

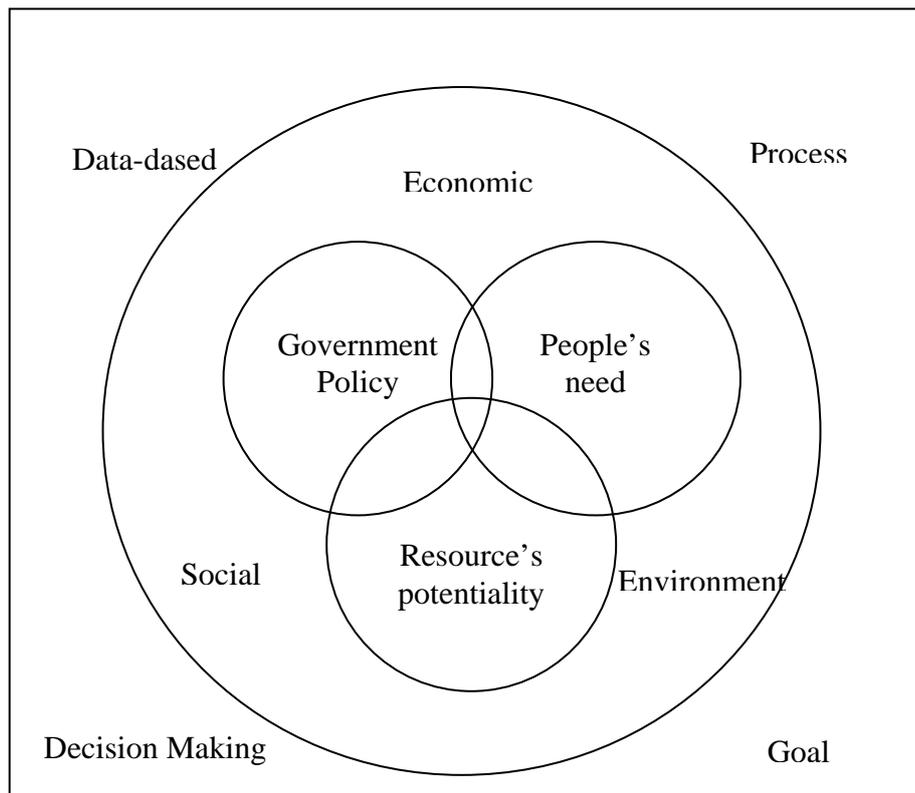
## **MATERIALS AND METHODS**

### **Materials**

- 1) Topography map series L7017 Scale 1: 50,000
- 2) GIS Data base map: Department of Promotion Quality Environment
- 3) Secondary data from document, paper, research of the study area.
- 4) Semi-structured interviews form.
- 5) Evaluate form for testing people participation model.
- 6) Fields equipments: Camera, tape record, GPS.
- 7) Computer: hardware and software.

### **Methodology**

The study of “The Appropriate Community Participation Process (ACPP) for Dispute Resolution in Kon Watershed Management, Nan Province, Northern Thailand” uses a Participatory Action Research (PAR). The research is focused on public participation and stakeholder in Kon Watershed with continually workshop campaigns. There are two levels of the workshops: (1) Core Planning Team (CPT), and (2) People’s Party (PP). (Figure 3)

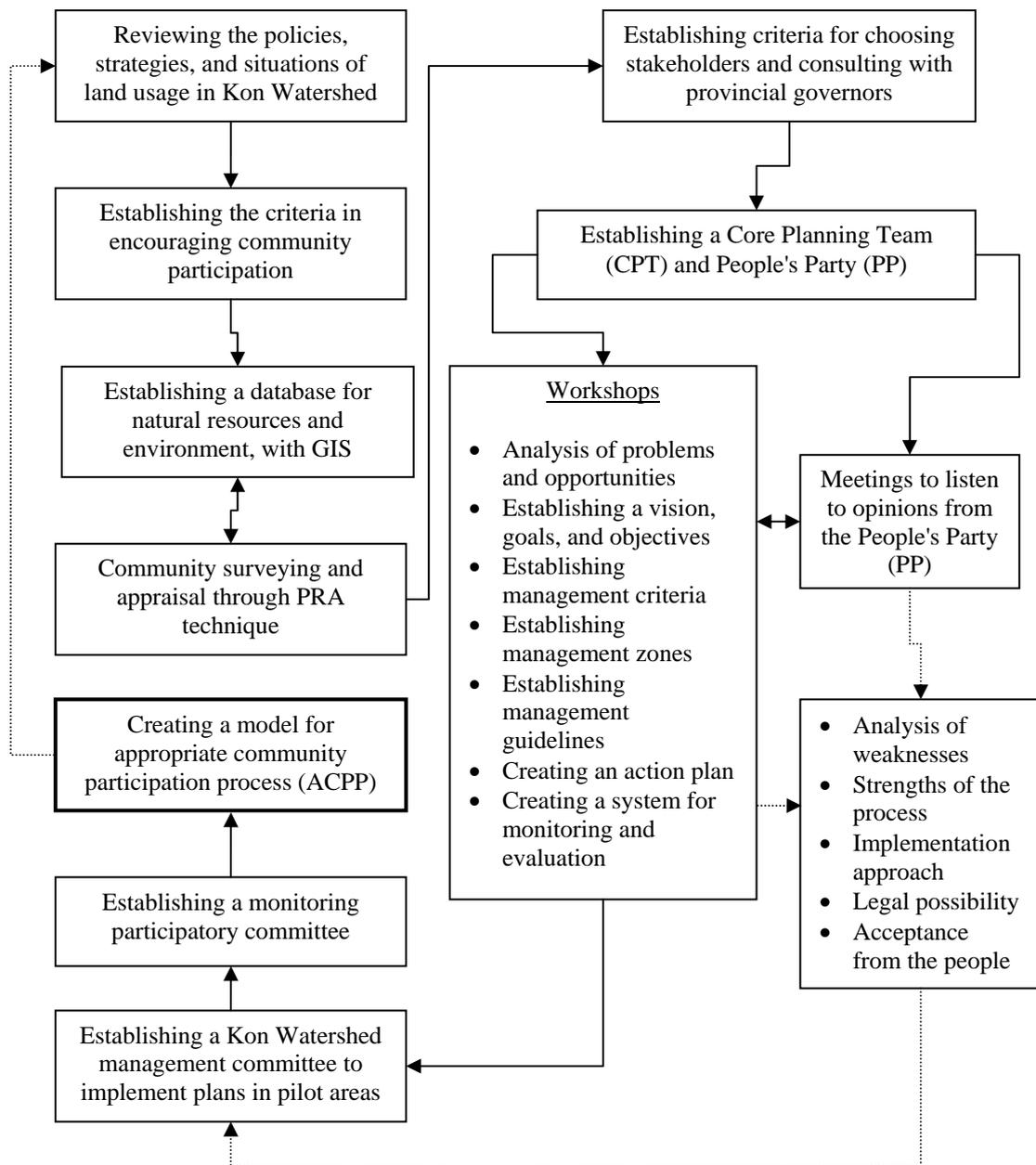


**Figure 3** Integrated component for dispute resolution in resource management of Kon Watershed

The management of Kon Watershed becomes consistent with the government policies, desires of the local communities, potentiality of the natural resources found within the area. The process design aims to encourage all parties to support and accept community participation. The steps are listed in the following. (Figure 4)

1) Review of the national policies, strategies, by focusing on a natural resources and environmental management and situation analysis of the land utilization in Kon watershed area. This step includes the Legislation reviewing on cabinet agreement on the watershed area management, e.g. The Constitution of Kingdom of Thailand BE 2540, The National Parks Act BE 2504, The National Reservation Forest Act BE 2507, The Wildlife Preservation and Protection Act BE 2535, The Land Reform for Agriculture BE 2518, The Local Administrative Organization Act BE 2537, and The cabinet agreement on Watershed Classification.

2) Conduct of community survey by using PRA techniques. The communities' leader, local agency and historical community profile are first interviewed. Then, the community characteristics on the way of living are evaluated and analyzed. (Figure 5)



**Figure 4** Designing the steps of the community participation process for dispute resolution in Kon watershed management



**Figure 5** The Kon watershed surveying by using PRA techniques

3) Establish the criteria and principles to encourage community participation. The principles behind should be consistent with the physical, biological, social, and cultural potentiality of each community in the watershed area. The principles set in place for Kon Watershed area are as follows (Table 6).

**Table 6** The established principles to encourage community participation in Kon watershed management

Principles	Points for the Ability to Control the Factors (1)	Level of Importance (2)	Total Value of Points (3)= (1)x(2)
1. Time period for the entire participation process	3	2	6
2. The diversity of stakeholders	3	3	9
3. The level of the community's desire to solve the problems	1	3	3
4. Belief systems, cultures, and traditions of the communities in the area	2	2	4
5. The present conflicts or the history of natural resource management, both past and present, between the government and the people	2	2	4

Table 6 (Cont'd)

Principles	Points for the Ability to Control the Factors (1)	Level of Importance (2)	Total Value of Points (3)= (1)x(2)
6. Government policies for problem-solving in the watershed areas	1	2	2
7. Cooperation of stakeholders	2	2	4
8. Poverty, illiteracy, lack of development opportunities in the communities	1	2	2
9. The condition of the environment during the implementation process	3	1	3
10. Process and steps in encouraging community participation	3	3	9

Note: (1) The score of the ability to control the factors, ranked from 1 to 3

1 = Low level of factor control

2 = Moderate level of factor control

3 = High level of factor control

(2) The score of the level of importance, ranked from 1 to 3

1 = Low level of importance

2 = Moderate level of importance

3 = High level of importance

4) Establish a database for natural resources and environment in the watershed area using Geographic Information System (GIS) and the Participatory Rural Appraisal (PRA) approach. In establishing a database for natural resources and environment and collecting information about the communities of the Kon Watershed area, information compiled by government authorities was used. In addition, satellite images from the LANDSAT-5 that were taken in the year of 2003 were also used simultaneously, to evaluate an accuracy of the field data.

Important basic information concerning natural resources involves information about the area of conservation forests, boundaries of the watershed area, means of transportation, water networks, areas at risk of landslide, present land usage, elevation maps, boundaries of national parks, and geographical characteristics. The method of field evaluations and surveys, combined with assessments of official documents, was utilized for the demographic information of the community.

The demographic information of the community, the method of field assessment and surveys, combined with assessments of official documents, were utilized. The evaluation process is listed as follows. (Table 7)

Table 7 The process of evaluating communities in the Kon watershed area.

Field Assessment Method	The Community Status Assessment
<ul style="list-style-type: none"> <li>• Evaluating the physical environment</li> <li>• Evaluating the social and cultural environment</li> <li>• Utilizing in-depth interviews</li> <li>• Utilizing focus groups</li> </ul>	<ul style="list-style-type: none"> <li>• Accessibility</li> <li>• Development of basic infrastructure and public utilities</li> <li>• Utilizing forest resources</li> <li>• Utilizing the indigenous knowledge of the villagers</li> <li>• Possession of land and agricultural style</li> <li>• Conflicts in resource usage</li> <li>• Role of local administrative organizations</li> </ul>

5) Establish a group of stakeholders to create a Core Planning Team (CPT) and People's Party (PP). In the implementation, the CPT is used as the main tool in analyzing problems and finding ways to solve those problems in the watershed area. Policies and criteria regarding the core planning team establishment are listed below. (Table 8, Table 9, and Figure 6)

Table 8 Criteria in establishing stakeholders to make up the CPT

Criteria	Stakeholders				
	Government	TAO	Village Leader	Local Community	Non-Government Organizations
1. Consistent with Sections 45, 46, 56, 59, 287 and 290 in the Constitution		✓		✓	✓
2. Consistent with the regulations of the local administrative organizations		✓		✓	
3. A grass-roots level representative of the people		✓	✓	✓	
4. Possesses a network that connects all occupations	✓				
5. Lives in and uses resources with the community		✓	✓	✓	
6. Has potential in coordinating work vertically	✓				
7. Has potential in coordinating work horizontally		✓	✓	✓	✓
8. Has kindness and friendliness				✓	
9. Enforces laws and regulations	✓				

Table 9 The proportion of core planning team forming.

Main Planning Party	Member
1. Chairman (provincial governor)	1
2. Vice Chairman (provincial vice- governor)	1
3. Secretary (head of provincial natural resources and environment )	1
4. Regional government agency	2
5. Provincial government agency	18
6. Local government agency	10
7. Non-Government Organization	7
8. People representation	13
Total	53



Figure 6 Meeting Nan Governor for the CPT settlement

6) Establish the CPT consisting of 53 people, initialized by the provincial governor. The team would become part of the provincial development. The roles of the core planning team include:

(1) Proceed as a multilateral team to analyze problems and establish guidelines in solving these problems in the Kon Watershed area.

(2) Coordinate with relevant authorities and parties for supporting information in order to create a watershed management plan, as well as encourage people's participation in solving the problems.

(3) Give legal suggestions and advice regarding natural resource management in the watershed area.

(4) Work with responsibilities so the provincial governor has seen fit to give to benefit the development of the Kon watershed area.

In addition, the CPT must also consider and establish criteria in choosing representatives of the people to give them an opportunity to express their opinions on the duties continuously, and to evaluate their work simultaneously.

The People's Party (PP) consists of 75 people, selected among the people representatives of 25 villages in the Kon Watershed area, 3 people representatives from each village. The PP can be the community leaders, village committees and representatives of various professionals from different kinds. The PP also takes a role of a special emphasis on participating to share their opinions and suggestions towards the Kon Watershed management set by the CPT, in order to be able to monitor the problem solving process of all stakeholders in the watershed region.

7) Create workshops to establish a participatory watershed management plan. The workshops enable the CPT to work closely among them, with the GIS database acting as a supporting line for the decision-making. The researcher worked as a facilitator who creates a convenience in the entire workshop. Techniques used in these meetings including AIC (Appreciation Influence Control), Future Search Conference, and Card and Chart were used so that the relations among the CPT during the working process were made.

There were a minimum of four organized workshops. Each workshop had a specific established objective with regards to the content and goals. These include

- Analysis of problems and opportunities
- Establishment of a vision, goals, and objectives
- Establishment of management criteria
- Establishment of management zones
- Establishment of management guidelines
- Creation of an action plan
- Creation of a system for monitoring and evaluation

8) Establish "an Implementation Plan for Pilot Project Locations Regarding Natural Resources Management in Watershed Areas." In this step, the CPT and the PP would together present the plan for pilot project locations for the plans to be implemented and to disseminate knowledge among the people living in the watershed area. For the plan execution process, the Kon watershed management committee was created, where the head official and the head of local governing authorities as well as the local administrative organizations would become the chairman in the execution process.

9) Monitor and evaluate the PAR. The method used within this step was to seek for a technique to monitor and evaluate the committee of the pilot project implementation. The appropriate technique would be beneficial for the local people to have an opportunity to participate in the committee or to give information regarding an evaluation of the work.

10) Use key performance indicators (KPI's) to examine the model validity of the appropriate community participation process (ACPP). The important indicators are listed in Table 10.

11) Recommend guidelines of the resource management program in the Kon watershed that becomes a success in a performance operation. The considered components are comprised of multi-stakeholder partnership organization, capacity building of organization in the integrated management and planning, strengthening local administrative organization in the watershed management, and monitor of the ecological system.

Table 10 Sequences of the KPI's for the model examination

Indicator Topic	Indicator
1. Process Validity	1.1 Designing process 1.2 Time bound of operation 1.3 Appropriate of content framework on workshop
2. Democratic Validity	2.1 Stakeholder diversities 2.2 Logical decision 2.3 Independent opinion 2.4 No blocking thought from external factors
3. Outcome Validity	3.1 Resolvable process 3.2 Project performance satisfactory to the public needs 3.3 Project performance dealing with state policy 3.4 Project performance to a sustainability of watershed resources
4. Catalytic Validity	4.1 Knowledge and experience skill in conflict resolution process of stakeholder 4.2 Stakeholder awareness to watershed resource conservation 4.3 Community empowerment