

***Problem Identification and Prioritization Methods:
Significant Steps of Forest Policy Formulation based on Public Participation.***

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Abstract

Problem identification and prioritization is vital to policy formulation in managing forest resources because it is a fundamental step leading to an analysis finding out solutions for the problems. This research study aims at synthesizing appropriate problem identification and prioritization methods with public participation through the review of literature and related research. The research findings show that there is a variety of problem identification and prioritization methods; however, in terms of forest policy in Thailand, there is not any method applied in forest management, which may cause ineffective problem solving. This study therefore synthesized four-step problem prioritization: selecting stakeholder representative, giving knowledge or educating stakeholders about the study areas, identifying problems, and prioritizing problems.

Keywords: problem identification, problem prioritization, public participation, forest policy in Thailand

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Introduction

Forest provides necessary ecological products and services to human living. It is the source of direct services such as food, freshwater, oxygen, medicine, as well as indirect services like climate regulation, waste purification, cultural services, and supporting services. However, these services have been decreased due to reduction of forest area worldwide: from 4.1 billion hectares of global forest in 1990 to 3.9 billion hectares in 2015, with the reduction rate of 30% or 3% per year (Keenan et al., 2015). This figure clearly shows the rapid decrease of the forest area worldwide.

The forest area in Thailand has shown similar decreasing trend as global forest. According to the survey by Seub Nakasathien Foundation, there was approximately 31.62 percent of forest area remaining in Thailand in 2015, compared with 21.71 percent in 1961, or declined by 53.33 percent. There were several factors causing the decrease of forest area in Thailand, including government policy formulation: 1) some policy formulation unintentionally allowed forest encroachment such as agricultural reform policy which put more pressure on forest area reduction, or policy that supports rubber plantation, which in turn encouraged farmers to deforest (Internal Security Operations Command, Ministry of Natural Resources and Environment, 2014; Pinthong, 1991), 2) policy formulation without problem prioritization; and 3) lack of public participation in policy process. Example can be seen in National Forest Policy formulation. Despite the policy directly affecting all people in the nation, it was done without prioritizing what problems were most significant. The policy was also based on authoritarianism and centralization with the lack of public participation (Sathansuk & Pattaratham, 2005), which caused inconsistency with reality and lack of effectiveness in solving problems when implementing the policy (Panyakul, 1993). In addition, it created conflicts and resource competition between people and government.

Forest management policy should therefore involve public participation of true stakeholders to identify, analyze and prioritize problems. They should also collaboratively propose, analyze, and evaluate management schemes that can address and solve the problems. Problem identification and prioritization is the first vital step in obtaining effective forest management policy that addresses the real issues in the areas. This article thus aims at investigating and proposing an appropriate process to systematically identify and prioritize problems so that the policy formulation will truly address the real problems. It is hoped that the process can be applied in other areas as well.

Objectives

To synthesize an appropriate method of problem identification and prioritization with people participation for forest management from document analysis, case studies and research review.

Methodology

This research study was carried out with steps as follows:

1. Reviewing literature and researches related to methods used for problem identification and prioritization in managing resources and formulating forest policy.
2. Compiling and analyzing the methods used for problem prioritization from each of the above literature and researches.
3. Studying strengths and weaknesses of each method in the above literature and researches discussed or suggested in the discussion and recommendation parts.
4. Comparing, differentiating, categorizing, sequencing and synthesizing the research findings into a proposed systematic problem identification and prioritization method.

Results

Methods of Problem Identification and Prioritization

There were a few methods used for problem identification. Among these, Nominal Group Process American is the only method of problem identification that involved public participation (Society of Quality, 2015). In this method, people were given an opportunity to state their problems occurring in the community; however, the problems stated were mostly based on their personal feelings. The priority was given to the most voted problem, which sometimes was too difficult to tackle or not the most urgent one. With this weakness in mind, we instead used group process to identify problems to reduce problems leaning toward personal biases in making judgment.

There were several methods used for prioritizing problems in various fields of study to rank the urgency of the problems. However, there was almost none for the field of natural and forest resources management. The study showed that the prioritizing process was used most often in public health. The Department of Public Health Administration at Mahidol University used several prioritization techniques: Nominal group process (Society of Quality, 2015), Standhope, Lancaster and 5D (Phalakan, 2014), Hanlon Method (Aungwatthana & Shabpaiboonkit, 2012) and WHO/PAHOCENDES method (Rivero, 1975). In the field of community development, Alvarez method (Niyomwan, 1998) and Analytic Hierarchy Process (Tansirimongkol, 2009) were used. In natural resource management, survey method was used (Keawmeesri et al., 2007) and Action Priority Matrix was used in time management (UNECE, 2006). However, although there seemed to be several methods, components to consider the urgency of the problems were quite similar and can be concluded as five main components: magnitude of the problem, degree of seriousness of the problem, difficulties in solving problems, problem solving activities, and interest and acceptance of people. The problem gaining the highest evaluating scores will be solved first. Among these methods, Hanlon Method is the most practical and systematic as it uses more detail and clear criteria in each component. Furthermore, Phalakan, (2014) suggested that it was appropriate in prioritizing the problems for policy formulation level. As a result, we selected this method and gave the stakeholders an opportunity to play important roles in scoring problems for prioritization in the areas.

In forest policy formulation in Thailand, it is found that the problem prioritization has not been used for policy formulation or forest management. It also lacks public participation of people because some steps of problem prioritization are complicated and difficult in practice. To encourage effective process of problem identification and prioritization based on public participation and accurate academic principles, we therefore propose the following problem identification and prioritization process:

Problem Identification and Prioritization Process

According to literature and related researches, each problem identification and prioritization method has its own operational weaknesses or limitation. It is still operated by officials and lacks public participation, which causes the lack of basic information used for problem significance analysis and real complete problems were not collected. Therefore, the propose step is to collect and analyze data relating to problems to categorize problems before formulating policies. Without problem analysis and principles, policies could mistakenly be suggested which can result in wrong management in the future. We therefore propose the process of problem identification and prioritization based on public participation in four steps as follows:

1. Selecting stakeholder representatives through three operational steps:

1.1 Collecting data on stakeholders involved in the problem by reviewing related documents in order to identify all various groups of stakeholders such as groups of people who gain benefit, people who lose benefit, academics group, private organization group, etc. Result of this step should provide us with all groups of all stakeholders.

1.2 Scoping stakeholders' population from each group in 1.1. This step is to specify details of the stakeholders: who they are and how many there are in each group. It can be done through data collection from related documents, fieldwork, observation and interview. Result of this step is the information on number and name list of stakeholders in each group as categorized in 1.1.

1.3 Screening and selecting stakeholders representatives to participate in the policy formulation process. The screening is done using clear considering criteria: stakeholders' benefit, impact of the problem, past participation, significance, and ability to influence.

2. Presenting information about the problems or study areas to build up co-understanding between stakeholders who are now representatives participating in the process. The information should include resource utilization from past to present, impact of the problem, and current solution to the problems and practice. This step should allow stakeholders to learn from each other and exchange knowledge, understanding and experiences of each group in order to thoroughly understand the problem before making judgment in the next step.

3. Identifying problems to gather problem issues occurring in the areas by brainstorming from every group of stakeholders. Then, each group decides to choose at least three problems that are most urgent (or can be more than three problems, depending on each situation. However, if there are different groups of stakeholders, it is better to limit the most urgent problems to only three). Each and every group then presents their three most urgent problems to the whole group.

4. Prioritizing problems by Hanlon Method (Aungwatthana & Shabpaiboonkit, 2012). From the list of problems presented as the whole group, every group of stakeholders gives score to each problem in the list using four criteria: magnitude of the problem, degree of seriousness of the problem, difficulties in solving problems, problem solving activities and interest and acceptance of people. The scores will be calculated in the formula as follows:

$$\frac{((A+B) \times C) \times D}{3}$$

A = magnitude of the problem

B = degree of seriousness of the problem

C = Difficulty in problem solving

D = PEARL (P = propriety, E = economic feasibility, A = acceptability, R = resource availability, L = legality)

Conclusion and Discussion

In forest management, there are several problems which differ according to different contexts. All problems cannot be solved simultaneously because each problem has different and complicated causes. Problem identification and prioritization is thus a necessary step for policy formulation in order that real and relevant problems will be identified and the most urgent and important problem will be handled first. In this study, we propose the process of problem identification and prioritization that should be done foremost before any planning to solve problem will be attempted, particularly the planning for natural resources and environment management. The proposed process consists of four steps: selecting stakeholder representatives, giving knowledge or basic information relating to study areas, identifying and prioritizing problems, as summarized below.

1. Stakeholder representatives selection. This step is vital in getting representatives from all groups of stakeholders to participate in problem identification and prioritization process. It is a very first operating step leading to effective participation (Sudsawat, 2004) since the representatives are people who get direct effects from activities or projects operated based on the policy. This influences projects or activities' acceptance, cooperation and information access, and helps decrease possible conflicts happened in the areas (Palakal, 2014).

2. Thorough information about the problems presentation. This step is significant in giving knowledge relating to the problems to all participants so that they have the complete information about the problems without biases. This step is important because it helps the stakeholder representatives to share and understand real conditions of the problems. Panyakul (1993) also mentioned that this is a crucial step of national forest policy formulation, that there should be an analysis of real forest situations through data collection process in all aspects such as forest conditions, utilization, encroachment, demand, and capacity of related organizations to manage forest. The information should be used in policy formulation.

3. Problem identification. This step applies group process to brainstorm ideas from stakeholders of all groups, who knows the actual benefits or impacts from the problems. Using this method allows the real various problems to surface in a more complete coverage manner. Mind Tools Ltd. (2009) stated that brainstorming process reveals various aspects of ideas. Not only one person's idea is considered, but also others' ideas. Real issues which are of concerns of the people will be addressed.

4. Problem prioritization. This is the important step based on problem urgency. It gives a correct direction toward which the problems should be solved. Santasombat (1993) pointed out that the Thai national forest policy lacks problem prioritization that should be used in solving forest problems of the country, hence the policy implementation cannot solve the problem. Without problem prioritization, the formulated policies can be used wrongly for political purposes that will benefit to some groups, which can cause serious conflicts and resource use competition.

In conclusion, public policy formulation that wishes to tackle real problems must include in its process the problem identification and prioritization, a vital fundamental step to set the right direction to solve problems. The four-step process proposed here is aimed particularly to be applied in forest management policy. However, this process will be most beneficial if public participation from true stakeholders in the areas is involved in the process as these people are directly affected and know best the problems.

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