

Original article

Governing of village fishery project in Chiangmai, Thailand

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Introduction

The village fishery project is one of the most challenging activities of the Department of Fisheries, DoF, who is in charge of fishery resources management in Thailand. This project had been conducted since few decades ago in order to alleviate lack of protein consumption problem in rural area. The project form is to promote aquatic animal culture in public pond along with agriculture under the co-management among the communities and DoF [1]. Nowadays, the village fishery project has been carried out in many places in Thailand; however, both successful and unsuccessful project were found. Therefore, the examination on what factors contribute to the success in this project and what factors inhibit its progress are needed to achieve the goal using the interactive governance framework to assessment the governability [2,3]. The village fishery project in Ban Nongmajub, Chiangmai was used as a case study, the learning from these would help to determine whether the kind of this project should be promoted in other areas, and how it should be proceed.

Materials and methods

Data collection

This study was conducted using a mixed method of literature review, key informant interviews and participant observation. A series of open-ended questions was used in the key informant interviews which consisted of questions related to the natural system and the socioeconomic system of the village fishery project. Additionally, the interactions between the system-to-be-governed and the governing system of the village fishery project were asked. The interviews took place during July-September 2015, together with participation observation to investigate the characteristics of the communities. Key informants in this study were chosen by a combination of snowball and purposive sampling methods. In total, 25 people including; village leaders, group leaders, farmers, housewives, village members and government officers were interviewed.

Study area

Chiangmai province is the hub of northern Thailand, it is Thailand's fifth-largest city where located on about 310 meters above mean sea-level, Ban Nongmajub is a community, with 354 households, located on the north of Sansai district, Chiangmai province. Agriculturist is the major career, such as rice farmers and horticulturist. There are main water supply, including irrigation canal and Ping River, main river of Chiangmai province, in the community for agriculture utilization [4].

Theoretical background

In the governability assessment, four characteristics of the systems, both system-to-be-governed (SG) and governing system (GS) including; diversity, complexity, dynamics and scale were examined. Firstly, *diversity* is referred to the heterogeneity of system, which can be examined by looking at its components, types of ecosystems and habitats and the demographics of stakeholders. Then, *complexity* is related to the relationships between components; for instance, their inter-dependency or how one positively or negatively affects the other. Next, *dynamics* refers to the fact that the three systems are volatile and can change over time. Finally, *scale* is looking at the spatial and temporal dimensions and the focus on boundaries helps explain how they define components and confine relationships and interactions. Moreover, the interaction among both systems were examined in terms of four attributes namely; representative/participation, information/communication, learning/adapting and appreciate/collaboration [3].

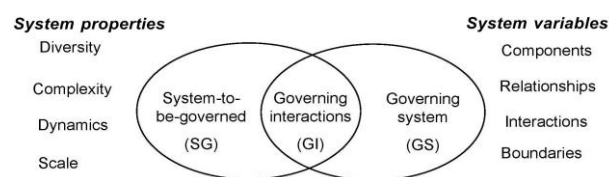


Fig. 1. Governability assessment framework [3].

Results

The village fishery project in Ban Nongmajub had started in 1999 from the village leader who desired to adapt the useless public area to be worthy. Then, the useless areas were improved to fish pond, called “village fishery project” in order to raise fish, for instance, Nile tilapia, carp and giant catfish *etc.* Next, the fish were caught and sold when they reached a market size. At the present day, there are five ponds around the village area, each pond is administrated by each committee. The result of governability assessment were considered from literature reviews, participant observation and in-depth interviews, then rated it as three levels including; high, moderate and low (Table 1).

Table 1. Governability assessment of the village fishery project in Ban Nongmajub, Chiangmai

Characteristics	System-to-be-governed	
	NSGs	SSGs
diversity	moderate	high
complexity	moderate	moderate-high
dynamics	low-moderate	moderate
scale	low	low
Governing system		
diversity	high	
complexity	moderate	
dynamics	low	
scale	moderate	
Governing interactions		
representative/participation	low-moderate	
information/communication	high	
learning/adapting	moderate-high	
appreciate/collaboration	low	

* NSGs = Natural system-to-be-governed
 SSGs = Socio-economics system-to-be-governed

Discussion

Nowadays, the village fishery project in Ban Nongmajub had been proceed with the governing system supports since 1999 eventually slow progress at some period of times. Major governing system collaborations in terms of academic matter are from DoF and the university, also local government officers in terms of pond construction budget. The incomes from fish selling of this project would be returned to spend for the next operating cost and another cost inside their community. As the governability assessment framework, SGs with not too high in diversity, complexity, dynamics and scale are generally expected to be less governable while Diversity, complexity, dynamics and scale will also vary among governing system, also influencing governability as well [5]. Similarly the natural SGs in this study area were assessed to moderate level in terms of diversity and complexity and low level in dynamics and scale. In addition, the characteristics in dynamics and scale of socio-economic SGs were assessed to low and moderate level. These low levels of characteristics drive

their governability to be high. Whereas, high level in diversity and complexity in SSGs that found in the project could be struggled to governance. Although the aquaculture has considerable complex life histories of aquatic organism and the complex technical requirements, also unpredictable climatic conditions [5], but if governing system performs their affairs properly, then governability of that system can be high. As Pullin and Sumaila [6] stated that aquaculture governance has more in common comparing with agriculture governance than with capture fisheries governance.

Lastly, the study found that the governing interactions were not in high level, especially the appreciate/collaboration aspect that could be the factor obstacle the project successful. Since high governing interaction among both systems could contribute to a high level of governability [7].

Conclusions

The overall governability assessment of the village fishery project in Ban Nongmajub showed that the key factors contributing to a high performance of governability were low to medium levels in the SGs, both the natural system and socio-economic system. For the governing system, the high level of diversity could be factor fostering governance. Especially, if there were good relationship among GSs. In terms of the interactions among systems, the moderate to high level of learning and adapting was the key factor to achieve the project. While the low level of representative/participation and coordination/collaboration within the community became the barrier the successful of this village fishery project.

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