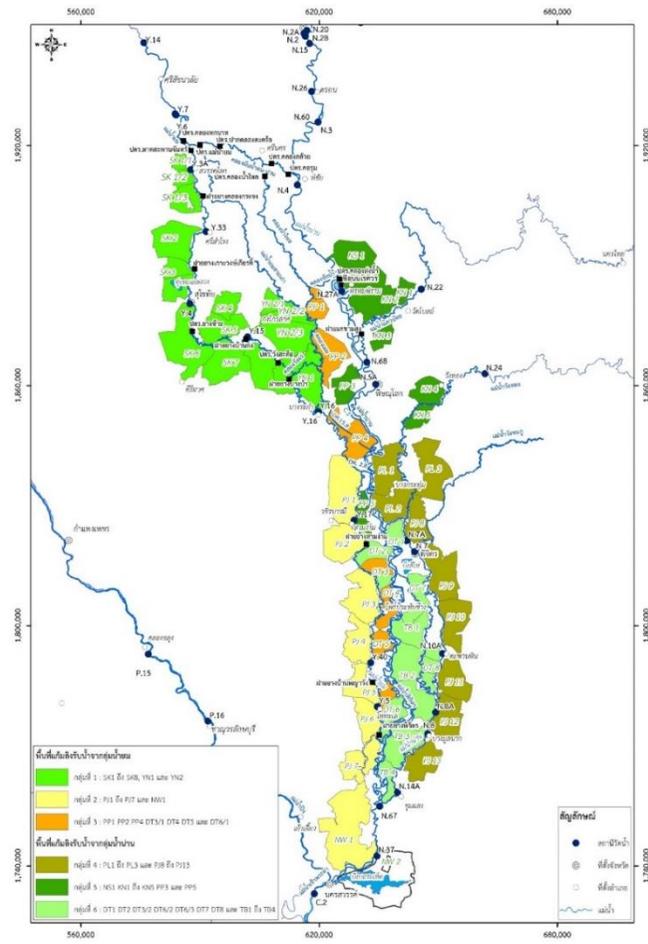
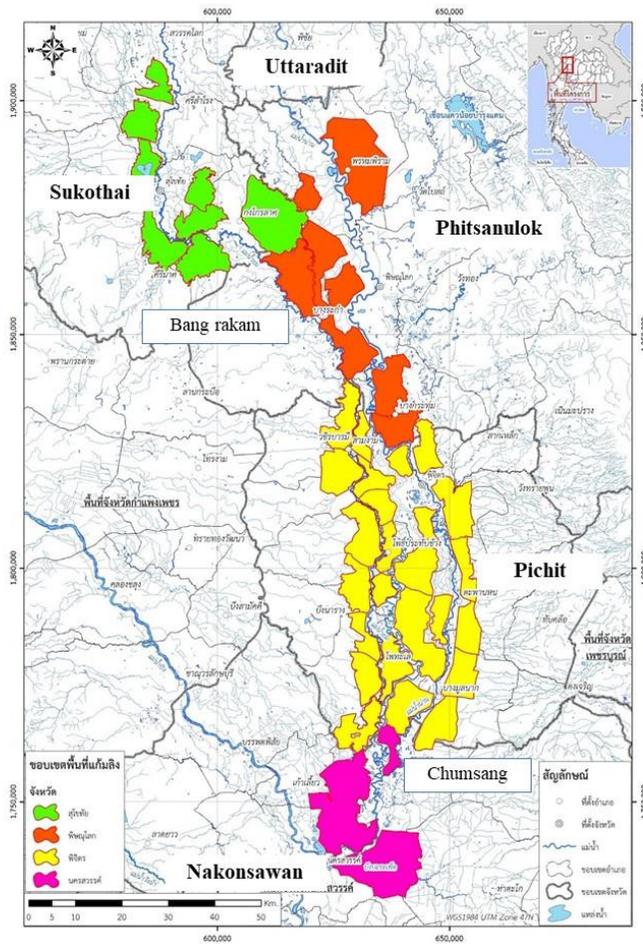


Figure 4.10: The comparison between initial and final designed monkey cheek area by the companies (Team Consulting Engineering and Management Co., Ltd, 2017)

4.2. Negotiation issue 2: Maximal water level during a flood event and duration of the flood event

In the area of Bang Rakam Model 60, a farmer stated that *“We’ve done farming with flood risk for long time. This year is the first time to start our crop in April because RID develops the area and releases amounts of water for us before flood period. RID uses the paddy field for Monkey cheek with their promise that the community will not have affected by flood (their crop was not damaged by flood). Although we are faced with early rain, other areas faced with flood but we did not. It means RID can do it”* It means that even the farmers in Bang rakam district faced with flood, the BRM60 can solve the problem of their field because they can harvest their rice before flood period. Consequently, they are not affected by flood because of changing of cropping period that they follow the model condition. Initially, RID imposed the water height in the model area is 2.5 meters, 41 Meters Above Mean Sea Level (MASL), then, farmers are informed the water height in the community meeting in October 2017 (RID interview, 2018). The lowest level of the main road at Klong Pla-kray village is the reference water level of BRM60 (exact location: 16°46'09.9"N 100°06'55.0"E, RID interview, 2018).

In 2017, water level in the Bang Rakam Model 60 area reached 42.69 MASL (interviewed local RID officer, 2017). Such level was near the one reached during the 2011 flood (43 MASL) (sub-district Headman and Farmer in Phitsanulok interview, 2017). Furthermore, the 2017 flood impacted on the road system, according to all interviewed farmers in Phitsanulok Province. An interviewed RID officer said that they could not control the huge water from early rain in May and two storms. Furthermore, they could not predict the water situation for long time because of limitation of the warning system (RID interview, 2018).

This issue was discussed in the first local working team meetings in March 2016. Initially, the consulting companies proposed a water height of 1.5 meters above soil level. Then, the local working teams proposed to go up to 2 to 4 meters in the meetings. *“They [the members of the working teams] said that water can be retained in the field up to 3 to 4 meters”* (interview with a staff member of one of the companies, 2017). For this reason, the companies adjusted the project design in terms of engineering structure to conform to the new water level (interview with a staff member of one of the companies, 2017). Actually, all interviewed farmers preferred that the water height should be lower than the main road level in their communities. Table 4.8 illustrates the findings of the companies’ study, the flood period of each zone being approximately from August to November. In addition, the communities were not willing to face flood more than 68 days and the water height in monkey cheek should be between 1.57 and 1.81 meters above land level. If the participants in third local working team meeting approved this data, it means the companies did not change the water level that they propose in the first meeting. Eventually, the companies stated that water level of monkey cheek area should be between 0.5 to 3 meters in the final report and the brochure which shows the result of the feasibility study (Team Consulting Engineering and Management Co., Ltd, 2017). In addition, comments made during the post-orientation meeting was that the water level should not be more than 3 meters because otherwise it could affect the communities (Team Consulting Engineering and Management Co., Ltd., 2017). Eventually, interviewed meeting participants said that they did not know the chosen water level in monkey cheek area and the duration of flood event because they were not sure that the results of discussion had been taken into account (meeting participants’ interview, 2017).

Table 4.8: The negotiated flood period and water level in monkey cheek area.

Location	Flood begin	Flood end	No. flood days	Water level(m)
Monkey cheek in Outside irrigation scheme area				
Sukhothai (SK)	August/September	October/November	63	1.57
Phitsanulok (PL)	August/September	September/October	63	1.76
Pichit (PJ)	August/September	September/October	62	1.73
Nakhon Sawan (NW)	August/September	September/October	61	1.73
Monkey cheek in irrigation scheme area (RID Operation and Maintenance Project)				
Yomnan (YN)	August/September	October/November	68	1.67
Naresuan (NS)	August/September	October/November	66	1.73
Kwaenoi-bumrungdan (KN)	August/September	October/November	62	1.63
Plai-chumpon (PP)	August/September	October/November	64	1.63
Dong sethee (DT)	August/September	September/October	61	1.73
Tha Bua (TB)	August/September	September/October	60	1.82
Natural monkey cheek.				
Boraphet pond		October/November	61	1.81

Source: The third local working team meeting report (Team Consulting Engineering and Management Co., Ltd, 2017).

Table 4.9: Cropping pattern of study areas and Bang Rakam model 60 area.

Rice period												
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
BR Model 60	1 st rice cultivation								2 nd rice cultivation			
Phitsanulok			Nabrang						Nabrang			
Nakhon Sawan	Nabrang								Nabrang			

Source: Field survey 2017 and (Team Consulting Engineering and Management Co., Ltd, 2017)

The Table 4.9 shows the different rice periods: according to the common cropping patterns in the two study areas and according to the concept of BRM60. Basically, farmers face flood periods during September to October (Farmers in Phitsanulok interview, 2017). However, early rain in May and storms in 2017 led to a long flood period whereas the Bang Rakam model 60 was working at the same time. The main concept of Bang Rakam model 60 is to store floodwater during four months (August to November), this discords with normal cropping pattern. In addition, the result of the companies' study shows that a hundred percent of farmers (1,277 people of socioeconomic survey samples) did not want to change cropping pattern, the period of time and rice species (Team Consulting Engineering and Management Co., Ltd., 2017).

The reference level of water height quiet not clear, it depends on location of communities (participants, 2017 and local NGO interview, 2018). It has not a fixed water height as BRM60. Figure 4.11 A shows the comparison the height between rice field and road level while figure 4.11 B illustrates the road level compare with the bottom of Yom river at Village No.2, Tha nang-ngam sub district (lowest area of the TAO).

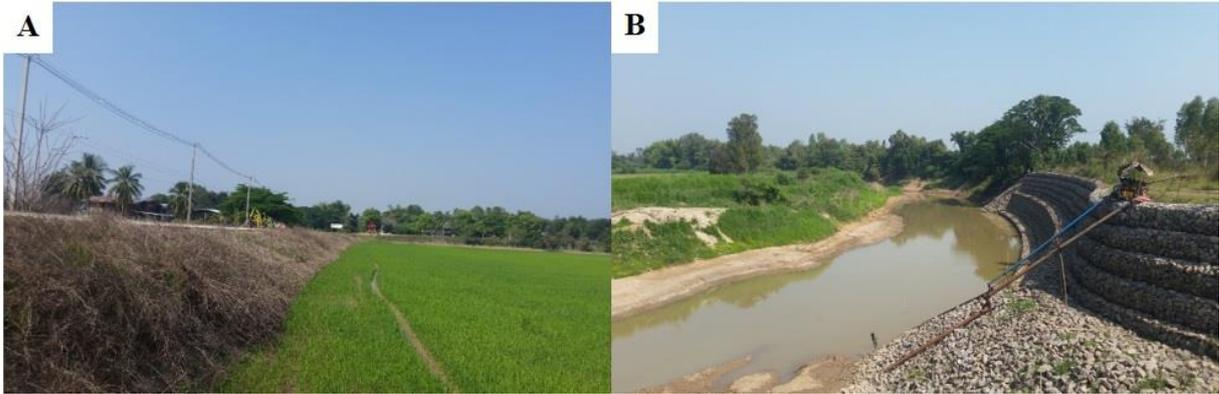


Figure 4.11: comparison between road level, rice field and the bottom of Yom river.

4.3. Negotiation issue 3: Possibility to do dry season irrigation

The water situation in Phitsanulok is divided into two sites: 1) irrigation scheme area under the Operation and Maintenance Project (RID), Bang Rakam model 60 and 2) outside irrigation scheme area. Basically, irrigation scheme area is the water control area by RID. It has dykes and irrigation structure to control the water. For this reason, farmers in the irrigation scheme area have water for rice farming and they face less flooding problems thanks to protecting dykes. In contrast, outside irrigation scheme areas in Phitsanulok (for instance, in village no.2, Tha nang-ngam subdistrict), farmers may have their own source of water (Yom river) but it has no irrigation structure for water control.

“Although we live outside the BRM60, we faced impacts of the model. Moreover, we cannot retain water for our farms because RID release water after the model implementation. Therefore, we need irrigation structure to retain water in dry season but RID cannot support us because we are outside irrigation scheme area.” (Farmers in Phitsanulok, 2018). Another place as Chumsang district, Nakhon Sawan cannot control water (repeated flood). For this area, local people have been concerned drought problem as much as flooding because they did not obtain water allocation from RID directly. Bang Khiean inhabitants (non-irrigation scheme area) have no official right to use water in the irrigation system. In fact, they request water allocation from Ping river, to fill in the sub-canal (the length is 70 kilometers). Therefore, Bang khiean people have to pay for pumping by them selves. They have higher production cost that people in irrigation scheme area in case of transaction cost. For this reason, farmers’ expectation is effective irrigation system for rice farming and the appropriate price of rice product (Bang Khiean farmer interview, 2017).

According to the minutes of post-orientation meeting (March 2017), RID plans to develop irrigation system (create canal network) and construct floodgate, to divert water from Yom river into three reservoirs (BRM54). Then, RID can allocate water from these reservoirs to farmers in irrigation scheme areas effectively. Despite, it links to the changing of rice period that farmers should start their crop earlier from May to April. In fact, all interview meeting participants said that the companies did not discuss this issue in the meeting. According to them, representatives of RID and companies just mentioned that the project may alleviate drought in the Monkey Cheek area by water retention (Meeting participants’ interview, 2017). *“The project focuses on flood solving, we cannot guarantee that it can solve drought problems”* (interview with a staff member of one of the companies, 2017). The result of the

first local working team meeting at the outside irrigation scheme area of Phitsanulok and Nakhon Sawan showed that the participants expected that the Monkey Cheek project can control floodwater in rainy season and collect water for agriculture in dry season (Team Consulting Engineering and Management Co., Ltd., 2017). Nakhon Sawan area is meeting point of main rivers to become Chao Phraya river, thus it has more fish species than Phitsanulok. For this reason, according to the company, Nakhon Sawan participants expressed that they can generate more income by fishing if the Monkey Cheek project happens (Team Consulting Engineering and Management Co., Ltd., 2017).

According to RID interview (2018), irrigation in dry season (early farming in April) is a compensation for farmers instead of receiving money. The government is satisfied this concept and encourage RID to expand the model in other areas. Furthermore, RID ran this concept in 10 agricultural fields of Chao Phraya river basin last year (2017). *“We’ve got feedback of these areas already but the report is not published yet. We will do this in 2018 also.”* Moreover, interviewed central RID officer cannot guarantee that they will use flood expansion area every year. *“we will run the model if the water situation is at critical stage (excessive water in the irrigation system by disaster)”*. The key point is how RID can predict the water situation and when the Monkey Cheek should be implemented?

In the current situation, people in outside irrigation scheme areas of Pichit and Nakhon Sawan provinces requested to be added in the model area as Bang Rakam district (BRM60). The main reason is that they want to obtain water in April as in a model area. However, they do not understand the concept clearly. *“They just want to get water in April but they do not know that they have to retain water during a flood event”*. This is a serious problem that RID have to deal with, according to an interviewed central RID officer.

In conclusion, the companies did not discuss this issue in the meetings, even though the local people in lowland area expressed concern about water scarcity more than flood. The companies’ staff proposed that one of benefits is that Monkey cheek can retain water for dry season while they cannot guarantee that local people can obtain water in dry season every year. From the point of RID view, RID cannot ensure that the BRM60 or the Monkey Cheek project can completely solve the water issue during the dry season, since RID does not want to change water allocation patterns from the main dams and reservoirs upstream. The situation depends on the climate or the amount of water in the irrigation system at that time.

4.4. Negotiation issue 4: Compensation

Financial compensation is the popular issue which meeting participants are interested in. Basically, farmers can obtain the compensation in case of natural flood (1,113 bath per 0.16 hectare), under the regulation of Ministry of Finance, using a specific budget for helping affected people by disaster. However, there is no specific law or regulation of compensation in case of Monkey Cheek area (areas flooded on purpose). Low price of rice is the main factor that led farmers to require to obtain financial compensation (Farmers and TAOs interview, 2017). Moreover, RID has limitation of warning system, leading to ineffective water controlling of flood event, in case of BRM60 (RID interview, 2018). The Monkey Cheek project could threat local livelihoods if it works ineffectively. The result of BRM60 showed that RID cannot control excessive water that affected both inside and outside model areas. Furthermore, RID drained water out of the area after the model operation, leading farmers in Bang Rakam district to have insufficient irrigation water for the field. *“The model has no benefits for us”* (Phitsanulok Farmer, 2018). This issue influences on the determination of Monkey Cheek areas. *“Some participants proposed to add their land or*

communities in the Monkey Cheek area because they want to obtain the compensation” (interview with a staff member of one of the companies, 2017). *“We have to obtain sufficient compensation. If the rate is better than net profit of rice product and production cost, we willing to use our land for Monkey Cheek”* (Meeting participants interview, 2017). According to the final report of companies’ study (2017), in the past, financial compensation for affected area by flood was unfair, too limited and too late in terms of delay in payment. Thus, meeting participants proposed to obtain compensation by cash that government should pay them as soon as possible (within 1-2 months after the flood). The results of companies’ survey (willingness to accept compensation) with 607 households is that eighty-five to a hundred percent of households agree that the compensation in case of monkey cheek should cover 100 percent of net profits of rice field; 1,664-2,320 baht per 0.16 hectare (Team Consulting Engineering and Management Co., Ltd., 2017). In fact, this rate does not cover the production cost (2016), which are in the range of 4,300-5,500 baht per 0.16 hectare (not including field rental cost). This rate was proposed during the meetings (Team Consulting Engineering and Management Co., Ltd., 2017).

According to the EIA report of the project (2017), farmers agreed with a two-month flood (August to September) with a maximum water height of 1.68 meters. In addition, the companies conducted study of willingness to accept compensation with 607 household heads. There are 370 of 607 households (61.05%) in the future Monkey Cheek areas who expressed opinions that if water is diverted and detained in their land, damage assessment should cover crop cultivation costs and net profits. According to Team Consulting Engineering and Management Co., Ltd. (2017), in case of an advanced warning for farmers to stop cultivating the land in the Monkey Cheek areas, they are willing to accept cash compensation of 1,980 baht per 0.16 hectare on average for paddy land. In case of an advanced warning is not issued and farmers have already planted crops, such as four-month rice varieties, they are willing to accept an average compensation of 4,584 baht per 0.16 hectare. Compensation should be paid in a single payment upon agreeing to enter to an agreement. There are 594 of 607 (97.86%) households that agreed that the project is important for them and they agreed with the project development because the project can reduce flood impacts and retain water for dry season. Only twelve households (2.14%) disagreed with the project because the project would have impact on rice production.

However, the proposals from meeting participants were different depend on the relationship between RID, communities and water situation of two areas. Bang Khiean sub-district, Nakhon Sawan province is an outside irrigation scheme area which is located in downstream. Furthermore, salty groundwater is the main cause of water issue in this area. For this reason, Bang Kiean residents have faced water scarcity and severe flood for a long time (TAO interview, 2017). Nineteen of twenty (95%) Nakhon Sawan representatives of communities focused on the rate of compensation as much as possible. Due to insufficient water in dry season and severe flood impacts in the district led to high incentive of financial compensation (If they cannot cultivate rice in flood period). Consequently, Nakhon Sawan participants proposed a high rate. They said that the companies did not propose a fixed rate and asked the participants to express their preferred rate. Three of twenty (15%) representatives of communities (Nakhon Sawan province) proposed 4,000 – 6,000 baht per 0.16 hectare in the meeting while one president of Tambon Administration Organizations (TAOs) preferred only 2,500 baht per 0.16 hectare because he thought that it would be sufficient for farmers who got the compensation in case of natural flood (If their products affected by natural flood) only 1,113 baht per 0.16 hectare from the government. *“We [Chumsang people) are the group of people who dedicate to help many people in the lower part of the Chao Phraya*

river basin” (One president of TAO, 2017). Unfortunately, he could express his view in the meeting because in his opinion, the participants proposing a higher rate dominated the discussion. He feared a conflict among meeting participants because all of them are Chumsang representatives. However, one TAO and the head of water user group (WUG) that lived in the irrigation scheme area proposed 7,000 baht per 0.16 hectare. Similarly, the headman of Tambon that is located in outside irrigation scheme area said that the rate should increase if they confront long period of water retention. For this reason, he proposed to receive 12,000 baht per 0.16 hectare. This rate consists of 8,000 Baht for production cost and profit of rice farming, and 4,000 baht by four months for flood retention areas (Opportunity cost). In the meeting, the companies asked the participants for the production cost which will be used for compensation calculation. The cost was 4,000-5,000 baht per 0.16 hectare. Six of twenty (30%) Nakhon Sawan respondents agreed with the monkey project if farmers obtained fair compensation which is worth for them instead of rice farming (interviewed Nakhon Sawan participants, 2017).

In Phitsanulok Province, an interviewed RID officer stated that the agricultural officers calculated the minimum net profit of rice product, which is 2000 baht per 0.16 hectare. *“This rate is suitable for the outside irrigation scheme area, it seems like the state rent their field to retard water (2000 baht per 4 months)”* (RID interview, 2017). Two relevant public agencies said that they did not discuss the compensation rate in the meetings. Nine of thirteen (69%) representatives of communities said they discussed the rate of compensation with the companies. One headman said that they calculated the production cost for rice farming in the meeting, the number was 3,773 baht per 0.16 hectare (TAO interview, 2017). On the other hand, another participant considered that the negotiated rate is 6000 baht per 0.16 hectare. The rest of them was not cure about the financial compensation rate. *“We have discussed about it but the result was not finalized”* (TAO interview, 2017).

The proposal made by interviewed meeting participants in Nakhon Sawan ranged between 2,500 to 12,000 baht per 0.16 hectare. Due to limited water in Nakhon Sawan, farmers required the compensation to be as much as possible. By contrast, due to close relationship between communities in Phitsanulok and local RID office and the presence of irrigation scheme area, meeting participants in Phitsanulok hardly proposed compensation, and they were not sure about the fixed rate

No decision was made anyway during the meetings. According to local RID interview (2018), one subdistrict headman sent a grievance letter to RID in January 2018. They proposed to be reimbursed the opportunity cost for four months (flood by BRM60). The RID officer viewpoint is that this person was selfish, because the BRM60 can solve farmers in terms of guaranteeing that they will be able to harvest before floods. One of five farmers interviewed in January agreed with this point but pointed out that RID should improved warning system. However, the rest of them focused more on the high water-depth that affected road system in the community. In 2017, inhabitants faced high water level that affected local transportation and houses; they could move their belonging in time (Farmer in Phitsanulok, 2018).

According to a staff of central RID (2018), irrigation in dry season (1 April) by cropping pattern change is a compensation for farmers in case of Monkey Cheek project. Financial compensation will be paid for some areas that cannot obtain water on 1 April while farmers have to retain water in flood period (Monkey Cheek). In addition, in case land is rented, there

must be a decision about who is going to get compensation. The land owner has right to receive compensation by regular law while many farmers rent land for rice farming.

4.5. Negotiation issue 5: Road

Roads are one component of the Monkey Cheek system as they can be used as dykes. Furthermore, many roads of lowland area are affected by flood. Roads have to be maintained often as a consequence of floods, however TAOs have limited state budget to do so. The companies point out the benefit of the project by the improvement of road system in the local area. It conforms with the needs expressed by participants. The meeting participants proposed the list of roads that had to be improved in the pre-orientation meeting. The companies obtain the list of improved road by the participants and report in the result of the study. The companies planned to develop the existing roads to become dykes of the Monkey Cheek areas.

On the other hand, two representatives of one TAO in Phitsanulok expressed their view with me (individual interview) that they did not require more water in the area. This TAO had improved all main roads of the communities. For this reason, they disagreed with Monkey Cheek project (but eventually they did not express their opinions in meetings, see above). According to a newspaper article (Siripat, 2017), the first attempt of Bang rakam model 60 in Pitsanulok province had been successful. One interviewed farmer provided her field to be the part of Bang rakam model 60 mentioned that Bang rakam model 60 help farmers in terms of convenient transportation and water availability in dry season for farming. In contrast, I could not reach some areas in November 2017 because of submerged roads. All interviewees also put forward the damage of the 2017 flood on the road system. The main effects of the situation is damaged road system.

According to the member of the TAO councils interviewed, meeting participants were unconvinced by the project information. Therefore, they chose not to disseminate the project information to local inhabitants (TAO interview, 2017).

5. PARTICIPANTS' ASSESSMENT OF THE PARTICIPATORY PROCESS

Main target of the participation process is representatives of communities (interviewed RID staff, 2017). Table 4.10 shows the meeting participants' view by the list of question that researcher asked them and these questions linked to the criteria. Thirteen of thirty-two representatives of communities (41%) gave 0 to 3 score for the representativeness criteria. One engineer of TAO gave 0 score because of unclear Monkey Cheek boundary. Therefore, he did not know whether the companies had invited all stakeholder of the project area or not (Meeting participant interview, 2017). In addition, the main reason is that most affected people (farmers and local inhabitants) did not join the meeting while twenty people thought that the companies invited all stakeholders (representatives of communities and relevant agencies).

Table 4.10: Assessment by participants of the meetings of the participation process

Criterion	Average score (max = 5)		
	Nakhon Sawan (19)	Phitsanulok (13)	Two areas (32)
1. Representativeness	3.2	3.5	3.3
2. Independence	4.3	4.4	4.3
3. Transparency	4.2	4.3	4.2
4. Resource accessibility	3.8	4.0	3.9
5. Early involvement	2.8	3.5	3.1
6. Task definition	3.3	4.0	3.6
7. Structured decision making	3.7	3.7	3.7

Source: Field survey 2017

Two criteria obtained high score: independence and transparency. Most interviewees (31 of 32 people) said that the companies created open atmosphere for them to show up their opinion and they clarify the purpose of the meeting to participants. Meeting participants said that the companies made an effort to know public needs and listen to public voices, rather than imposing their views in the meetings. *“They organized open discussion and encouraged the participants to share their voices but we were not confident to express our thoughts”* (meeting participant interview, 2017). In contrast, one Phitsanulok subdistrict-headman said that the companies just presented the project and participants just listen to them only (Meeting participant interview, 2017). Moreover, he did not know the purpose of the meetings because he was invited by the head of district officer. *“I don’t believe that the project will pay attention in public opinion for project design and the project will happen in the future”*. Eventually, he did not give the score of three criteria (Independence, Transparency and Structured decision making). However, he agreed with the project because Monkey Cheek can retain water for rice farming (Meeting participant interview, 2017). In case of resource accessibility, all interviewees received meeting documents and oral explanation during the meetings. They appreciated that the companies included maps which made them figure out the area. However, nine of thirty-two participants (28%) thought that the information was insufficient because the companies had never been to the field and participants did not understand the explanation clearly (meeting participants interview, 2017). In addition, some information was difficult to understand such as engineering design or technical terms (Participants’ interview, 2017). *“The companies require us to ask questions but we could not. We obtained insufficient information for understanding, thus we could not ask detailed questions to the companies”* (Engineer of TAO interview, 2017). One headman of Water User Group (WUG) in Nakhon Sawan joined the meeting by indirect invitation because the TAO member could not answer the question of water management in the area. In addition, he gave a 0 score because he thought farmers had no understanding for the project. However, he agreed with the project if this project could support increase water availability during the dry season in Bang Khiean. He also thought that the project will happen certainly because it is the state project.

The average score of early involvement criteria is 3.1. It means that some participants considered that the project had already designed before and meeting participants were not sure that their opinion could change the characteristics of the project. Six of thirty-two meeting participants (19%) said that they were not sure of the impacts of proposals made during the meetings. *“They (companies) have just listened our voices and keep it, or propose to RID. I do not know if the project design has been changed or not”*. In addition, five of nineteen (26%) Nakhon Sawan representatives gave 0 score because they believed that RID

had already designed the characteristic of the project and that the companies had to follow choices made by RID.

For task definition, twenty-seven of thirty-two respondents (84%) understood their task in the meetings. However, six interviewees gave 0 to 3 score because they felt that the companies did not tell them clearly about their tasks in the meeting.

The last criterion which was unclear for the interviewees because the meetings are organized for public hearing. All respondent said that no decision was made during the meetings. Moreover, they were not sure that their proposals were used to modify the project or not. The companies just listened to their needs and communicated their proposals to RID. Twenty of thirty-two (62.5%) interviewed meeting participants refuse to rate the score for the criteria. *“we did not decide anything in the meeting”* (Meeting participants interviews, 2017).

For this dissertation, thirty-two (100%) representatives of communities express their opinion that the companies have just listened to their voices and bring it back to RID for project consideration. According to the interviewed TAO president (2018), the participation process that the companies conducted is ineffective because the affected people do not know the project. Furthermore, the benefit of the project is not clear. *“The companies have just organized the meeting and write the report for RID”*.

6. OTHER ACTORS' ASSESSMENT OF THE PARTICIPATORY PROCESS

The companies evaluated the participation process using criteria which were defined in the TOR, such as the number of meetings, brochures, newsletter and preference of meeting participants. The definition of effectiveness is based on comparison between outputs and the set of goals which is defined at the beginning of the project (interview with a staff member of one of the companies, 2017). The companies set their own criteria to measure the success of participation process, for example, they plan to organize two meeting for the project orientation. Thus, they had to conduct at least two meetings to achieve their goal. According to Team Consulting Engineering and Management Co., Ltd. (2017), the results of the first local working team meeting is that the companies obtained the commitment for project development by the 340 participants.

Meeting evaluation was conducted by questionnaire survey. Two evaluation processes were organized two times (March 2016 and February 2017). There are two objectives of evaluation; to evaluate the process of meetings and to evaluate the participants' understanding for the project development.

1) *Formative evaluation:* the general evaluation that take place before or during a general project with the aim of improving the project's design and performance. This process was conducted in each first area meeting in March 2016, the number of respondents was 977 from 12 forums.

2) *Summative evaluation:* a method of judging the worth of a project at the end of the project activities that focus on outcome. The process was conducted in each third local working team meeting in February 2017, and the number of respondents is 417 from 4 forums.

To sum up, the questionnaires were filled in an anonymous way while RID officers and local agencies hardly gave back to the companies (Team Consulting Engineering and

Management Co., Ltd., 2017). The lowest score of participation evaluation in Phitsanulok (part of BRM60 area) show that the project should not be implemented in the field. According to the result of the summative evaluation (See in Appendix 7), the score should not lower than 2.81(max = 4). The companies noticed that the lowest score is the Yom-Nan Operation and Maintenance Project, Phitsanulok province (score is 2.77) where is the location of Bang Rakam Model 60, and the participants require the companies to inform local people in the field and increase the number of media (Team Consulting Engineering and Management Co., Ltd., 2017).

According to the views of the the scholar from Naresuan university. “*People could not express their real opinion because military join the meetings*” (Naresuan university scholar interview, 2017). According to Team Consulting Engineering and Management Co., Ltd. (2017), the average score of understanding impacts on local livelihood and environment (Appendix 7) are lower than the standard (2.81) because the companies did not present the result of the study to participants. For Phitsanulok province, the score is lower than the standard for two main points: working openly for public participation in the project design (2.8) and representativeness (2.72) (Team Consulting Engineering and Management Co., Ltd., 2017). In addition, the result of evaluation shows that the lowest score of overall is representativeness. Due to the large study area and limited time, the companies cannot organize the meeting for all local area. Consequently, only the representatives of communities are informed about the project while local inhabitants who are the primary stakeholder hardly known.

RID local office had received the final report by the companies in October 2017. However, the director of Nakhon Sawan Irrigation Project said that “*the information is correct; we just wait for the order from central RID to implement the project in the next step. After the government approve this project, we have to study in detail*”. In Phitsanulok Province, the director of Yom-Nan Operation and Maintenance Project understood the concept of Monkey Cheek quite clearly because he was the one who initiated the Bang Rakam Model 60. He said that “*this project is suitable for the outside irrigation scheme area because it can solve uncontrolled water in that area, and affected people can get compensation that is better than let the land inundated only*” (RID interview, 2017).

For this dissertation, I asked RID staff to evaluate the participation process that the companies conducted in study area (Table 4.11), and the companies (meeting organizer) evaluated themselves also (Table 4.12). The list of questions is different from the meeting participants (See Appendices 1 and 2). Average scores of all criterion are high (4.0 to 4.8), the highest score is 5. The last criterion (Structured decision-making) did not get clear answer because some people considered that no decision was made in the meetings. Therefore, two staff of both actors chose not to rate the score of this criterion. They said that the process was in consultation stage, to exchange opinion with participants and keep their demand to adjust the project design (interview with a staff member of one of the companies, 2017). Similarly, one scholar (Naresuan University and companies’ consultant) did not rate the score of structured decision making because they did not see the decision in the meeting. Moreover, one of three RID staff did not rate the score because he thought that the meetings were organized for observation of public demand. Therefore, it has not decided anything in the meeting (RID interview, 2017). Another point is the resource accessibility, the vice president of the companies thought that some information was technical and participants may not have been able to understand it. For this reason, they could not express their opinions completely (interview with a staff member of one of the companies, 2017).

Table 4.11: Participation evaluation by the RID staff.

Criterion	RID staff (Project owner)					Average Score (Max = 5)
	Secretary of project	Project coordinator	Nakhon Sawan	Phitsanulok	Phitsanulok	
1 Representativeness	3.5	4.0	4	3.5	5.0	4.0
2 Independence	5.0	5.0	4	4.0	5.0	4.6
3 Transparency	5.0	5.0	5	4.5	4.0	4.7
4 Resource accessibility	5.0	5.0	3.5	3.5	3.0	4.0
5 Early involvement	5.0	5.0	-	4.0	3.0	4.3
6 Task definition	5.0	5.0	3	4.0	5.0	4.4
7 Structured decision making	5.0	-	-	4.0	3.0	4.0

Source: Field survey 2017

From the point of RID view (secretary of the project), the companies provided sufficient information to public but the level of public understanding differed a lot (RID interview, 2018). However, one RID staff did not rate the score of early involvement because he thought the project had already designed by the companies before the meeting “*the companies want to know that the project would be refused or not. We (local RID) will just implement the orders of central RID if the project approved*” (local RID staff interview, 2017). The companies organized the meetings to inform representatives and asked their acceptance. In addition, I asked the companies to rate the score for participants’ participation in the meeting. From the point of view of the companies’ staff, they endeavor to invite all stakeholders to join the meeting and disseminate the project information clearly via many media. However, effective of participation depend on the participant that they are willing to join the meeting and their understanding about the context of discussion (interview with staff member of one of the companies, 2017 and RID interview, 2018). Furthermore, the scholar and local NGO who often participated in the meetings pointed out that they did not see any decision taken during the meetings.

Table 4.12: Participation evaluation by the companies’ staff.

Criterion	Companies’ staff (organizer)					Average score
	Vice president of the company	Head of Public Participation division	Water Resource Engineer	Environmental Technical officer	Expert of Participation Process	
1 Representativeness	4	4	5	3.5	5	4.3
2 Independence	4	5	5	4	5	4.6
3 Transparency	5	5	5	4	5	4.8
4 Resource accessibility	3	5	5	5	5	4.6
5 Early involvement	5	5	5	4	5	4.4
6 Task definition	5	5	3	5	3.5	4.7
7 Structured decision making	5	5	-	4	-	4.7

Source: Field survey 2017

7. ACCEPTANCE OF STAKEHOLDERS

7.1 Companies' assessment

According to the final report of companies' study (2017), in December 2016, the companies conducted a Socio-economic questionnaire survey with farmers in the field, to collect the local livelihood data and ask their perceptions about the monkey cheek project. It is the part of Environmental Impact Assessment by consulting companies. They interviewed 1227 household. They divided samples into two group: 1) affected people (land owners in monkey cheek area, 815 of 58,227 households) and 2) the people who would obtain benefits from the project (local residents who live in Yom-Nan watershed which is the project area, 412 of 36,297 households). They tried to get the public acceptance by asking two key questions: 1) *Do you think that the Monkey Cheek is important for you and your community? Why?* and 2) *Do you agree with the project development? Why?* The companies showed the documents (See in Appendix 6) of flood problem in lowland area and the project concept which can solve that problem to the samples (One interviewed staff of the companies, 2017). Farmers might realize that the project was conducted by the RID directly because it has RID logo on the documents. Consequently, for the first question, there are 1,207 to 1,277 households (94.59 – 100%) who expressed that the project is important for them and their communities. With regards to the second question, 1,031 of 1,277 households (80.77 – 100%) agreed with the project development (Team Consulting Engineering and Management Co., Ltd., 2017). In addition, they were willing to use their land for Monkey Cheek. There are 982 of 1,277 respondents (80%) agreed with the project.

However, a company's consultant (independent researcher) for public participation process was a key person who led the meetings. He stated that this information cannot guarantee that public accept the project because it does not come from participatory process. *"We provided the project information to the participants, obtain their demand and try to design the project together. However, we did not make any decision or acceptance in the meetings. Therefore, the companies should not report that"* (The interviewed staff of the companies, 2017).

7.2 Research assessment

In the interviews I conducted, three local RID officers did not express their opinion with regards to public acceptance because they had not read the final report of the feasibility study (RID interview, 2017). They were waiting for the central RID to assign them to implement the project.

Nineteen of thirty-two (59%) interviewed representatives of the communities agreed with the project. Interviewees expressed the benefit of the project are: 1) water will be available for rice farming if the project is well-managed and 2) the project can save downstream area that is the economic zone of Thailand (Bangkok). In contrast, other interviewees did not agree, because: 1) the negative impacts on houses and facilities in the communities 2) RID cannot allocate water in dry season and 3) insufficient compensation. All interviewees thought that they could not inform farmers about the negotiated issues because decisions had not been finalized in the meetings. For example, the representatives of communities considered that if they informed farmers about financial compensation, farmers would understand that they will get it. If there is a problem later on, farmers may blame their headmen or president of TAO.

Forty inhabitants were interviewed in two study area (twenty for each). Twenty-nine of forty (72.5%) farmers had no opinion of the Monkey Cheek project. Seven of twenty (35%) Nakhon Sawan farmers disagreed with the project because of several reasons: distrust government (Respondent No.30), do not want to obtain more water (Respondent No.41 and 43), monkey cheek cannot solve flood problems (mismanagement by the government is the problem) (Respondent No.42), it has no public land can be a Monkey Cheek in this TAO (Respondent 32 and 35) and farmers have no secure job in flood event (Respondent 38). *“RID should ask all households in affected area for acceptance”* (Team Group interview; expert of participation process, 2017). Four or five years ago, Bang kieran people faced with monkey cheek project that the government officers tried to collect their signature to support the project (Bang kieran farmer, 2017). *“ I think that this project cannot be occur Bang kieran people are against the monkey cheek project because of the old concept the government plans to expropriate land from them”* (Respondent No.23). Moreover, nine Nakhon Sawan farmers (45%) have no opinion.

Two main reasons that they have not expressed their view for project acceptance are: 1) they do not understand the project characteristic completely and 2) they comply with the state because they believe that public has no power to against the state project (Bang Kieran farmers’ interivew, 2017). The newsletter which the consulting companies redacted for public relation of the project illustrate that the current project will not expropriate residents’ land. All interviewed Phitsanulok farmers never heard about the Monkey Cheek project by the companies and they had no sufficient information of the project for making the decision that they agree or not, or to what extent the concept of the Monkey Cheek project differ from the BRM60 (financial compensation). Consequently, they cannot decide that they agree or not. However, they provide two main comments for BRM60: 1) flood impacts on road system and houses; 2) water is not enough for rice farming after RID drains water out (Phitsanulok farmers, 2018).

Non-Government Organization is a key player in the participation process, as the companies invited them to be part of the local working team at provincial level. The Center for the Support of Community Organization for Environmental Restoration decided to join the process because the NGO emphasizes environmental management in the field. The coordinator of the NGO agreed with the concept of the project but the project should run completely and farmers have to obtain the sufficient compensation in case of flood expansion area. They communicated information on the project to the group of farmers that they worked with. They made several comments for the negotiated issues of the Monkey Cheek project: some information was difficult to understand, the reference water level was not clear, discussion of compensation was not clear and affected people did not know much about the project. They argued that the process was in the consultation stage and some part of the process should be improved. Furthermore, the participants in the meetings did not represent all affected people and many invitees were not interested to join the meeting. Farmers had to generate income by themselves, they needed to go to the field more than the meetings.

Table 4.15: Assessment by participants of the meetings of the participation process

Task	Actors' opinion											
	RID	Nakhon Sawan			Phitsanulok			Two areas			Scholar	NGO
		S	R	I	S	R	F	S	R	I		
Number of actors interviewed	3	1	19	20	2	13	20	3	32	40	1	1
Agree with the project	-	-	12	3	2	5	-	2	17	3	-	1
Neutral	-	-	1	1	-	1	-	-	2	1	-	-
Disagree with the project	-	-	1	7	-	3	-	-	4	7	-	-
No opinion	-	1	5	9	-	4	20	1	9	29	1	-

Source: Field survey

S = State agencies.

R = Representative of communities.

I = Inhabitants.

According to Chompunth (2012), adequate information for making decision is the main factors which can lead to effective participation. Moreover, two-way communication is a key point to achieve genuine public participation by public acceptance. The companies' view showed that they endeavored to organize participation process in the field. They tried to invite all stakeholders to join the meeting, freely sharing opinion, provided sufficient information via multimedia. However, the number of documents (2,000 copies per each version) was much lower than affected people (approximately 100,000 households). The companies provided only one copy per participant but they expected that these people can disseminate the information to villagers. There was no local meeting in sub-district or village level. Consequently, most of participants who discussed negotiation issues are the representative of communities.

The result of the feasibility study showed that the local working teams agreed with the project development (Commitment at the meeting of four locations). Furthermore, the companies used the data from EIA report for farmers' acceptance also. Eventually, the project was considered as accepted by the public (Team Consulting Engineering and Management Co., Ltd., 2017).

However, the research showed that some people felt they could not express their opinion in the meeting, and political issues in the field impeded the genuine participation. Some representatives are dominated in the meeting, have close relationship with RID, and they could influence on the meeting and villager mind. In addition, the findings illustrate that most of inhabitants did not know or understand the characteristic of the project completely. Therefore, they could not show opinion for project acceptance. For the meeting participant, their views may depend on knowledge or experience. I noticed that the engineers of TAO often disagreed with the project. However, they thought that the project would not be implemented. The interviewees who achieved high education realized that the participation process by the companies is on the consultation stage.

Additionally, Boonwanno (2017) argued that there are three reasons that show the Bang Rakam model 60 impacts on farmers' livelihood in the left side of Yom river (irrigation scheme area under the model) as follows:

- 1) The new cropping pattern enforce on limited time of rice farming. Farmers have to start cultivation and stop harvesting early, non-mature rice is affected rice price.
- 2) Non-natural flood because water block in Monkey Cheek area for four months while natural flood may have reduced before 4 months.
- 3) The model did not solve repeated flood directly; farmers still face recurrent flood. Furthermore, they have to face flood for long period (4 months).
- 4) Farmers lost the opportunity for one cultivation (4 months) that leads to they have no production cost for next cropping period.

Comparison of assessment

According to the companies' study, eighty percent of sample (questionnaire survey) farmers agreed with the project while the research assessment (this thesis) shows that fifty-three percent of interviewed representatives agreed. However, it has different way to obtain the result of project acceptance. The companies asked them in the meeting while researcher asked them individually. For meeting participants, most of them did not realize the project information clearly. For this thesis, seventy-two percent of farmer cannot express their opinion because they do not know the project information clearly and the overlapping between RID project (BRM60) and the companies project in the same area (Phitsanulok) could make them confusing. Eventually, this study can prove the companies' assumption (the representative of community act as a personal media, to inform the project information to the villagers) is not true. Moreover, RID and the companies did not pay attention to the local inhabitants (non-farmers), affected people of the project. They have no opportunity to make the decision for the project acceptance. Finally, the government approved the project and local RID started implementation in the irrigation scheme areas by local RID offices in terms of study of engineering structure in detail and conduct local communication with local inhabitants in the construction area (interviewed central RID officer, 2018).

Chapter 5 Discussion

This chapter is divided into three parts that consist in 1) a diversity of stakes of farmers, 2) an unclear participation process, 3) lack of genuine discussion of objective and constraints of each actor.

1. A diversity of stakes of farmers.

There are three types of farmers' stake based on the diversity of situation in terms of water in dry season.

1) Irrigation scheme area that already joined Bang Rakam Model 60

Farmers of Tha-Nang-Ngam subdistrict often have to deal with water scarcity in the dry season. They usually use groundwater by pumping on their own. This leads to increase of production costs (Farmers' interview, 2017 and 2018). Normally, RID starts water allocation in May (announcement of central government for cultivation period). However, it is not a suitable period for lowland areas in Phitsanulok because farmers have to take a flood risk on harvesting period (August). Until, Bang Rakam Model 60 implemented last year that RID allocate water in this area in April 2017. In addition, early harvesting leads to less damaged rice products as less profit loss. Therefore, Bang Rakam Model 60 is the special case that farmers can obtain water before common timeframe (RID interview, 2018). In case of Bang Rakam Model 60, sufficient water was provided, thus farmers did not use groundwater for rice cultivation last year (Farmers' interview, 2018). Therefore, they might gain some benefits from the Monkey Cheek project or BRM60 at least if water during the dry season is available early. Consequently, these might not take an obvious action against the state project although they are not fully satisfied with the impacts of BRM60. Furthermore, one subdistrict headman influence on the local meeting stated that in the national television programme "*local inhabitants are satisfied the Bang Rakam Model because it provided job opportunity for them by fishing*".

2) Farmers located outside irrigation scheme area and that are interested in the project.

Some areas may be outside official irrigation scheme area. For this reason, farmers have tried to bring water into the area and spent their own budget for transaction cost. The main factor of stress for them is water shortage during the dry season. This has led to collective activities of farmers to get water. They gather and go to upstream to organize water distribution. In particular, Bang Khiean people have to pump water from Ping river through Klong-Krathin canal (length 70 kilometers) from Kao leaw district. This point illustrates that the people outside official irrigation area may be able to use water from the system. It seems like the "grey area", no right to use but water is free for everyone. Therefore, the head of water user group in Bang Khiean expressed that farmers in his area were interested in Monkey Cheek project if it guarantees that they will have water in dry season.

3) Farmers located outside irrigation scheme area and that might not interest in the project.

Some villagers might be against because they have insufficient information and bad experience with the Monkey Cheek project in the past; although the concept of project has changed (the new one does not involve expropriation of paddy fields). One of sample farmer believe that ineffective water management by the government is the main cause of 2011 flood.

In addition, they have less relationship with RID than irrigation scheme area that leads to some of them distrust the government organization. Unfortunately, a whole Bang Khiean area, Nakhon Sawan province is planned to be a Monkey Cheek by the discussion between the companies and the representatives. This finding illustrates that farmers might not reach both information and discussion since the result was decided.

Some part of Tha-Nang-Ngam subdistrict, Phitsanulok province are located outside irrigation scheme area although the area is lowest area of subdistrict which located near Yom river. Therefore, farmers have pumped water into their field without RID operation. *“Not only huge water in flood period but also we confront with water scarcity in dry season. So, we need to get some structures for water controlling in the area”* (interviewed Phitsanulok farmer, 2018). For this area, there are some structures which were provided by the Department of Water Resources (DWR). The department in charge of outside irrigation scheme areas. In case of Bang Rakam Model 60, they faced impacts of the model as damaged road system and rice product eventhough this area is not the model area. They do not desire to face any effects of the model. Therefore, they complained RID operation of BRM60 that RID should review the feedback of the model before start the new one (BRM61). In conclusion, they have water for farming while there is lack of structure for water controlling. Therefore, they might not pay much attention in the Monkey Cheek project. In addition, the president of TAO that many villages (outside BRM60) was damaged last year might take action to express disagreement with BRM60 (TAO interview, 2018).

Overall, farmers expresses concerns about water shortage in dry season (drought) more than flood. However, RID focuses on irrigation scheme areas which are the official area for water allocation by irrigation system. In addition, the BRM60 may be able to provided water in dry season early than other irrigation scheme areas because of the particular purpose (Monkey Cheek). Farmers located outside irrigation scheme area who confront with more stress might realize that if they are the part of BRM, they can obtain water in dry season on time. On the other hand, the last area focuses on the structure more than the project because they have easy water accessibility. The different location is a significant factor leading to distinctive water situation. Moreover, internal stress might influence on farmers’ stake vis-a-vis the project. These incentives can convince farmers to be a part of BRM or the Monkey Cheek project if it meets the public demand (Yeampaiboon, 2012).

2. An unclear participation process.

Participation processes emphasize to make explicit the diversity of stakes. However, there are four issues which led to an unclear participatory process of the Monkey Cheek project as follows:

1) dissemination of information but no capacity building.

Actors’ understanding was the main task that the companies had to achieve. However, characteristic and expertise of each actor were different, such as education level and experience. Some information of the Monkey Cheek project was quite difficult to understand without expertise. Some representatives that I met had low formal education level and experience in water management. In addition, some presidents of TAO did not join the meetings and paid limited attention to the project. They assigned some TAO officer to participate in the meetings, and these officers often could not decide or answer the question in the meeting effectively. Therefore, the presidents of the TAO did not understand the engineering concept of Monkey Cheek. Moreover, the documents which the companies

showed to farmers (Socioeconomic questionnaire survey) provided insufficient information for making decision. Similarly, the meeting participants of the Monkey Cheek project were not convinced by the project staff. Some of them thought the project may not happen in reality. Furthermore, it has no any decision in the meeting because they realized that the negotiated issues were not finalized (Meeting participants interview, 2017).

2) lack of genuine representative of inhabitants

In each TAO, the two representatives who played a significant role on behalf of local inhabitants are the president of TAO and subdistrict headman. However, they acted rather as government officers in practice because their salary was provided by the government. According to Team Consulting Engineering and Management Co., Ltd. (2017), there is a strong contrast in terms of the willingness to change the cropping period, when asked to farmers and when asked to meeting participants. In addition, although the genuine representative (head of water user group without government paid) joined the meeting and propose to join the project, the companies did not pay attention for their proposal (Head of water user group interview, 2018). Therefore, this village cannot be a part of the Monkey Cheek because the village headman did not join the meeting and propose villagers' voice.

3) confusion between the Monkey Cheek project and Bang Rakam Model

In case of Phitsanulok province, two projects took place in the Bang Rakam district with overlaped timeframe but different concepts. Especially, financial compensation was proposed to the meeting participants and farmers in case of the Monkey Cheek project since RID did not negotiate this issue in terms of Bang Rakam Model 60. Furthermore, the companies put RID logo in all documents which were distributed to the participants and farmers. It can lead to people to be confused between two projects that the different sector take responsibility (The state, RID: Bang Rakam Model60 and the private, consulting companies: The Monkey Cheek project).

Nobody explained the linkage between two projects. Although RID tried to show transparent participation process of the Monkey Cheek project to public, local inhabitants might understand that the RID in chage of the Monkey Cheek project. Moreover, findings illustrate useless of dicussion. The Monkey Cheek project discussed several issues (water level, flood period and public needs) before the begining of Bang Rakam Model 60. However, RID did not pay attention to the results of discussion though both central and local RID officers always joined the meeting that the companies organized. For example, the result of companies' study showed that farmers do not want a flood for more than two months while the BRM60 operated four-month flood in the Bang Rakam district.

4) Difference framework of two projects.

The Monkey Cheek project framework emphasized the discussion with stakeholders through local working teams and eight main public consultations. However, the companies could not convince the participants because it does not have clear decision in the meeting. On the other hand, the Bang Rakam Model 60 proposed clear concepts which had been decided by the RID. Farmers were informed but there was no discussion (no public participation process). *"The army told me that they will put water in our field"* or *"the village headman told me that whatever our field have to be a flood expansion areas"* The interviewed farmers realized that

they had no power for negotiation and they had to adapt to the decisions from state institutions. A genuine participation process should involve both a transparent discussion and clear decisions taken based on the discussion. Unfortunately, two projects express only one either discussion or decision.

3. Lack of genuine discussion of objective and constraint of each actor.

Actors had different goals. RID had to implement the twelfth National Economic and Social Development Plan 2017-2020 (increase in irrigation scheme area, increasing of effective water using in irrigation scheme area and enhancement of water system both in terms of storing and draining) and they had to deal with floods as an urgent issue. However, in 2015, the main obstacle of RID project was lack of public participation. Therefore, the companies play a significant role in the Monkey Cheek project. The companies had to achieve at least two main objectives: undertake the study feasibility of the project and express public acceptance to support the Monkey Cheek project. However, the companies are undertaker of RID work. They have to go to the field with RID logo while they want to know genuine public opinion. This is the key constraint of the companies for participation process.

The participatory process of the Monkey Cheek project was successful according to the companies' criteria. They organized the meetings completely in term of quantity of forums. However, the public consultations could not solve the main issue which participants proposed in the pre-orientation and last meeting (in both meetings, participants expressed that the companies should organize the meeting in the local level as villages, to encourage genuine public participation in the field). "*we cannot organize the meeting at village level because of limited budget and time*" (interviewed one staff of the companies, 2017). In addition, researcher noticed that the provincial RID staff of two study areas was different. The officers in the BRM 60 area were more active than in the non-model area. In the latter area, the staff waited for central RID to give them mandate for operation in the field.

Local inhabitants mainly focused on water available in dry season more than flood problem. However, the discussion of the Monkey Cheek project did not pay attention with the issue (meeting participant interview, 2017). The result of Bang Rakam Model 60 last year revealed ineffective water management by RID. RID may not be able to ensure that the model can reduce flood impacts on local livelihood. They claimed that RID warning system cannot predict water situation for long period (RID interview, 2018). Also, some farmers complained RID that RID did not inform them on time. For this reason, they cannot go to the field because they have to watch out flood and move their belonging to upstairs (Phitsanulok farmers, 2017 and 2018). In addition, damaged road system is the significant factor led to unsatisfactory of inhabitants.

This dissertation evident that most inhabitants never heard about the Monkey Cheek project (companies study). There are several reasons that they do not know or misunderstand about the project: 1) The companies show RID logo on the questionnaire which conducted in the field (EIA) because RID have to approve all documents before distribution. Farmers may realize that this is the RID project. 2) Farmers did not pay attention in the project. The meeting waste their time and they have to generate their income by themselves. Although the companies paid 300 baht per person for each meeting, they have limited budget for that. Furthermore, the discussion of Monkey Cheek project finished before the beginning of Bang Rakam Model 60. Surprisingly, the result of the Monkey Cheek project showed that flood

event should not more than 68 days while the Bang Rakam model 60 still operated four-months flood (one crop period). Moreover, RID cannot control water level in the model area because of numerous water (RID interview, 2017). How can inhabitants ensure the benefits of the project by RID?

In conclusion, a diversity of stakeholder need clear discussion with sufficient information for making an obvious decision together. The gap of discussion such as difference of education level, understanding and goals can be solved by building knowledge among stakeholder and Multi-Stakeholder Platform which including affected people, to discuss and make a genuine decision together. This evidence showed that the development project should achieve two keys of participation, to encourage genuine participation in the reality. It might take more time for implementation since it could reduce conflict between actors. Moreover, the project will be effective function by cooperation of actors.

Conclusion

The Royal Irrigation Department endeavors to solve the problem of public participation in the flood expansion area project that they have learned in the past. RID assigned two consulting companies conducted the feasibility study of flood expansion area project in the north of Nakhon Sawan province. It consists four provinces: Sukhothai, Phitsanulok, Pichit and Nakhon Sawan. Especially, the main task of the project is official participation process that the companies organized from January 2016 to March 2017. This study emphasized on the participation processes were conducted in Phitsanulok and Nakhon Sawan. The first area is the part of pilot project (Bang Rakam Model60) that RID implemented the operation of Monkey Cheek in the irrigation scheme areas last year (February to November 2017). The second located outside irrigation scheme area that hardly obtains RID supports. However, these areas are planned to be Monkey Cheek by the companies' study. Moreover, the findings revealed that the results of discussion between the companies and representatives of communities were not used in the Bang Rakam Model 60. The BRM60 concept is contrary to the public demand of flood event period.

In the case studied, three main actors were divided by their stake as state (project owner), private (organizer) and civil society (participant). These actors consist RID, the consulting companies and communities. For public sector, it divides into two groups as representatives and inhabitants (both farmers and non-farmers). In addition, the complexity of actors' role leads to unclear participation in the Monkey Cheek project. The companies serve as RID employee that leads to they are under RID command directly. In addition, the representatives of community (President of TAO and subdistrict headmen) serve as state officers because they are paid by the government. Therefore, it is not uncommon that the result of companies' study might support the government project. Two actors have obvious objectives; 1) RID requires to implement the Monkey Cheek project because they have to solve the urgent issues (Flood and drought) on time that confront with the National Economic and Social Development Plan (2017-2020). Furthermore, the applied Monkey Cheek concept needs to try out in the real situation for development of next step. However, public acceptance is the

key factor that influence on the development of project. 2) Consulting companies work for their own profit, conducted the Monkey Cheek project under RID control. Moreover, the key of project achievement is RID satisfactory. For this reason, the companies put an effort to organize well participation process in the field, to build nice image of RID and encourage public participation (fill the gap of project implementation). On the other hand, the public objective is unidentified because they are passive actor. Especially, non-farmers inhabitants that the companies and RID did not pay attention even though they are also affected people of both the main project and Bang Rakam Model 60.

In terms of participation process, the companies organized eight series of meeting in the field and try to invite all relevant sector of study areas. Evaluation of participation showed that participants gave high score for two criteria: independence (the meeting ran by unbiased way) and transparent (public can see what happen in the meeting). On the other hand, the score of early involvement is lowest while other actors (state and private) rate high score. Two actors can guarantee that the project design was changed after the discussion whereas participants were not ensured by organizer. In practical, inhabitants are indirectly obstructed to reach project information and discussion by limitation of the companies. However, the companies invited the representatives of communities who supposed to express farmer voices. In practical, affected people were hardly informed.

The finding showed distinctive interest and limitation of each other lead to unclear discussion. Due to the actors did not discuss the focal point and they do not know the genuine objective of each. Consequently, two actors felt that they had achieved their own goals: RID obtained the final report and proposed to the government for next step and the companies finished the study on time (they met the condition of TOR). On the other hand, representatives at local level obtained unclear discussion and considered that they could not disseminate the information to inhabitants. Furthermore, most inhabitants never heard about the project while the result of the companies' study reported most of them agreed with the project development. This study illustrates barrier of public participation by individual interview. Some actors did not express their own views in the meeting while they shared with researcher.

Moreover, the main comment of first and last meetings illustrated that the companies should conducted meeting in the village level because most affected people do not know about the project. This point shows that the companies did not take into account public demand because of limited timeframe and resources.

However, RID proposed the companies report to the government (approved), and RID applied the concept of cropping pattern change into 10 lowland area without EIA report in 2017 (RID interview, 2018). In 2018, RID implemented the Monkey Cheek project, assigned local RID office to conduct study of engineering structure in the field and communicate with communities at the same time. Furthermore, BRM61 just start in April 2018. Environmental Impact Assessment is the significant issue in this case because natural flood and artificial

flood are different. Water logged by man-made flood in an enormous land could lead to major impacts on environment.

Future research should emphasize on building knowledge for public and fill the gaps in the discussion. Researcher should conduct workshop or group discussion with the public and then multi-stakeholder platform may be able to organize a genuine discussion. Third party as universities or educational institutions could take place to promote an unbiased way for fulfilling the gap of discussion between state and public. Furthermore, such process will have to be done in such a way that opinions can be expressed in a transparent way and to ensure public understanding for better decision-making.

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Appendices

Appendix 1: Questionnaire for RID officers

**Survey Questionnaire on Analysis of Stakeholder Participation in the Flood
Expansion Area Project in Nakhon Sawan and Phitsanulok province, Thailand
(RID)**

Code number:
Interviewer's name:
Date of interview:
Respondent's name:
Place (workplace):
Phone number:

Asian Institute of Technology
School of Environment, Resources and Development
Bangkok, Thailand

Monkey cheek project is the project that RID assign the consulting companies conduct the feasibility study from October 2016 to April 2017. The one of study objectives is encouraging stakeholder participation in the project area. The information of this questionnaire is collected for generating the research on stakeholder participation topic and the detail will not express if you do not permit.

The questions divide into 4 parts: Personal information, Participation and Negotiation issues of the project and Evaluation of public participation process of the project.

PART 1

Personal information

Name..... Age.....

The Education level Work experience.....
years

What is the responsibility in the monkey cheek project?

PART 2

Participation

Do you know, how the consulting companies communicate with public for the context of project?

Do you think, the public relation process by the companies provide sufficient information for public?

Which meetings did you attend?

How did you communicate with farmers, first to get their opinions about their expectations with regard to the project, then about the outcomes of the meeting?

Do you have any minutes of the meeting?

PART 3

Negotiation issues

Location of the Monkey Cheek

- In your opinion, what could be acceptable in terms of the area that could be flooded? (show on the map)
- What was the initial proposal during the meeting? Did you in charge of area preparation?

- Did you explain your position and did you discuss about this issue during the meetings?

- What was decided during the meeting about this issue?
 - Where is the constructed site of monkey cheek project in the district area? (show on the map)
 - Who will be the inhabitants affected under current proposal? How many inhabitants in this area? Which types of farming systems?

Amount of water in Monkey cheeks

- Usually, farmers in the area: from when to when their fields are flooded?
- Usually, the depth of the flood?
- When you heard about the project initially, in your opinion, what could be acceptable in terms of the maximal increase in the duration of flooding?
- When you heard about the project initially, in your opinion, what could be acceptable in terms of the maximal depth of flooding?
- What was the initial proposal made by the RID during the meeting?
- Did you explain your position and did you discuss about this issue during the meetings?
- What was decided during the meeting about this issue?

Irrigation water

- When you heard about the project initially, in your opinion, what could be acceptable in terms of getting irrigation water as a compensation to be a monkey cheek? (be precise about when , how, how much, etc.)
 - How many hectare should be irrigated?
 - Where the water will come from?
 - When farmers will be able to get irrigation water?
- What was the initial proposal made by the RID during the meeting?
- Did you explain your position and did you discuss about this issue during the meetings?
- What was decided during the meeting about this issue?

Financial compensation

- In your opinion, what could be acceptable in terms of financial compensation given to farmers in case of flooding?
- Did you discuss about this issue during the meetings?
- What was decided during the meeting about this issue?

Are there other issues apart from these ones that you think are important to discuss with regard to the content of the monkey cheek project? For each, please detail, what you would like to achieve, what the company proposed, what you discussed and the outcome of the discussion

PART 4

Evaluation of stakeholder participation

Criterion 1: Representativeness

Is there a diversity of villagers' interests with regard to this project? And if so what are the main differences between villagers?

Do you think that the participants at the meeting represented this diversity of stakes of villagers? Please explain

Please rank from 0 to 5: 0 = not at all representation of the diversity of interests, 5 = really all diversity was represented in the meeting.

Criterion 2: Independence

Do you think that the meetings were run in a way that tried to promote the project without paying attention to people who disagreed...or that, on the contrary, the consulting company really made efforts to listen to people that did not agree with the proposal made? Please explain

Please rank from 0 to 5: 0 = the company did not give pay attention to those who disagreed, 5 = the company really paid efforts to listen to those who did not agree.

Criterion 3: Transparency

In your opinion, what were the main purposes of the meetings?

Do you know how the discussions in the meetings will be used for decision on the project?

Do you think that the purpose of the series of meeting was clearly presented by the consulting company?

Please rank from 0 to 5: 0 = really unclear, 5 = fully clear.

Criterion 4: Resource accessibility

Did the consulting companies provide any written documents before or during the meeting about the project?

During the meetings, do you consider that the companies provided a sufficient understanding of all components of the meeting or do you think that the participants did not receive sufficient explanation on key elements?

Please rank from 0 to 5. 0 = the companies provide really insufficient written information and oral explanation to participate fully in the meeting, 5 = the participants had a really good understanding of the project thanks to the written information and the oral explanation provided.

Criteria 5: Early involvement

When you participated in the meetings, do you consider that a lot of thing could still be changed based on the discussions that took place during the meeting, or was it about presenting to you a project that was almost completely already defined;

Please rank from 0 to 5: 0 = the project was already completely defined, 5 = all characteristics of the project could still be modified based on the discussion during the meetings.

Criteria 6: Task definition

Did the consulting company tell you what was expected from the participants in participating in the meetings (for instance, learning about the project to then disseminate the information, or voicing the concerns and stakes of villagers, etc.)

Please rank from 0 to 5. 0 = no clarity about what was expected from them, 5 = Completely clarify about what was expected from them.

Criteria 7: Structured decision making

During the meeting, were some decisions taken and if so, how were the decisions taken?

Do you think that the way to take decisions during the meeting was well-organized and clear? Please rank from 0 to 5. 0 = the way decision taken in the meetings was poor organized and unclear 5 = the decision-making in the meeting was well-organized and completely clear.

Do you agree with the project as presented by the consulting company? Or any comments about the project?

Do you have any other comments about the meetings?

If another series of meetings were organized in the future about the monkey cheek project in your TAO, what should be done to have a satisfying participation of inhabitants and to get a satisfying project?

Appendix 2: Questionnaire for Consulting companies

**Survey Questionnaire on Analysis of Stakeholder Participation in the Flood
Expansion Area Project in Nakhon Sawan and Phitsanulok province, Thailand
(Consulting companies)**

Code number:
Interviewer's name:
Date of interview:
Respondent's name:
Place (workplace):
Phone number:

Asian Institute of Technology
School of Environment, Resources and Development
Bangkok, Thailand

Monkey cheek project is the project that RID assign the consulting companies conduct the feasibility study from October 2016 to April 2017. The one of study objectives is encouraging stakeholder participation in the project area. The information of this questionnaire is collected for generating the research on stakeholder participation topic and the detail will not express if you do not permit.

The questions divide into 4 parts: Personal information, Participation and Negotiation issues of the project and Evaluation of stakeholder participation process of the project.

PART 1

Personal information

Name..... Age.....

The Education level Work experience.....years

What is the responsibility in the monkey cheek project?

PART 2

Participation

How do you provide the information to public in terms of public relation?

Do you think public can access to your information conveniently? Why?

How do you inform the participants in the meeting?

How many meetings did you organized? What are the purpose of each meeting?

Do you think the number of meeting is adequately?

Who are the key participants of each meeting?

Did you provide any documents and oral explanation about the project during the meeting? How?

Did you provide the minutes of the meeting to the participants?

PART 3

Negotiation issues

Location of the Monkey Cheek

- What was the initial proposal made in terms of the area that could be flooded? (show on the map)
- Why did you impose these areas for the project? How did you create it?

- Did you explain your position and did you discuss about this issue during the meetings?

- What was decided during the meeting about this issue?
 - Where is the constructed site of monkey cheek project in the district area? (show on the map)

- Who will be the inhabitants affected under current proposal? How many inhabitants in this area? Which types of farming systems?

Amount of water in Monkey cheeks

- Usually, farmers in the area: from when to when their fields are flooded?
- Usually, the depth of the flood?
- In your opinion, what could be acceptable in terms of the maximal increase in the duration of flooding? Why?
- In your opinion, what could be acceptable in terms of the maximal depth of flooding? How did you get it?
- What was the initial proposal made during the meeting?
- Did you explain your position and did you discuss about this issue during the meetings?
- What was decided during the meeting about this issue?

Irrigation water

- In your opinion, what could be acceptable in terms of getting irrigation water as a compensation to be a monkey cheek? (be precise about when , how, how much, etc.)
 - How many hectare should be irrigated?
 - Where the water will come from?
 - When farmers will be able to get irrigation water?
- What was the initial proposal made during the meeting?
- Did you explain your position and did you discuss about this issue during the meetings?
- What was decided during the meeting about this issue?

Financial compensation

- In your opinion, what could be acceptable in terms of financial compensation given to farmers in case of flooding?
- Did you discuss about this issue during the meetings?
- What was decided during the meeting about this issue?

Are there other issues apart from these ones that you think are important to discuss with regard to the content of the monkey cheek project? For each, please detail, what you would like to achieve, what are your proposals, what you discussed and the outcome of the discussion

PART 4

Evaluation of stakeholder participation

Criterion 1: Representativeness

Is there a diversity of villagers' interests with regard to this project? And if so what are the main differences between villagers?

Do you think that the participants at the meeting represented this diversity of stakes of villagers? Please explain

Please rank from 0 to 5: 0 = not at all representation of the diversity of interests, 5 = really all diversity was represented in the meeting.

Criterion 2: Independence

Do you think that the meetings were run in a way that tried to promote the project without paying attention to people who disagreed...or that, on the contrary, you really made efforts to listen to people that did not agree with the proposal made? Please explain

Please rank from 0 to 5: 0 = the company did not give pay attention to those who disagreed, 5 = the company really paid efforts to listen to those who did not agree.

Criterion 3: Transparency

In your opinion, what was the main purposes of the meetings?

Do you know how the discussions in the meetings will be used for decision on the project?

Do you think that you presented the purpose of the series of meeting clearly?

Please rank from 0 to 5: 0 = really unclear, 5 = fully clear.

Criterion 4: Resource accessibility

Did you provide any written documents before or during the meeting about the project?

During the meetings, do you consider that you provide a sufficient information of all components of the meeting or do you think that you did not provide sufficient explanation on key elements?

Please rank from 0 to 5. 0 = I provide really insufficient written information and oral explanation to participate fully in the meeting, 5 = I had a really good explanation of the project thanks to the written information and the oral explanation provided.

Criteria 5: Early involvement

When you organized the meetings, do you consider that a lot of thing could still be changed based on the discussions that took place during the meeting, or was it about presenting to you a project that was almost completely already defined;

Please rank from 0 to 5: 0 = the project was already completely defined, 5 = all characterizes of the project could still be modified based on the discussion during the meetings.

Criteria 6: Task definition

Did you tell the participants what was expected from them in participating in the meetings (for instance, learning about the project to then disseminate the information, or voicing the concerns and stakes of villagers, etc.)

Please rank from 0 to 5. 0 = no clarity about what was expected from them, 5 = Completely clarify about what was expected from them.

Criteria 7: Structured decision making

During the meeting, were some decisions taken and if so, how were the decisions taken?

Do you think that the way to take decisions during the meeting was well-organized and clear? Please rank from 0 to 5. 0 = the way decision taken in the meetings was poor organized and unclear 5 = the decision-making in the meeting was well-organized and completely clear.

Do you think, the participation in the meeting that you organized is effective? Or any comments about the meeting?

If another series of meetings were organized in the future about the monkey cheek project, what should be done to have a satisfying participation of inhabitants and to get a satisfying project?

Appendix 3: Questionnaire for TAO and relevant agencies

**Survey Questionnaire on Analysis of Stakeholder Participation in the Flood
Expansion Area Project in Nakhon Sawan and Phitsanulok province, Thailand
(TAO and relevant agencies)**

Code number:
Interviewer's name:
Date of interview:
Respondent's name:
Place (workplace):
Phone number:

Asian Institute of Technology
School of Environment, Resources and Development
Bangkok, Thailand

Monkey cheek project is the project that RID assign the consulting companies conduct the feasibility study from October 2016 to April 2017. The one of study objectives is encouraging stakeholder participation in the project area. The information of this questionnaire is collected for generating the research on stakeholder participation topic and the detail will not express if you do not permit.

The questions divide into 4 parts: Personal information, Participation and Negotiation issues of the project and Evaluation of stakeholder participation process of the project.

PART 1

Personal information

Name..... Age.....

The Education level Work experience in the TAO..... years

What is the responsibility in the TAO/organizations?

PART 2

Participation

Do you know, what way that you can obtain the information about the project?

Do you think, the public relation process by the companies provide sufficient information for public?

When did you hear about the project?

- Which meetings did you attend?

How did you communicate with farmers, first to get their opinions about their expectations with regard to the project, then about the outcomes of the meeting?

PART 3

Negotiation issues

Location of the Monkey Cheek

- When you heard about the project initially, in your opinion, what could be acceptable in terms of the area that could be flooded? (show on the map)
- What was the initial proposal made by the consultant company during the meeting?

- Did you explain your position and did you discuss about this issue during the meetings?

- What was decided during the meeting about this issue?
 - Where is the constructed site of monkey cheek project in your TAO area? (show on the map)
 - Who will be the inhabitants affected under current proposal? How many inhabitants in this area? Which types of farming systems?

Amount of water in Monkey cheeks

- Usually, farmers in your TAO: from when to when their fields are flooded?

- Usually, the depth of the flood?

- When you heard about the project initially, in your opinion, what could be acceptable in terms of the maximal increase in the duration of flooding?

- When you heard about the project initially, in your opinion, what could be acceptable in terms of the maximal depth of flooding?

- What was the initial proposal made by the consultant company during the meeting?

- Did you explain your position and did you discuss about this issue during the meetings?

- What was decided during the meeting about this issue?

Irrigation water

- When you heard about the project initially, in your opinion, what could be acceptable in terms of getting irrigation water as a compensation to be a monkey cheek? (be precise about when , how, how much, etc.)
 - How many hectare should be irrigated?
 - Where the water will come from?
 - When farmers will be able to get irrigation water?

- What was the initial proposal made by the consultant company during the meeting?

- Did you explain your position and did you discuss about this issue during the meetings?

- What was decided during the meeting about this issue?

Financial compensation

- When you heard about the project initially, in your opinion, what could be acceptable in terms of financial compensation given to farmers in case of flooding?

- Did you discuss about this issue during the meetings?
- What was decided during the meeting about this issue?

Roads

- When you heard about the project initially, in your opinion, what could be acceptable in terms of uplifting the roads:
 - Which roads in the TAO (show on the map)
 - How many centimeters of uplifting?
- What was the initial proposal made by the consultant company during the meeting?
- Did you discuss about this issue during the meetings?
- What was decided during the meeting about this issue?

Are there other issues apart from these ones that you think are important to discuss with regard to the content of the monkey cheek project? For each, please detail, what you would like to achieve, what the company proposed, what you discussed and the outcome of the discussion

PART 4

Evaluation of stakeholder participation

Criterion 1: Representativeness

Is there a diversity of villagers' interests with regard to this project? And if so what are the main differences between villagers?

Do you think that the participants at the meeting represented this diversity of stakes of villagers? Please explain

Please rank from 0 to 5: 0 = not at all representation of the diversity of interests, 5 = really all diversity was represented in the meeting.

Criterion 2: Independence

Do you think that the meetings were run in a way that tried to promote the project without paying attention to people who disagreed...or that, on the contrary, the consulting company really made efforts to listen to people that did not agree with the proposal made? Please explain

Please rank from 0 to 5: 0 = the company did not give pay attention to those who disagreed, 5 = the company really paid efforts to listen to those who did not agree.

Criterion 3: Transparency

In your opinion, what was the main purposes of the meetings?

Do you know how the discussions in the meetings will be used for decision on the project?

Do you think that the purpose of the series of meeting was clearly presented by the consulting company?

Please rank from 0 to 5: 0 = really unclear, 5 = fully clear.

Criterion 4: Resource accessibility

Did you receive any written documents before or during the meeting about the project?

During the meetings, do you consider that you had a sufficient understanding of all components of the meeting or do you think that you did not receive sufficient explanation on key elements?

Please rank from 0 to 5. 0 = I received really insufficient written information and oral explanation to participate fully in the meeting, 5 = I had a really good understanding of the project thanks to the written information and the oral explanation provided.

Criteria 5: Early involvement

When you participated in the meetings, do you consider that a lot of thing could still be changed based on the discussions that took place during the meeting, or was it about presenting to you a project that was almost completely already defined;

Please rank from 0 to 5: 0 = the project was already completely defined, 5 = all characterizes of the project could still be modified based on the discussion during the meetings.

Criteria 6: Task definition

Did the consulting company tell you what was expected from you in participating in the meetings (for instance, learning about the project to then disseminate the information, or voicing the concerns and stakes of villagers, etc.)

Please rank from 0 to 5. 0 = no clarity about what was expected from me, 5 = Completely clarify about what was expected from me.

Criteria 7: Structured decision making

During the meeting, were some decisions taken and if so, how were the decisions taken?

Do you think that the way to take decisions during the meeting was well-organized and clear? Please rank from 0 to 5. 0 = the way decision taken in the meetings was poor organized and unclear 5 = the decision-making in the meeting was well-organized and completely clear.

Do you agree with the project as presented by the consulting company? Or any comments about the project?

Do you have any other comments about the meetings?

If another series of meetings were organized in the future about the monkey cheek project in your TAO, what should be done to have a satisfying participation of inhabitants and to get a satisfying project?

Appendix 4: Questionnaire for farmers

**Survey Questionnaire on Analysis of Stakeholder Participation in the Flood
Expansion Area Project in Nakhon Sawan and Phitsanulok province, Thailand
(farmers)**

Code number:
Interviewer's name:
Date of interview:
Respondent's name:
Place (workplace):
Phone number:

Asian Institute of Technology
School of Environment, Resources and Development
Bangkok, Thailand

Monkey cheek project is the project that RID assign the consulting companies conduct the feasibility study from October 2016 to April 2017. The one of study objectives is encouraging stakeholder participation in the project area. The information of this questionnaire is collected for generating the research on stakeholder participation topic and the detail will not express if you do not permit.

The questions divide into 3 parts: Personal information, Participation and Negotiation issues of the project.

PART 1

Personal information

Name..... Age.....

The Education level

How many crops that you did per year?

What is the off-farm job of you?

Owner hectare. Rental..... hectare.

Your production (crop or pond) *Show on the map*

Field 1: (.....hectare)

Field 2: (.....hectare)

Field 3: (.....hectare)

Where are your fields on the map?

PART 2

Participation

When did you hear about the project? How did you learn about it?

Did TAO communicate with you and if so, how?

Did the head of your village communicate with you?

- Which meetings did you attend?

PART 3

Negotiation issues

Location of the Monkey Cheek

- Do you know if all of some of your area is part of the Monkey Cheek area in the current proposal?
- Do you agree with it?

Amount of water in Monkey cheeks

- Usually, from when to when your fields are flooded?
- Usually, the depth of the flood?

Did you discuss this issue with the representative of your community?

- Do you know what is the current proposal made by the consultant company during the meeting in terms of the duration of the flooding (in your fields)?
- Do you accept it?
- When you heard about the project initially, in your opinion, what could be acceptable in terms of the maximal depth of flooding?
- Do you accept it?

Irrigation water

- In your opinion, what could be acceptable in terms of getting irrigation water as a compensation to be a monkey cheek? (be precise about when , how, how much, etc.)
 - Where the water will come from?
 - When you will be able to get irrigation water?
- Did you discuss this issue with the representative of your community?
- Do you know what is the proposal made by the consultant company during the meeting?
- Do you agree with this current proposal?

Financial compensation

- When you heard about the project initially, in your opinion, what could be acceptable in terms of financial compensation given to you in case of flooding?
 - How much you will get? How much you should get?
 - When you will get? When you should get? (every year or in case of flood by monkey cheek project)
- Did you discuss this issue to the representative of your community?
- Do you know what is the proposal made by the consultant company during the meeting?
- Do you agree with this current proposal?

Are there other issues apart from these ones that you think are important to discuss with regard to the content of the monkey cheek project? For each, please detail, what you would like to achieve, what the company proposed, what you discussed and the outcome of the discussion

Appendix 5 Meeting documents by the consulting companies

แนวคิดการจัดการพื้นที่แก้มลิง

1 แก้มลิงพื้นที่ลุ่มต่ำที่ไม่มีการควบคุมน้ำเข้าพื้นที่

2 แก้มลิงพื้นที่ลุ่มต่ำที่มีการควบคุมน้ำเข้าพื้นที่

ผลที่ได้รับจากการศึกษาโครงการ

1. ค่าแห่งและความสูงของแก้มลิงที่ประชาชนยอมรับ
2. ประโยชน์ที่จะได้รับจากแก้มลิงในการบรรเทาอุทกภัย-ภัยแล้ง
3. คู่มือในการบริหารจัดการน้ำโดยการมีส่วนร่วมของทุกภาคส่วนในรูปขององค์กรบริหารจัดการน้ำ
4. ข้อเสนอแนะในการจัดตั้งองค์ชุมชนความเสียหาย

ผู้ว่าจ้าง
กรมชลประทาน กระทรวงเกษตรและสหกรณ์

ผู้ดำเนินการศึกษา
บริษัท ทีม คอนซัลติ้ง เอนจิเนียริ่ง แอนด์ แมเนจเม้นท์ จำกัด
บริษัท ทีดับเบิลยูไอ คอนซัลแตนท์ จำกัด

ระยะเวลาการศึกษา
สัญญาจ้างเลขที่ ก.8/2559 (กพต.)
เริ่มงานวันที่ 16 ตุลาคม 2558
สิ้นสุดสัญญา 7 เมษายน 2560
ระยะเวลา 540 วัน

ติดต่อสอบถามข้อมูลเพิ่มเติมได้ที่

1. นางสาวนิภา เจริญผล
บริษัท ทีดับเบิลยูไอ คอนซัลแตนท์ จำกัด
152 ถนนพหลโยธิน แขวงสามยุคชัย เขตมีนบุรี กทม. 10230
โทร. 08-1685-2677
อีเมล : nipa_t@teyui.com หรือ khumsak@gmail.com

2. นายเจษฎา ใจนิรันดร์
กรมชลประทาน
813 ถนนสามเสน แขวงถนนนครไชยศรี เขตดุสิต กทม. 10300
โทร. 08-1336-3156 อีเมล : p_kanshi@hotmail.com

กรมชลประทาน

โครงการศึกษาความเหมาะสม
และผลกระทบสิ่งแวดล้อม
แก้มลิงพื้นที่ลุ่มต่ำเหนือจังหวัดนครสวรรค์

กรมชลประทาน
กระทรวงเกษตรและสหกรณ์

ความเป็นมาของโครงการ

การเกิดอุทกภัยในประเทศไทย พ.ศ. 2554 ส่งผลกระทบต่อบริเวณลุ่มแม่น้ำเจ้าพระยา ราษฎรได้รับผลกระทบกว่า 12.8 ล้านคน ธนาคารโลกประเมินมูลค่าความเสียหายสูงถึง 1.44 ล้านล้านบาท

นอกจากนั้น การไหลกลับลงของปริมาณน้ำส่วนเกิน มีแนวโน้มจะเพิ่มมากขึ้นในอนาคต หากไม่มีการเตรียมการหรือบริหารจัดการน้ำหลวมให้เหมาะสม รวมถึงการปรับปรุงอาคารเดิมที่มีอยู่ในลำน้ำ และคืนก้นน้ำให้ใช้งานร่วมกันได้อย่างมีประสิทธิภาพสูงสุด ในการพัฒนาพื้นที่ราบลุ่มสองฝั่งแม่น้ำให้เป็นพื้นที่ควบคุมและรับน้ำหลากอย่างเป็นระบบ จึงจำเป็นต้องดำเนินการเพื่อเป็นอีกทางเลือกหนึ่งในการบริหารจัดการน้ำ และคณะกรรมการบริหารจัดการน้ำและอุทกภัย (กบอ.) ได้กำหนดให้การบริหารพื้นที่แก้มลิงชลประทานในพื้นที่โครงการชลประทานเหนือจังหวัดนครสวรรค์ เพื่อเก็บกักน้ำหลากชั่วคราว อยู่ใน Module A3 ของแผนแม่บทการบริหารจัดการน้ำเพื่อแก้มลิงอุทกภัย

ดังนั้น เพื่อให้เกิดความชัดเจนของพื้นที่ที่จะใช้เป็นที่เก็บกักน้ำชั่วคราวและทำให้เกิดการรับรู้ข้อมูลที่ถูกต้องชัดเจน รวมทั้งการยอมรับของราษฎรในพื้นที่ที่จะได้รับผลกระทบ และต้องสอดคล้องกับกฎหมาย/ระเบียบต่างๆ กรมชลประทานจึงได้จัดทำโครงการศึกษาความเหมาะสมและผลกระทบสิ่งแวดล้อมแก้มลิงพื้นที่ลุ่มต่ำเหนือจังหวัดนครสวรรค์ เพื่อให้มีการศึกษาในระดับความเหมาะสม และการวิเคราะห์ผลกระทบสิ่งแวดล้อม รวมถึงการประชาสัมพันธ์และกระบวนการมีส่วนร่วมของประชาชน

วัตถุประสงค์

เพื่อศึกษาความเหมาะสมในการพัฒนาพื้นที่ลุ่มต่ำที่อยู่เหนือจังหวัดนครสวรรค์ ให้เป็นพื้นที่เก็บกักน้ำหลากชั่วคราว ในช่วงที่เกิดอุทกภัย โดยควบคุมน้ำเข้าพื้นที่อย่างเป็นระบบ และบริหารจัดการน้ำที่เก็บกักไว้เพื่อประโยชน์ในการเพาะปลูก และควบคุมการระบายน้ำออกจากพื้นที่ตามเวลาที่เหมาะสม

แนวทางการศึกษา

แนวทางการศึกษาโครงการ ประกอบด้วยแนวทางการศึกษาความเหมาะสมด้านวิศวกรรม ด้านสิ่งแวดล้อม ด้านเศรษฐกิจ สังคม และเศรษฐศาสตร์ และแนวทางการประชาสัมพันธ์ซึ่งจะดำเนินการตลอดการศึกษาโครงการ

ขอบเขตพื้นที่ศึกษา

***หมายเหตุ จากจุดแสดงขอบเขตพื้นที่ศึกษา ไม่ใช่พื้นที่น้ำท่วม

พื้นที่ศึกษา อยู่ในเขตจังหวัด 4 จังหวัด ได้แก่

- สุโขทัย 1 อำเภอ
- พิษณุโลก 5 อำเภอ
- พิจิตร 9 อำเภอ
- นครสวรรค์ 3 อำเภอ

ประกอบด้วย

1. พื้นที่ในเขตของประทาน 5 โครงการ
 - โครงการส่งน้ำและบำรุงรักษาเขื่อนแควน้อย
 - โครงการส่งน้ำและบำรุงรักษาเขื่อนบางลาง
 - โครงการส่งน้ำและบำรุงรักษาเขื่อนบาง
 - โครงการส่งน้ำและบำรุงรักษาเขื่อนบาง
 - โครงการส่งน้ำและบำรุงรักษาเขื่อนบาง
2. พื้นที่ลุ่มต่ำ ๓ มาตรการฯ ๓ ตำบลแม่เปินและแม่เปินบ้าน

First brochure

This brochure demonstrates the concept of Monkey Cheek project (background, objective, study area, expected output and project information) and procedure of participation process.



Second brochure (March 2017)

This brochure demonstrates the result of the study. The Monkey Cheek area, water level 0.5-3 meters depend on the area and some areas would be more than 3 meters. Guideline of Monkey Cheek management and benefits of the project: improved irrigation system, alleviate water scarcity, fairness compensation and participatory water management in Monkey Cheek. Impacts and the guideline to reduce impacts: 1) flood impacts on residents: control water lower than communities level and uplifted main road/dyke. 2) flood impacts on the main road: uplifted the road at least 50 cm. and improve affected road after flood

event. 3) affected rice field in Monkey Cheek: cropping changes, use Monkey Cheek after harvesting and fair compensation. The procedure of the project development: RID propose to the government. Then, RID will study in detail if the state approved. The key point of the project is “No land expropriation from the farmers”.

จดหมายข่าว ฉบับที่ 1
เดือนกุมภาพันธ์ 2559



**โครงการศึกษาความเหมาะสมและ
ผลกระทบสิ่งแวดล้อม แก้มลิงพื้นที่ลุ่มต่ำ
เหนือจังหวัดนครสวรรค์**

สวัสดีค่ะ ท่านผู้มีเกียรติทุกท่าน
จดหมายข่าวฉบับนี้เป็นฉบับปฐมฤกษ์
ค่ะ บางท่านเคยได้ยืมชื่อโครงการนี้ บางท่านเคยเข้าร่วม
การสนทนากับทีมงานและบางท่านได้เข้าร่วมการประชุม
ปฐมฤกษ์โครงการ แต่บางท่านอาจจะยังไม่รู้จักโครงการนี้
ไม่เป็นไรค่ะ... ดิฉันขอเล่าให้ฟังโดยย่อๆ ในโอกาสนี้เลยนะคะ

**โครงการศึกษาความเหมาะสมและผลกระทบสิ่งแวดล้อม
แก้มลิงพื้นที่ลุ่มต่ำเหนือจังหวัดนครสวรรค์**
เป็นโครงการที่กรมชลประทานดำเนินการตามยุทธศาสตร์การบริหาร
จัดการน้ำของประเทศ ยุทธศาสตร์ที่ 3 การบริหารจัดการน้ำท่วมและ
อุทกภัย กลยุทธ์การพัฒนาเพิ่มประสิทธิภาพการระบายน้ำ คันน้ำ
และพื้นที่รับน้ำเอง กรมชลประทานจึงว่าจ้างกลุ่มบริษัทที่ปรึกษา
ซึ่งประกอบด้วย บริษัท ทีม คอนซัลติ้ง เอนจิเนียริง แอนด์
แมนเนจเม้นท์ จำกัด และบริษัท ทีดับเบิลยูไอ คอนซัลแตนท์ จำกัด
ให้ดำเนินการศึกษา โดยมีระยะเวลาดำเนินงาน 540 วัน เริ่มตั้งแต่วันที่
16 ตุลาคม 2558 จนถึงวันที่ 7 เมษายน 2560

การศึกษาครั้งนี้มีวัตถุประสงค์เพื่อศึกษาความเหมาะสมในการพัฒนา
พื้นที่ลุ่มต่ำที่อยู่เหนือจังหวัดนครสวรรค์ ให้เป็นพื้นที่เก็บกักน้ำหลาก
ชั่วคราว ในช่วงที่เกิดอุทกภัย โดยควบคุมน้ำเข้าพื้นที่อย่างเป็นระบบ
และบริหารจัดการน้ำที่เก็บกักไว้เพื่อประโยชน์ในการเพาะปลูก และ
ควบคุมการระบายน้ำออกจากพื้นที่ตามเวลาที่เหมาะสม

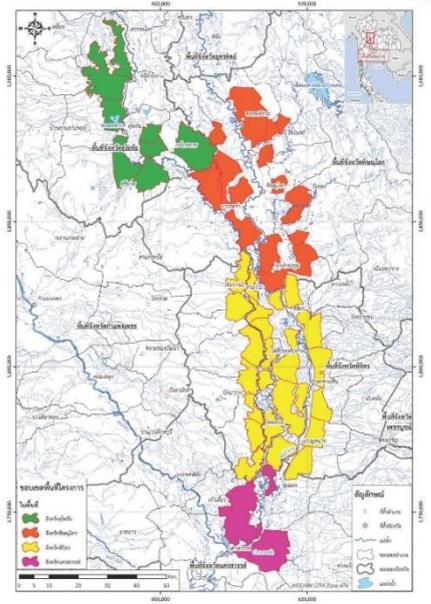
พื้นที่ลุ่มต่ำคืออะไร?
พื้นที่ลุ่มต่ำในโครงการนี้หมายถึง ทุ่งนา ที่ลุ่ม ที่มีน้ำท่วมขังประจำ
ในช่วงฤดูน้ำหลากหรือช่วงที่เกิดอุทกภัย

การปรับปรุงพื้นที่ลุ่มต่ำให้เป็นแก้มลิงทำอย่างไร?

1. พื้นฟูห้วย หลวง คลอง บึง ให้กว้างขึ้น ใหญ่ขึ้น
2. ยกกระต๊อบทางสัญจรหลักในหมู่บ้านให้สูงขึ้น
3. ปรับปรุงอาคารระบายน้ำเดิมให้ใช้งานดีขึ้น หรือก่อสร้างใหม่
4. มีคันป้องกันน้ำท่วมชุมชนที่อยู่ในพื้นที่แก้มลิง
5. จัดทำพื้นที่อพยพ
6. ติดตั้งระบบเตือนภัยน้ำท่วม

**จะไม่มี การเวนคืนที่ดิน
ไม่มีการขูดรีด
หากท่านไม่ปรารถนา เราจะไม่ทำ**

พื้นที่ศึกษาเป็นเพียงขอบเขตที่กรมชลประทานกำหนดขึ้นเท่านั้น
ระหว่างการศึกษาอาจมีพื้นที่เพิ่มขึ้นหรือลดลงก็ได้ ขึ้นกับ
ความเหมาะสมทั้งด้านวิชาการและประชาชนยอมรับ



ติดต่อโครงการ
นายพรชัย กังสิทธิ์ กรมชลประทาน
81 ถนนสามเสน แขวงถนนนครไชยศรี เขตดุสิต กทม. 10300
โทร. 02-241-3354 อีเมล: p_kansith@hotmail.com

the first newsletter (February 2016)

เวทีที่ 2 : วันที่ 22 มีนาคม 2559 ณ หอประชุมอำเภอโพธิ์ประทับช้าง จ.พิจิตร คณะทำงานท้องถิ่นเป็นผู้แทนของพื้นที่ลุ่มต่ำในโครงการส่งน้ำและบำรุงรักษาตงเศรษฐี (DT) พื้นที่ลุ่มต่ำในโครงการส่งน้ำและบำรุงรักษาท่าบัว (TB) และพื้นที่ลุ่มต่ำในจ.พิจิตรริมแม่น้ำยม (PJ-Yom) ผู้เข้าร่วมการประชุมทั้งสิ้น 96 คน



เวทีที่ 3 : วันที่ 23 มีนาคม 2559 ณ ศูนย์ประสานแผนพัฒนาท้องถิ่น อำเภอเมืองพิษณุโลก จ.พิษณุโลก คณะทำงานท้องถิ่นเป็นผู้แทนของพื้นที่ลุ่มต่ำในเขตโครงการส่งน้ำและบำรุงรักษาพลาญชุมพล (PP) พื้นที่ลุ่มต่ำในเขตโครงการส่งน้ำและบำรุงรักษาเขื่อนนเรศวร (NS) พื้นที่ลุ่มต่ำในเขตโครงการส่งน้ำและบำรุงรักษาแควน้อยบำรุงแดน (KN) ผู้เข้าร่วมการประชุมทั้งสิ้น 93 คน



เวทีที่ 4 : วันที่ 24 มีนาคม 2559 ณ หอประชุมอำเภอองไกรลาค จ.สุโขทัย คณะทำงานท้องถิ่นเป็นผู้แทนของพื้นที่ลุ่มต่ำในเขตโครงการส่งน้ำและบำรุงรักษายมน่าน (YN) พื้นที่ลุ่มต่ำในเขตจ.สุโขทัย (SK) ผู้เข้าร่วมการประชุมทั้งสิ้น 84 คน



คณะทำงานท้องถิ่นมีความเห็นร่วมกันว่า **ขอบเขตพื้นที่ลุ่มต่ำที่จะพัฒนาเป็นพื้นที่เก็บลึบมีความเหมาะสมเพราะพื้นที่เหล่านี้เป็นพื้นที่น้ำท่วมซ้ำซาก** แต่บางพื้นที่ไม่เหมาะสมจึงขอให้ตัดออกคือพื้นที่ลุ่มต่ำในเขตโครงการส่งน้ำและบำรุงรักษาพลาญชุมพล (PP) ตัดพื้นที่ ต.หนองแขม ต.พรหมพิราม ต.ท่าช้าง ต.มะตุม ต.ไม่ชอดอน ต.วัดจันทร์ และ ต.บ้านคลอง ส่วนพื้นที่ลุ่มต่ำในเขต จ.สุโขทัย (SK) ขอเพิ่มพื้นที่บ้านนาป่า ต.โดนด ส่วนความลึกของน้ำในพื้นที่ลุ่มต่ำที่จะควบคุมเมื่อเกิดอุทกภัยควรกำหนดความลึกตามสภาพพื้นที่ เช่น ที่ลุ่มต่ำมากอาจควบคุมความลึก 3-4 เมตร ที่ลุ่มต่ำปานกลางอาจควบคุมความลึก 2-3 เมตร เป็นต้น นอกจากนี้ คณะทำงานท้องถิ่นได้เสนอแนะให้กำหนด **อาคารควบคุมน้ำเข้า-ออกจากพื้นที่** เพิ่มเติมเพื่อให้บริหารจัดการน้ำในพื้นที่แก้มลิงอย่างมีประสิทธิภาพทั้งในช่วงอุทกภัยและบริหารจัดการน้ำเพื่อบรรเทาภัยแล้ง

ประเด็นที่คณะทำงานท้องถิ่นให้ความสำคัญและให้ข้อเสนอแนะมากมายเกี่ยวกับ **แนวทางการพัฒนาพื้นที่เพื่อให้ได้ประโยชน์ในช่วงอุทกภัยและบรรเทาภัยแล้ง** คือการปรับปรุงถนนในพื้นที่แก้มลิงเพื่อใช้สัญจรในช่วงน้ำท่วม ที่พักพิงชั่วคราวในช่วงน้ำท่วม และการพัฒนาแหล่งน้ำในพื้นที่ที่ต้องการให้ปรับปรุง

ถึงแม้คณะทำงานท้องถิ่นมีความเห็นว่า การพัฒนาพื้นที่ลุ่มต่ำเพื่อบริหารจัดการน้ำแบบแก้มลิง มีประโยชน์และควรจะดำเนินการให้เป็นรูปธรรมโดยเร็ว แต่ก็ยังมีข้อกังวลที่ฝากให้บริษัทที่ปรึกษาไปหาแนวทางแก้ไขคือ

1. ถ้าไม่มีการพัฒนาแหล่งน้ำ (หนอง บึง) จะทำให้ฤดูแล้งขาดแคลนน้ำเหมือนเดิม
2. การเวนคืนซื้อที่ดินในกรณีที่มีการก่อสร้างอาคารต้องจ่ายค่าที่ดินอย่างเหมาะสมและเป็นธรรม
3. การพัฒนาพื้นที่สาธารณะในบริเวณที่มีประชาชนเข้าไปใช้ประโยชน์ ควรมีการเจรจา ก่อนดำเนินการ
4. ช่วงการเก็บกักน้ำในพื้นที่ที่ไม่กระทบต่อการทำนาคือ ช่วงเดือนสิงหาคมถึงเดือนตุลาคม/พฤศจิกายน ถ้าระบายน้ำออกก่อนกำหนด จะทำให้การหาปลา/เพาะพันธุ์ปลา ได้ประโยชน์ไม่เต็มที่ แต่ถ้าการระบายน้ำออกจากพื้นที่ล่าช้า (เริ่มทำนาเดือนตุลาคม/พฤศจิกายน) จะทำให้การทำนาต้องล่าช้า ควรกำหนดการเยียวยาที่เหมาะสม
5. การบริหารจัดการน้ำ ถ้าให้กรมชลประทานดำเนินการเพียงหน่วยงานเดียว อาจไม่ตรงความต้องการของประชาชน ควรมีการบริหารจัดการแบบบูรณาการ ให้ภาคประชาชนมีส่วนร่วม

ติดต่อโครงการ
นางสาวนันทา ทรัพย์กุล บริษัท กัม คอนซัลติ้ง เอนจิเนียริ่ง แอนด์ แมเนจเม้นท์ จำกัด
152 ถนนบวลจันทรีย์ แขวงบวลจันทรีย์ เขตบึงกุ่ม กทม. 10230
โทร. 08-1685-2677 อีเมล : nanta_c@team.co.th หรือ khunnakai@gmail.com
เว็บไซต์ : <https://sites.google.com/site/monkeycheekyomnan/>

พบกันครั้งต่อไปในการประชุมระดับพื้นที่ ครั้งที่ 1
วันที่ 23 พฤษภาคม ถึง 10 มิถุนายน 2559
(วันประชุมของแต่ละพื้นที่จะแจ้งให้ทราบต่อไป)

This newsletter shows the result of the first local working team meetings: the boundary of Monkey Cheek (some areas was cut), water level in Monkey Cheek (2 to 4 meters, depend on location) and the comments of the participants 1) natural pond should be maintained unless water shortage still happen, 2) fair compensation should be paid for land expropriation in case of structure construction, 3) if the project would in public land, the

staff have to negotiate with public before implementation, 4) if the project cannot release water on time that leads to lated rice farming, fair compensation should be paid for farmers, and 5) relevant agencies and public sector should participate in water management. The duration of the Area meeting on 23 May to 10 June 2016.



โครงการศึกษาความเหมาะสมและ
ผลกระทบสิ่งแวดล้อม **แก้มลิงพื้นที่ลุ่มต่ำ
เหนือจังหวัดนครสวรรค์**

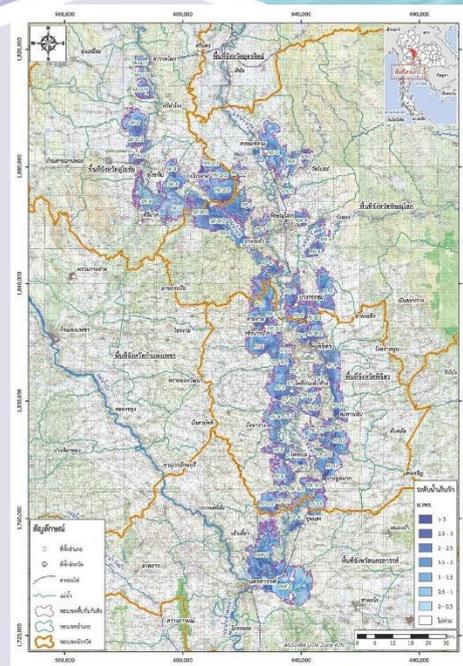
จดหมายข่าว ฉบับที่ 3
เดือนสิงหาคม 2559

สรุบดีค้ะ ท่านผู้มีเกียรติทุกท่าน
จดหมายข่าวฉบับนี้มาพร้อมกับสายฝนที่ชุ่มฉ่ำ ทำให้ท้อง
ทุ่งนากลับมาเขียวชอุ่มอีกครั้งหนึ่ง ช่วงเวลาที่ผ่านมา โครงการฯ
ขอเราได้จัดประชุมรับฟังความคิดเห็นไป 2 ครั้งแล้วนะคะ คือ
การประชุมระดับพื้นที่ครั้งที่ 1 และการประชุมคณะทำงานท้องถิ่น
ครั้งที่ 2

การประชุมระดับพื้นที่ครั้งที่ 1

ดำเนินการช่วงวันที่ 23-27 พฤษภาคม 2559 และวันที่ 6-10
มิถุนายน 2559 จำนวน 12 เวที ผู้เข้าร่วมประชุมเป็นผู้แทนระดับ
หมู่บ้านจำนวนทั้งสิ้น 977 คน ประเด็นหลักในการปรึกษาหารือ
คือเรื่องขอบเขตพื้นที่แก้มลิงและความลึกของน้ำที่จะควบคุมใน
พื้นที่แก้มลิง

ผู้ร่วมการประชุมมีความเห็นร่วมกันว่าขอบเขตพื้นที่แก้มลิง
และความลึกของน้ำที่จะควบคุมในพื้นที่แก้มลิงที่ปรึกษา
นำเสนอ นั้นมีความเหมาะสม (รายละเอียดดังภาพที่ 1)



ภาพที่ 1 ขอบเขตพื้นที่แก้มลิงและความลึกของน้ำที่จะควบคุมในพื้นที่แก้มลิง



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นายพรชัย ก็นสิทธ์
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811 ถนนสามเสน
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การประชุมคณะทำงานท้องถิ่นครั้งที่ 2

ดำเนินการระหว่างวันที่ 25-29 ก.ค. 2559 ผู้เข้าร่วมประชุมเป็นผู้แทนระดับตำบลจำนวนทั้งสิ้น 387 คน ประเด็นหลักในการปรึกษาหารือคือ เรื่องการบริหารจัดการน้ำในพื้นที่แก้มลิงและการชดเชยความเสียหาย

ผู้ร่วมการประชุมให้ข้อคิดเห็นว่า การบริหารจัดการน้ำควรมีการตั้งคณะกรรมการ 2 ระดับคือ 1) คณะกรรมการที่บริหารจัดการแก้มลิงในภาพรวม และ 2) คณะกรรมการที่บริหารจัดการแก้มลิงรายพื้นที่ โดยคณะกรรมการควรประกอบด้วยหน่วยงานราชการที่เกี่ยวข้องและผู้แทนภาคประชาชน

ส่วนเรื่องการชดเชยความเสียหาย ผู้ร่วมการประชุมให้ข้อคิดเห็นว่า ควรตั้งเป็นกองทุนและมีคณะกรรมการซึ่งประกอบด้วยผู้แทนหน่วยงานราชการและผู้แทนภาคประชาชนเข้าร่วมในการบริหารจัดการ



การบริหารจัดการพื้นที่ลุ่มต่ำ



- วัตถุประสงค์**
1. เพื่อจ่ายค่าชดเชยความเสียหาย
 2. เพื่อเปิดโอกาสให้จ่ายในการดำเนินงานของกองทุนและอื่นๆ

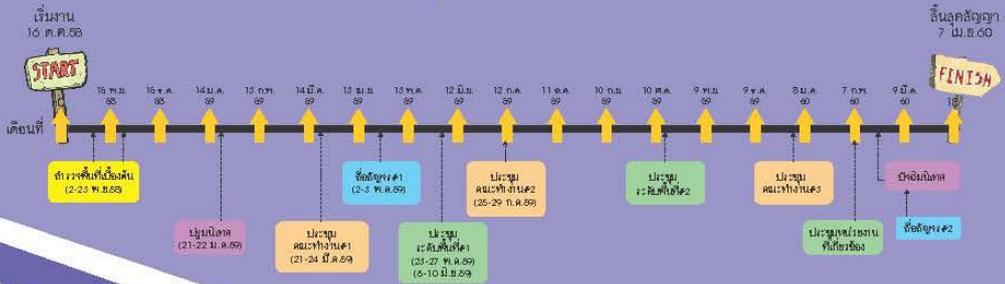


- คณะกรรมการ**
1. หน่วยงานราชการที่เกี่ยวข้อง
 2. ผู้แทนภาคประชาชนในพื้นที่ลุ่มต่ำ

- แหล่งเงินทุน**
1. งบประมาณแผ่นดิน
 2. งบประมาณ
 3. ดอกผลที่เกิดจากเงินกองทุน
 4. ผลิตอื่นๆ

- อำนาจหน้าที่ของคณะกรรมการ**
1. กำหนดนโยบาย อัตราร้อยละ
 2. กำหนดหลักเกณฑ์ วิธีการและเงื่อนไขในการจ่ายเงิน
 3. ออกรายละเอียดของกิจการดำเนินงานของกองทุน
 4. ทำการติดตามตรวจสอบการดำเนินงาน
 5. แต่งตั้งคณะกรรมการ

แผนการจัดประชุมรับฟังความคิดเห็นของโครงการ



ติดต่อโครงการ
นางสาวนันทา เจริญพล บริษัท กั้น คอนซัลตัน เอเชีย จำกัด
152 ถนนบวรจักรบุรี แขวงบวรจักรบุรี เขตบึงกุ่ม กทม. 10230
โทร. 08-1685-2677 อีเมล : nanta_o@team.co.th หรือ nannakat@gmail.com
เวปไซด์ : <https://sites.google.com/site/monkeycheekyomnan/>

พบกันครั้งต่อไปในการประชุมระดับพื้นที่ ครั้งที่ 2
ช่วงวันที่ 10-21 ตุลาคม 2559
(สถานที่ประชุมจะแจ้งให้ทราบต่อไป)

This newsletter shows the result of the Area meeting that the village representatives agree with the boundary of Monkey Cheek area and water level in Monkey Cheek. The result of the second local working team meeting, the committee of lowland management. Next Area meeting is on 10 to 21 October 2016.

Appendix 6
The documents of socioeconomic survey by the consulting companies

**Participation and Willingness to accept
financial compensation of affected
households in Monkey Cheek area.**



Before flood



Stress & Worries. When flood comes?
How much water you would faced?

During flood



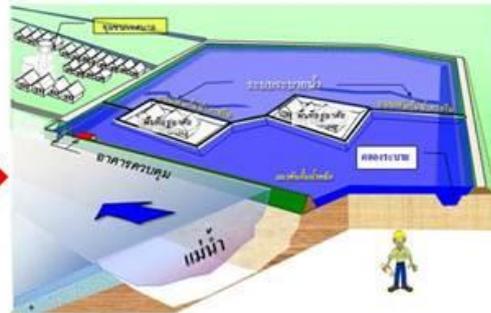
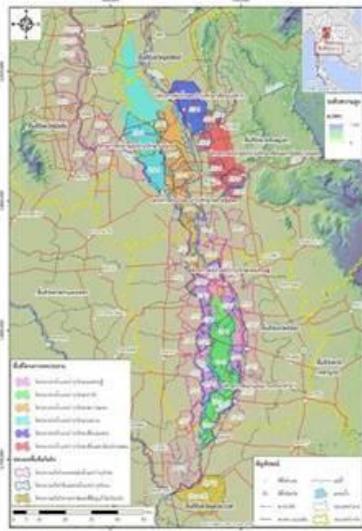
"Stress & Worries." Low quality of life,
move to other area, affect rice fields and
inundated roads.

After flood



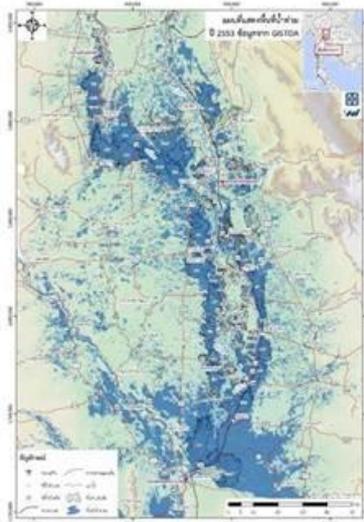
"Seriously" affected houses, you have to pay for modified house,
affected rice field, lack of clean water and
high price commodity.

Monkey Cheek components

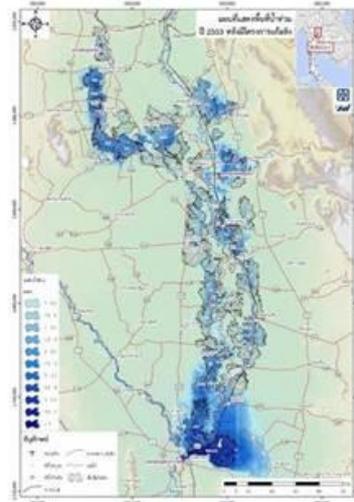


1. Flood Protection Dike
2. Community Flood Dike and Road
3. Intake and Outlet Structure
4. Canal/River Improvement
5. Pumping station

Comparison **before** and **after** the project.



without the project.



with the project.

Appendix 7

The result of summative evaluation of the meeting by consulting companies.

Tables 1 and 2 show the result of the summative evaluation. There are five levels of the rating scale as follows: 1.00-1.60 = unacceptable, 1.61-2.20 = improvement needed, 2.21-2.80 = neutral, 2.81-3.40 = exceed expectation and 3.41- 4 = exceptional. The standard of the score is 2.81 of 4 that is the minimum score for evaluation of participation process by the companies.

Table 1: The result of evaluating criteria by the companies

Task	Average score			
	Nakhon Sawan	Pichit	Sukhothai	Phitsanulok
1. Clear procedure and process	3.20	3.27	3.11	2.97
2. Openly express opinions	3.20	3.20	3.17	3.04
3. You can share you thought in the meetings	3.20	3.10	3.08	2.97
4. Meeting atmosphere (Group discussion, etc)	3.13	3.14	3.14	3.00
5. Clarify your doubt	3.05	3.08	3.08	2.87
6. Useful meeting documents	3.20	3.24	3.24	3.09
Communication process in platforms	3.16	3.24	3.14	3.09
Number of participants	88	143	86	100
Average score	3.11			

Source: The third local working team meeting report (Team Consulting Engineering and Management Co., Ltd, 2017).

Table 2: Public understanding evaluation by the companies.

Task	Average score			
	Nakhon Sawan	Pichit	Sukhothai	Phitsanulok
1. Necessity of project development	3.28	3.21	3.28	3.18
2. Guideline on determination of monkey cheek area.	3.18	3.02	2.93	3.05
3. Water level and amount of water in monkey cheek.	3.02	3.15	3.00	3.05
4. Water controlled building in monkey cheek area.	2.98	3.06	2.90	2.99
5. Guideline on improved road system.	2.98	3.03	2.89	3.00
6. Guideline on improved draining canal.	3.05	3.04	2.96	3.05
7. Characteristic of monkey cheek area	3.16	3.06	3.03	3.07
8. Guideline on monkey cheek management	3.05	2.96	2.94	2.91
9. Monkey cheek management committee.	3.02	3.02	2.89	2.93
10. Impacts on local livelihood.	2.66	2.79	2.89	2.76
11. Impacts on environment.	2.54	2.60	2.74	2.62
12. Guideline on compensation	2.85	2.95	2.81	2.91
13. Advantage of lowland area development	3.18	3.16	3.19	3.18
Number of participants	88	143	86	100
Average score of project understanding	3.00	3.00	2.96	2.98
Average score	2.99			

Source: The third local team meeting report (Team Consulting Engineering and Management Co., Ltd, 2017).

The score of phitsanulok province (location of Bang Rakam Model 60) is lowest score of evaluating criteria and public understanding.