CHAPTER III

RESEARCH DESIGN AND METHOD

This chapter forms a conceptual framework based on the reconceptualization carried out in the last chapter, to link research questions and the local situation with relevant theoretical background. This chapter also presents the methodology adopted for this research and outlines, step by step, the research procedures conducted during fieldwork. These include research design, methods of data collection, fieldwork, data processing and analysis.

3.1 Conceptual framework

For some people, community-based natural resource management can be done successfully through outside scholars designing principles and state or donor agencies implementing them at the unchanging local level. The principles may be designed to have democratic characters for equable use of and benefit from local resource. But there are little successful cases of this in practice (Wai, 1996b; Cleaver, 2000; Stephen et al., 2000; Bruce, 2001; Anne, 2002; etc.). The one important reason is that external agencies and programs never confront static consensual "tradition". Rather, they "interact with already contested domains of power and meaning". Indeed, external agencies promoting new institutional arrangement based on principles of equity and democracy often precipitate the crises and breakdown of local authority (Mosse, 1997). So to study on how local institution work in practice is very important. Through exploring local institutional practice, which involves interactions among local peoples, and between the local and outside, can tell us how power relations in really use on local resource management.

Research on irrigation management in the last decade has accumulated a

significant body of knowledge on irrigation institutions. Unfortunately, much of this research has been focused on the question of what kind of institutional design can bring about better irrigation performance, while relatively little attention has been given to the question of dynamics: how institutions evolve and change in response to changes in the broader environment (Wai, 2001). In this case study of Dong people's water resource management, the multiple functions of water use in Zengchong village were managed by the local *Kuan* institution in the past; and right now management happens through "*Cun Gui Min Yue.*" So we can see that during the history of this village, water management institutions have been changed and continued in this village. So the institutional process from *Kuna* to "*Cun Gui Min Yue*" is the objective of this study, as a historical analysis of how in real life local water institution have been formed, practiced and developed.

To study the institutional process, Muthiah's conceptual framework of "legitimation of power" is reconstructed in this case study. The four interactive institutional practices such as structure power and interest, rules making, performance and accountability from the previous chapter has been integrated into the framework of legitimacy to study the institutional practice of Local Dong people's water resource management. This conceptual framework can be illustrated by a diagram:

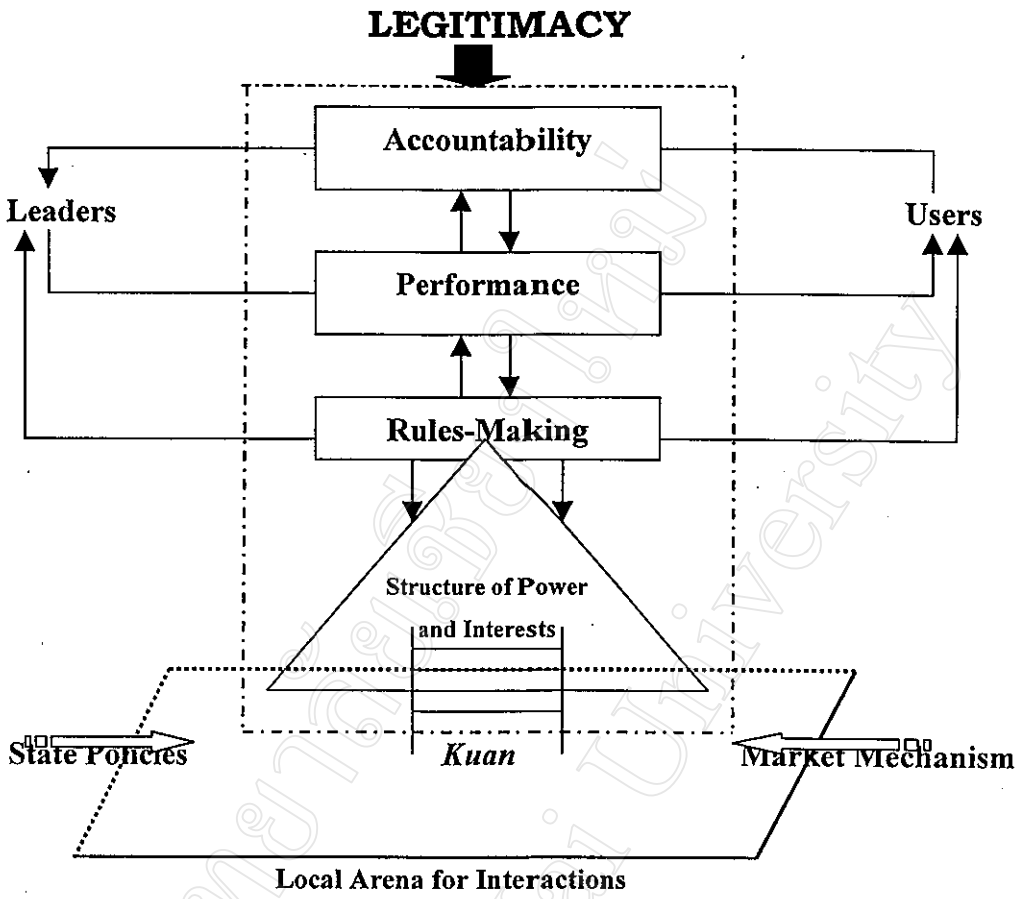


Figure 3-1: Legitimacy of Dong People's Water Resource Management

In the first, Zengchong village is an arena for water interactions joined by state policies, market mechanism and local context. These interactions happen not only among local people themselves. Outsiders such as state policies and market mechanism also participate in these interactions. On the one hand, state policy and market mechanism are the environment which impacts on local interactions. On the other hand they can directly participate local water interaction through their local agencies. The context of local *Kuan* institution is a lens which allows us to study how local traditional cultural principles have formed local water resource management institutions to guide water utilization. Hence, local water resource management institutions are impacted by these three factors.

In this case study of Zengchong villager's water resource management, local water management institutions can be seen as interactive processes for legitimation of

power, which can be divided in analysis into four hierarch elements: structure of power and interests, rule making, performance, and accountability. All these elements are closely connected in practice and influence each other. A weakness in one, so long as it is not fundamental, may be compensated by a strength in another. Thus we must consider all four elements together.

Structure of power and interests is the fundamental element of institutional practices. It has potential influence upon the other three elements, and most outside factors which impact on local water institution, firstly enter the local situation through it. For instance, traditional water control and water use (*Kuan*) can be challenged by new emerging elites whose power is supported by state policies, and based on their new interests that induced by market mechanism. Through the negotiation of different power agencies, the water resource framework has been continually constructed. Moreover, local power and interest structures connected and overlapped in water resource management and this overlapping network forms the base of local interactions.

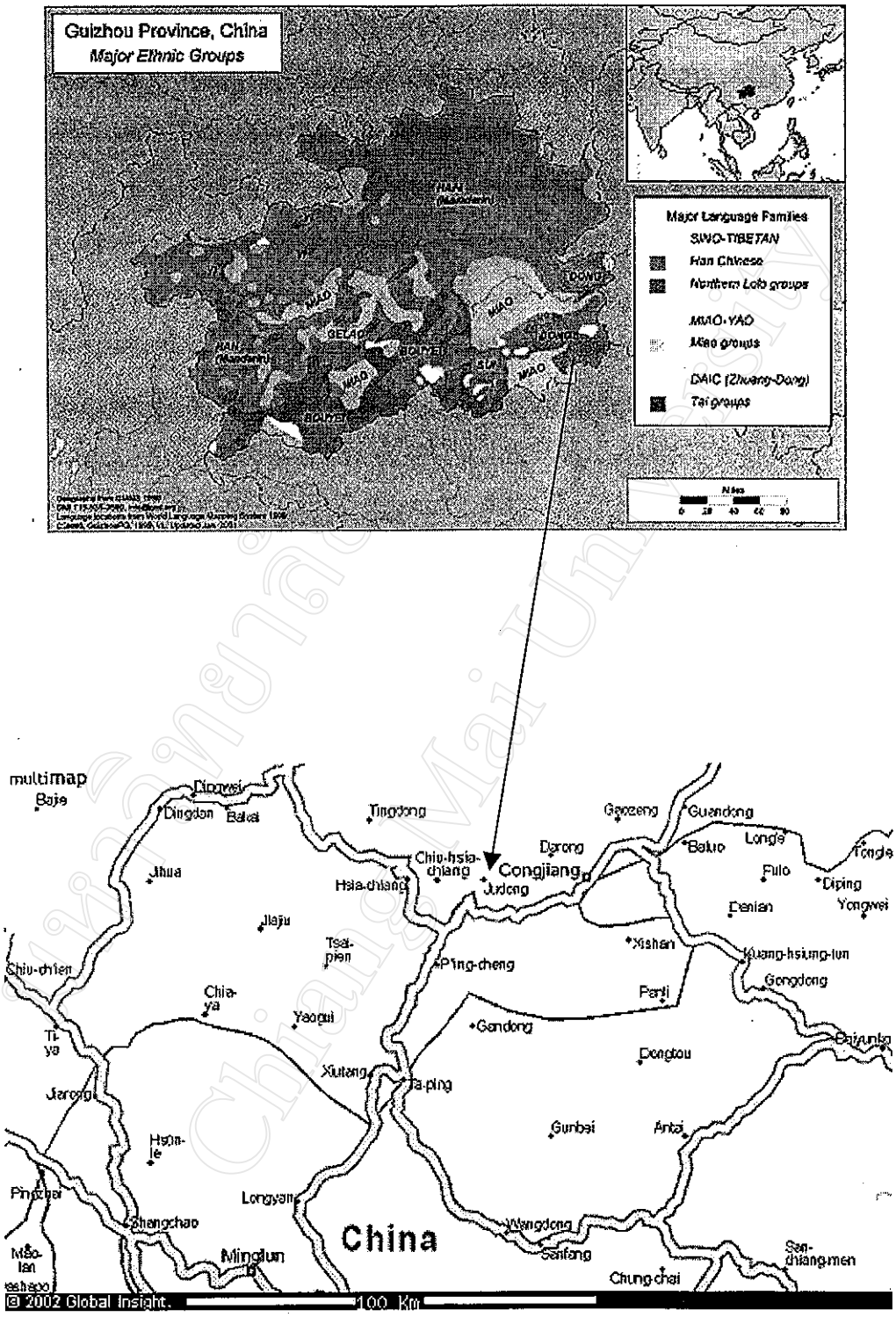
Rule making is the element that puts power and interest structures into practice. It decides how to allocate water (rules), who performs rules (leaders), and who accrues benefits (users). These arrangements are maybe encoded inside villagers' minds or in oral, not written form. The performance and accountability elements as two opposed sides are held by local leaders and users. Performance of rules is the leaders' executive power, and on the other hand, downward accountability is users' counter-power to check and balance that of leaders. Accountability can also be studied as upward used by up-level government to directly participate in local institutionalization. Together these are the four elements of legitimacy and through analyzing local legitimacy processes we can learn how local water resource management institutions have been formed, practiced and developed.

In terms of water management, in this case study I focus on three levels

interaction. The first is among local people on horizontal level, which has been conceptualized by structures of power and interest and rules making. The second, between local leaders and users on the vertical level, has been conceptualized as a combination of performance and downward accountability. The third, between the local community and up-level government again on the vertical is conceptualized by upward accountability, structure of power and interest etc. These three levels of interaction are all linked with water in terms of water institutions. Through a historical analysis of local institutional process which focus on how institution formed, practiced and developed, the dynamics and sustainability of local water institution have been demonstrated.

3. 2 Methods of the Study

This is a case study of Dong people's water resource management, which has investigated and analyzed a sample of Dong village (Zengchong) in the main Dong location (*JiuDong* area) of Guizhou (see Map 3-1). This village can be seen as a sample that represents the Dong in China (Pang, 1997a). It is used as a unit to analyze and investigate how the local community and its institutions have managed their water resources, and how their institutions have been sustained and changed when impacted by outside factors.



Map 3-1 The Location of the Study Site

To understand how local Dong people manage water as multi-use resource, and how this management has been impacted by external factors, data has been collected from secondary and field studies to analyze local institutional practice. Secondary data used in this thesis includes information about: (1) *Kuan* institution of Dong people, the Dong ethnic group's culture, history, location and more specially their traditional practices in water resource management. I have collected this secondary data from the literatures of Dong study in the Guizhou Nationality Institute, which is the center of Dong study, and from some researchers who are Dong specialists; (2) Political context and general social, economic, and ecological conditions of the study site. Different level local government offices, the Domestic Affairs Department of Guizhou Province and some related offices were my main data sources; (3) Historical records of population, areas of cultivated land and crops have been collected from documents of the township government and from the Zengchong Community Committee; (4) Previous water projects implemented in this village. These have all been investigated to allow a better understanding of local conditions.

Working in rural and ethnic villages, there are requirements which must be met to ensure a successful entering-point for the researcher. Field data collection seems to engage several people at many times inconvenient to their seasonal farming. Therefore, the methods for establishing good relationship and communication with local people, officials and leaders are important. As strangers of this area, we were first introduced by Mr. Pang to the Wangdong township government. He was an old friend of many people in this area and also a member of our research team. Then, introduced by Mr. Shi Kaijian, the vice leader of Wangdong township government and also a member of Zengchong village, we came into Zengchong village. The fist evening, we joined in a party which the local villagers prepared for us. We drink wine and expressed shared interests together with the villagers and local leaders. As one of the local people said, "We drink together indicating we are brothers to each other." In the next four months, we ate and lived with local people, and every time we went back to the village we always prepared the candy for children and carried pens for

students. All these kindly actions allowed us to be accepted by local villagers.

During the time I studied in this village, it was a busy time when the villagers prepared the land and seed for rice planting. So mostly, I followed the villagers to do farming or observed in the field in the daytime, and in the evening, I interviewed the informants and sometimes joined their parties and sung with them. That not only lead to mutual trust each other, but I also learned a lot from their stories and songs. Dong song and drama is very famous in this area. There are many songs and dramas in this village. Local people usually come together to play and sing in the drum tower at the beginning of every New Year. Story is another way of communication between villagers which also takes place in the drum tower. Many local traditional institutional arrangements are carried out by the song, drama and story which are spread from one generation to the next. So in this study, drama, song and story are an important data source.

Some PRA tools have been used in this case study to explore the local background, history and water allocation which are demonstrated the actual practice of rights, responsibilities and power. The main tools of PRA are group meetings, participatory mapping, and participatory ranking (Chambers, 1994). Different groups were organized to have meetings during our fieldwork, such as the local elders association and the leaders of the small villager's groups. Their information gave collaborative support for previously collected data on local history, background and water related institutional arrangements. Participatory mapping included village mapping, natural resource mapping, water mapping, clan mapping, and small villager's group mapping. Moreover, we ranked different clans and groups in historical water use by participants. All the information gathered through the use of PRA tools was very useful in the study of local power structures and interests structures. Other PRA tools, such as historical river of this village, the ecological section plane map, crop calendar etc. were also used in gather information on the background of local institutional practices. All maps creation and discussion was

recoded on paper which was stuck upon the wall as they happened. This meant that anyone found a mistake later; he could tell us or correct it himself. And also, the local perspective represented during meeting process was used to explain the reason and the logic of their historical process.

Some key informants identified during PRA meetings were interviewed during the field study. For instance, some elders such as Shi Ruiqing, the traditional village leader, and Shi Guichang, the teacher of the local primary school and also the editor of Dong Song. These informants were chosen because they know the history, song, story and drama of this village, which are the main information to study the clan and class stages of Dong history, well. Some leaders who held power in the collective stage such as Shi Guocai and Shi Kaijian were interviewed to collected data of collective stage. The leader at present such as Shi Dehua, Shi Yuande and Lei Yunhui were interviewed to collect the data about the household stage. Apart from these representatives of different user groups, for instance, members of different clans, and members of various small villager's groups, were interviewed to check information from other sources and to supply data.

I participatory observed water resource management practices following villagers in the field, observing many aspects including water location, land location, forest location, canal location, local people preparing and repairing canals along the river, practices of distributing water between different fields, and water use outcomes such as crop and fish growing. I also participated in other practices, such as rice seedling planting, forest cutting and planting, and so on. Inside the village, I observed as a participant, the house and fishpond location, canal way, drum tower. Moreover, I also participated villager's meetings and conversations to learn about things from their own perspective.

Both qualitative and quantitative data have been collected by the above methods in this study. However, most of the data collected from the field was qualitative data

of local water source and water distribution. The qualitative analysis on local water management followed by the conceptual framework presented earlier. Other tools, such as tables, figures, maps and photos have been used to illustrate the existing situation and research findings.

3.3 Steps of the study

This research followed five key steps over the course of approximately 12 months:

1) **Secondary Data Analysis and 1st Field Trip** (October, 2001)

Secondary data analysis was undertaken in both Chiang Mai and Guizhou Province. After secondary data analysis and discussion with advisors, I selected a topic for the study, and traveled to Zengchong village to gather background information about the study site.

2) **Literature Review and Research Conceptualization** (November, 2001-February, 2002)

This step was carried out at Chiang Mai University. It focused on the trends and characteristics of current Chinese government policies on local resource management, especially, water resource management; some issues of CBNRM related to the research questions; concepts, and the theoretical ideas which could be used to conceptualize this study. This step involved a literature review, article analysis and formal and informal discussions with the advisory committee members and other resource management contacts appropriate to the study.

3) **Field Study Preparation** (February, 2002)

During this stage, research permission from related authorities was gained. The field study schedule and important appointments were determined and sent to related agencies. Finally, logistical and financial arrangements were made, primarily in Guizhou, China.

4) **2nd Field Study** (March-June, 2002)

I spent about two months in Zengchong village doing fieldwork. From March to June, each month I stayed in this village for about two weeks and in my office doing analysis for two weeks. Every time before I went to Zengchong, I would make a semi-structured outline for my fieldwork. For example, the first time I aimed to introduce myself and the rest of the team to local people, to get to know the background of this village, and to find the key informants. The second time I aimed to collect data on local history, and to identify different periods; the third time I aimed to collect data on water resource management; and the last time, I chose the time when the local people were planting seedlings and practicing irrigation so I could observe local water allocation on the ground. Each of these four times, officers from related offices such as the Water Resource and Hydropower office of Congjinag County and Wangdong township government had also been visited at the same time. Since my study site was also a project site visited by our office, I worked with other research team members as a group. Group work makes it easier to apply the research methods outlined above than working on one's own. It is easier to facilitate meetings, do participatory maps, share ideas with others and so on. Therefore, group work made my field study smooth and efficient during these four months.

5) **Thesis Writing** (May-September, 2002)

This stage was done both in the research site and at Chiang Mai University. Describing the background and the development of *Kuan* & the multifunctional water utilization of Zengchong village was mostly finished at the study site. Through feedback of the writing to the main informants, some details were corrected and revised. The most of the research parts of the writing were carried out in Chiang Mai University gathering the comments from my advisors.

Summary

This chapter has presented the conceptual framework as a bridge between the theoretical background and the research questions, and set this bridge in the local situation. The research methods transfer the conceptual framework into research activities, including demonstrating the methods of data collection and data analysis. The following chapters present the background of Zengchong village, which give a dynamic description of this village.