
CHAPTER V

THE DEVELOPMENT OF KUAN AND MULTIFUNCTIONAL WATER UTILIZATION IN ZENGCHONG VILLAGE

By using detailed description, this chapter presents the dynamism of local *Kuan* institution and water utilization in two parts. The first part presents the change in local social structure in four stages and its impacts on local *Kuan* institution. The second part presents water utilization in four stages. In turn it describes water for irrigation, water for fishery and for domestic use and others. Each part presents how one kind of water function had been practiced differently during each historical stage, and differently for each water source, that is rainwater, spring water and river water.

5.1 Changing Social Context of *Kuan* and the Reconstruction of Local Law

The social context of Zengchong village is dynamic. From clan stage to the household stage, each different stage has a different social structure. As an open social system, change has been impacted not only by outside factors such as state policy and market mechanisms, but also by social differentiation inside the village. Social structure change has had a great impact on local *Kuan* institutions and slowly changed *Kuan* step by step.

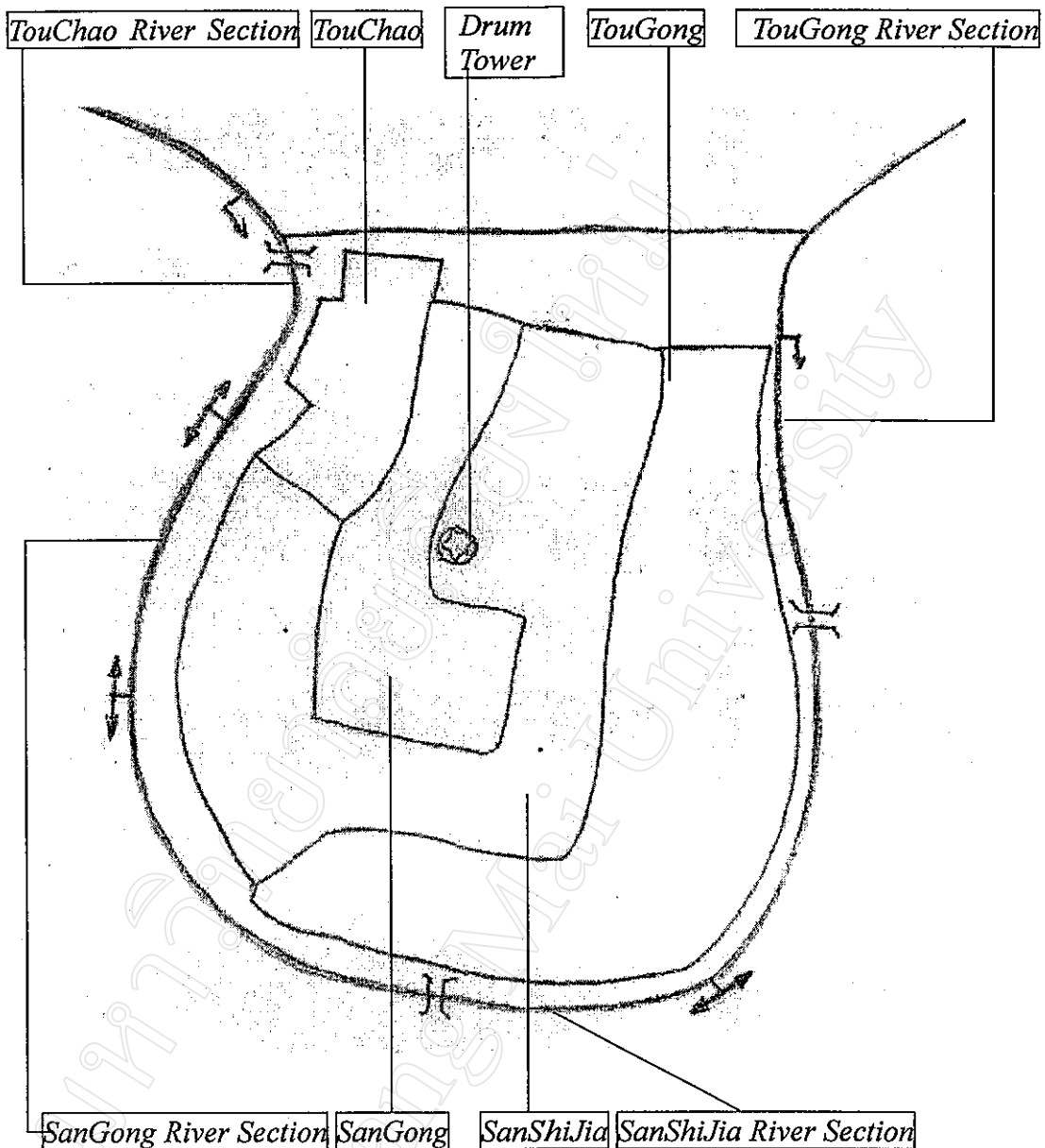
At the beginning of its history, there were four clans in this village. The Clan was the basic unit of Zengchong village. So the social structure of Zengchong village could be analyzed on three levels, 1)inside the clan; 2)in-between clans; and 3)with the outside.

Villagers inside each clan bear the same social rank. They were members of their clan. They produced collectively and distributed equally. Even the leader of the clan, he was leader only when he participated in *Kuan* activities; otherwise, he produced in

a team with other members and distributed the same product. All people in the village had ancestors in the village since the clan stage except those whose surname were not *Shi*, who came to Zengchong very late, in about the *Qin* Dynasty.

Different clans had different social positions inside the village. According to the principles of local people, those who came to this village earlier were the elder brothers of the other groups, the same as the first-born babies of a natural family. This ranking principle causes the clans to be ranked as *TouGong*, *SanShiJia*, *SanGong* and *TouChao*.

This clan ranking can be demonstrated through a lot of cases. The first one is the location of their houses. In Dong areas, every village has one or more drum towers. Traditionally the drum towers were built by the members of a particular clan and are the symbol of that clan. If one village has two or more drum towers, it indicated that village had two or more clans. If one drum tower was higher than the others that indicated that this clan was more powerful than the others. If there was just one drum tower was in that village, those clan members' houses were closest to the drum tower represented higher social rank and more power (Xiang, 1991).



Map 5-1 The Location of Four Clans and Their River Sections
(Participatory made by Shi Ruiqin etc.)

In Zengchong village, there was only one drum tower. Unlike in other places, the houses of the *TouGong* clan, which had high social status, were located in the peripheral area of the village rather than the centre, near the drum tower (see map5-1). This exception has been explained by the local people (Shi Kaijian, Shi Ruiqin, Shi Dehua etc.) in this way: In the clan period, Zengchong village was always attacked by outsiders. For example, there is an oral story recorded that this village was attacked by a Miao ethnic group for ownership of the land a long time ago, and until now the

stonewall which was built for that battle can still be seen. In Zengchong, *TouGong* was the biggest clan, which had more members than other clans. So *TouGong* was located at the periphery of the village rather than the centre to protect the other smaller clans just like a big brother safeguards his younger brothers. Another explanation for the *TouGong* being located in this area is that this area, located near the riverbank at the upstream edge of the village, is close to water so carrying water is easier for the *TouGong*. Except the *TouGong*, whose location needs a special explanation, the other three clans' locations at differing distances to the drum tower indicate their social ranks. The *SanShiJia* and *SanGong* are closer to the drum tower, and the *TouChao* is at the periphery of the village.

Another evidence of social ranking of different clans comes from the *JiSa* ceremony. In Dong society *Sa* is the most powerful spirit that controls every thing of their life. So they do a *JiSa* ceremony in the first day of every New Year. In the clan stage, villagers worship *Sa* spirit on turn according to of clan rank. So until today, the social rank of different clans is maintained by local elders.

Different clans have different social ranks in this village. Although following this ranking, high ranking clans had more priority in resource use, all the clans have always cooperated together. This principal is held strongly by all the villagers that the drum tower of Zengchong village has four plinths, and these four plinths represent four clans. So four clans need cooperate and solidify together like four plinths co-support the drum tower.

Inside village, households within the same clan could not marry each other; only different members of different clans could marry each other. So households in different clans were connected through marriage relationships. Up until now this rule is still continued through practice of the custom of "*DingWaWaQin*" (see table 4-1). This custom involves a little boy's father and mother appointing a wife for him (from about when he was three years old) by sending gifts to a small girl's father and mother

in the first month of every year. At that time, the fathers and mothers of both the little boy and little girl get together and send gifts to the opposite party. This relationship is maintained until the young couple can marry. So inter-clan marriage customs keep different clans connected closely.

In the clan stage *Kuan* was the organization which keep all four clans together. There were nine leaders from four clans. These leaders consisted a committee which participated in *Kuan* meetings, executed *Kuan* law inside the village, dealt with conflicts with neighboring villages and so on. There were three committee members from the *TouGong* clan, two from *SanShiJia*, two from *SanGong*, and two from *TouChao*. The leader of this committee was from *TouGong* clan. When there were *Kuan* activities, for instance, struggles against the outside, *Kuan* meetings, had a party in leisure time or dealing with some cases inside the village, the leaders of the clans would collect all of the clan members to cooperate with members of other clans as a whole village.

To summarize the above, in the clan stage, Zengchong village consisted of four clans. Inside each clan they shared equal levels as members; between clans, they had different social ranks and at the same time cooperated each other; on the outside, they cooperated with other Dong people to regulate themselves and against the government and other ethnic groups. All these relationships were managed by the local *Kuan*. So in this stage, the *Kuan* in this village started based on the local clan structure.

At the end of the clan stage, a privatization process took place in Zengchong village. Thereafter, a landowner class and landless class emerged, and the social relations were more characterized as class relationships than in the past.

In the clan stage, the clan was the unit of collective production. Privatization made the family as the unit of production, and clan became the unit for other activities. So clan relations were reduced. Following land becoming concentrated into the hand

of landowners, the main social relations became class relationships between landowners and landless, for instance, exchanging land for grain and land rent between them. Usually, these relations took place inside the one clan. If a villager had to sell his land for food, first, he should go to landowners in his own clan. Then the landowner would rent his land out by giving the priority choice the landless in his clan, thus ensuring they still had land to work. This was the so-called "Inside Priority Principle." Due to this principal and their long history and therefore greater chance to accumulate land through this system the landowner covered by the *TouGong* clan was the greatest.

Land exchange and renting inside clans made the landowners leaders of both the clan and the *Kuan*. Because the landless households had to depend on renting the landowner's land for survival, they essentially became the laborers of the landowner. Through use of the local *Kuan* institution, the landowners made this relationship more stable. For example, according to *Kuan* law recorded on the stone stele of 1672, land exchange for food followed by the landless farmer and renting land from the landowner was legitimated in this village.

Having landowners in charge of *Kuan* also deeply impacted on the local *Kuan*. In the clan stage, the local *Kuan* was an autonomous organizational unit and was managed by the local people themselves. Outsiders wanted to control them but failed to do so because of the defense of the *Kuan*. So in the clan stage, outside institutions never come into this village. As a result, the central government changed their general policy to fit the Dong. They couldn't rule the Dong through government officers. So instead, they give power to the Dong local people themselves. The best way was to select the Dong landowner as government officer to control other Dong people. This institution was called "*TuSi*". This institution was good for Dong landowners. On the one hand, they needed more powerful figures to help them to deal with conflicts with the landless class. On the other hand, they could collect more wealth through product exchange with outsiders. So landowners became the officer of central government, on

top of all their other roles.

Landowners became the powerful officer in most Dong villages, and this is true for Zengchong village as well. For instance, Shi Wenda, the biggest landowner, was the *TuSi* of Zengchong village in this period. From the *Qin* Dynasty to the *Mingguo* period, this government institution changed in title but the core ideal was same. In the *Mingguo* period, they called it the “*BaoJia*” institution, which was the name of the position of government officer: *Bao* or *Jia*.

During this stage, the timber business was introduced and boomed in this village. This village was the main base of timber exporting of *Jiudong* areas. The forest in Zengchong village was clear cut and sold out by local landowners through the timber market located in *Pingjiang* dock. Through contacts with outside businessmen, landowners controlled the timber business of this village, and therefore accrued its benefit. The landless became the labor for cutting and transportation in this business, and obtained very limited benefit from the local timber business. Calculated by the local people, the monetary benefit for landowners was about 80% of whole, while others such as tree owners and labors just got the last 20%. So landowners collected a lot of wealth from the timber business.

Under the impact of the government and the market, landowners became more powerful, and others became more powerless. Zengchong village changed from a clan society to a class society. On the one hand, *Kuan* was still organized according to the four clans, but at the same time, government institutions, which were controlled by landowners, also existed. These two institutions had different functions. Government institution mainly did tax collection. The function of *Kuan* as a form of defense couldn't be accepted by the central government, but the management function of *Kuan* was agreed by the government. So the *Kuan* institution continued to manage local affairs inside village. On the other hand, landowner became the leader of *Kuan* and controlled the *Kuan* institution to serve them in their accumulation of land.

After the setting up of the People's Republic of China, the Chinese Communist Party established local government in Zengchong village. At first, the new local government confiscated landowners' land and distributed it to every household in Zengchong village (Land Reform Policy). Equal allocation land policy made every villager became an equal land owner. Then, Chinese Communist Party launched a Socialist Rebuilding Movement, which beat down the landowner class and improved the social position of the landless. Through these social reforms performed by the Chinese Communist Party in Zengchong village, the class relationship was canceled. In the middle of 1960s, the Mutual Aid and Cooperation movement was launched in Zengchong village. Villagers were organized by productive teams to do production. Although households were collected into six small productive teams, these productive teams were only productive units. They had no decision making power. The Revolutionary Committee of Zengchong Village was the real power holder. All activities in Zengchong village were arranged by it. The arrangements made by it all followed the high-level government's plans.

After that, the Cultural Revolution took place in China. Local *Kuan* was damaged deeply by this revolution. The leaders of *Kuan* were regarded as "*Niu Gui She Shen*", which means bad ghosts and gods, which should be beaten down. And the spirits worshiped by the *Kuan*, which were all opposed to Marx's materialism, should be beat down as well. So during this period, all the temples, such as *Sa*, *TuDi* etc. were damaged. The drum tower was the only building. During this period, *Kuan* was canceled by the local government. People did some *Kuan* activities sneakily. For instance, *JiSa* ceremony also was done a few times in the dark of the evening.

During these thirty years, *Kuan* was damaged by the Revolution Committee of Zengchong Village. Villagers were organized into productive teams to do collective production lead by the Revolutionary Committee of Zengchong Village. This was the basic power holder of central government. There were no classes in Zengchong

village at all in this stage. Everyone was “an equal member of a socialist country, to did equal production for our great country.”

After the “Household Responsibility System” was put into practice in Zengchong village, land, forest and other productive stuffs were allocated to individual households. Productive teams were disintegrated, leaving many individual households. At the same time, the Market Economy was implemented in rural areas. Villagers not only produce for government plans, but also for the market. They could produce voluntarily for their own good, not just follow government guidelines.

As more and more opening to the market happened in this area, accidents which destroyed the local environment increased in number. For example, cutting forest for cash, poisoning fish in the rivers to facilitate their capture and so on. The local government couldn't forbid and deal with these accidents because these were small accidents for which there was no detailed state law to deal with, and also the government “didn't have enough staff to deal with so many bagatelles.”

So in the early 1980s, the *Kuan* institution was rebuilt by Zengchong villagers informally to rule villagers' actions. At first, *Kuan* law used to deal with conflicts inside the family, for instance between husband and wife. When conflict took place, husband and wife would go to see the elders or invite the elders to come to their house, and let the elders deal with the conflict because the elders knew *Kuan* law and had more experiences in such conflicts. Gradually, the elders were asked to deal with conflicts between households. They knew the history of everything inside village. So the elders were organized to set up an association which functioned as a conflict solver. Based on the traditional rules, villagers made community regulations titled “*Cun Gui Min Yue*” informally practiced in Zengchong village.

The Elders Association (EA) used this regulation to manage affairs inside village in a similar way to *Kuan*. But at the same time community leaders did the jobs which

they were instructed to do by high-level government, such as collecting tax, extending agricultural technology, and so on. Because the leaders of the community didn't know about *Kuan* law, and because *Kuan* institution hadn't been accepted by government, this division continued for a few years.

In 1998, through the "Village Democratic Construction Law", the community became an autonomous unit. This state law dictated that "the community was an organization governed by villagers themselves; villagers could select their leaders, and make decisions on their affairs by themselves; everyone should be allowed to know all information in the village" and so on. This loose environment left local institution enough space to play.

In the next period, the Villager's Committee substituted for the Elders Association. Through the communal practice *Kuan* law, all the villagers knew the rules well. They progressively refined these rules. They negotiated with government, they saying that community law was a supplement of state law. Through this discourse they were able to get *Cun Gui Min Yue* accepted by the government. So Zengchong village's *Cun Gui Min Yue* was recorded in the township office as local regulation, and villagers managed all their affairs following this law. In the case of serious crimes which would impact on the local government, they would go to report these to the local government and let the state law take over for instance, in a case of murder.

Sometimes *Cun Gui Min Yue* was in conflict with the state law. There was a case in 2001 in which one villager cut a tree in another's forestland. He was found and punished by *Cun Gui Min Yue*. According to this law, he had to pay 500 Yuan to the community. After being punished, this person thought the punishment was too strict. So he reported it to the state courts. And the state court judged that the community was wrong in judging this case and asked the community to give back the money. After that, a few *Cun Gui Min Yue* rules were changed so that they followed state law.

To summarize the preceding paragraphs, local *Kuan* started its life as a clan-ed organization in clan stage, to safeguard against the outside and manage affairs inside the village. After that, the landowners emerged as the leaders of the *Kuan* and controlled the local *Kuan*. Impacted on by the government and market intervention, *Kuan* lost its function as a defense. In the collective stage, *Kuan* was destroyed by the Revolutionary Committee of Zengchong Village. The local people reconstructed their community law based on traditional *Kuan* law step by step in household stage and adapted it to the outside environment to manage the affairs inside village.

5.2 Dynamic Water Utilization

Water can be found in many functions in this village. Cultivating grain and fishery are the main livelihoods of Zengchong village, so in Zengchong village, water is usually used as irrigation and fish feeding. Also, domestic water use such as washing and drinking, fire and mouse prevention, producing electricity and water mills are also important in this village.

5.2.1 Changes in Irrigation Management

There are three kinds of water source in Zengchong village. They are rainwater, spring water and river water. Irrigation in Zengchong village is depends on these three water sources. In different historical stages, local villagers have created and implemented different local knowledge to utilize water resources for irrigation.

In the clan stage rainwater and spring water could be used for irrigation, but river water couldn't because the river was lower than the villager's land and villagers didn't have the knowledge to enhance water levels. So irrigation depended on rainwater and spring water in this period.

Rainwater is very important for agricultural production in mountain areas. Agriculture in these areas is different from the plain areas, in which it is easy to irrigate through a big canal system. In mountain areas, the land is distributed at different height levels, and mostly the land is higher than the river, so it is very difficult to construct a big canal system. In Zengchong village a so called “Rain-fed Agriculture” is practiced, which means that rainwater is the most important source for agricultural production. In this village, which is a typical mountain village, land is distributed along the hillsides and the river is at the bottom (see photo 4-1, 4-2). In the clan stage river water couldn’t be used to irrigate. So the rainwater was quite important for irrigation of this village’s land.

From the perspective of local people rainwater was renewed by the *Sa* spirit. So Zengchong villagers worshiped the *Sa* spirit in the first day of every New Year. They hoped the spirit would make a good arrangement of rainwater. The worship was run by *Kuan* leaders at the *Sa* temple and all the villagers participated in the worship. They carried the best food, dressed up, came to the *Sa* temple and ate together. After that, all the women sang and danced together and all the men performed *LuSheng* music to pray for a good rain season to be arranged by the *Sa* spirit.

To fully use rainwater, agricultural production was arranged based on the rainy season. *Yang* was used to be an explorer in this area. He knew the rainy season and how it related to agricultural practice well. Through inviting *Yang* to be the leader of agricultural production (*HuoLuTou*) and every household in Zengchong village following him in his agricultural activities, local agricultural production was able to be matched to the rainy season. Which day to harrow the fields, which day to seed, which day to remove the seedlings and so on were all arranged so they related well with the rainy seasons. Even today this is so. Usually, the rainy season begins in March. This is used by the local people as the cue to plant seeds. In April there will be abundant rain, which is used by local people to irrigate field. When rain finishes in the June, local people do not need rain any more because they will soon harvest and need

the sun to insolate their crops.

Spring water was also the main water source for irrigation in the clan stage. The ancestors of this village assart the paddy fields starting from a springhead, and then moved down to the lower areas where there was more space. So there was an ecological gradient in the local production of Zengchong village, moving from the top to the bottom, in turns there were forests, paddy fields, village areas and river (see photo 4-1, 4-2). In the rainy season, rainwater would be used to irrigate paddies, and excess rainwater would go down to the river. In the dry season water from springs continued to irrigate their fields. The spring water was water which had been kept in the forest from the rainy season. In later times people didn't assart their fields in the top area of the mountain because there was no spring water. And also they knew that if they cut the top forest, the fields, in the middle slopes, would not have spring water.

Still today, from the perspective of local villagers, the forest is seen as water keeping forest. So they use the *Kuan* law to protect the forest. In the clan stage, trees were only cut for firewood, house building and other domestic uses. Villagers cut the tree's branches and throw them in the tree growing area. In this way, the foot of the tree will be protected very well for next years tree growing. Moreover, villagers always cut trees rotationally. One area cannot cut more than twice in five years.

There weren't any canals between lands since all the lands in a big area (one mountain side) belonged to one clan. And all the lands were built into terraces. This land use mode kept soil in a plot and didn't let it be washed away by rainwater. The bank between two terraces was built with stone and soil. Water flowed from upstream land to downstream land through a ditch in the bank. The ditch-dam was usually kept at a certain level which enabled the upstream land to have enough water for grain growing, and allow excess water to flow down to the next land. Spring water irrigated the hill terraces gradually through a lot of these ditches.

The paddy fields close to springheads were usually used as fishponds after the harvest. This was not only a good way to raise fish in paddy land, but also stored and regulated the spring water for the land downstream of the fishponds. In the year following filling, the fishpond will release water to catch fish, and this outflow could be used as irrigation water for downstream land. So these fishponds also had utility as water storage ponds to keep spring water for the use of downstream land in the following year.

To summarize above, in the clan stage, water for irrigation was based on rainwater and spring water. Through arrangement of agricultural production to fit the rainy season, and keeping spring water as supplement, water was usually enough for irrigation, even in land far from the springhead.

In the class stage, the main change came from spring water shortages. Since the spring water storage forest had been cut extensively by landowners for sale, spring water became less and less. Spring water shortage had impacted directly on downstream lands because there was no longer enough water to flow through the ditch-dam down. These downstream lands, located beside the river, were collected gradually by landowner in this stage. Landowners put canal and waterwheel technology into use to utilize river water for irrigating these lands. Since the landowners in this stage had become the leaders of *Kuan*, the rules of *Kuan* were used by them to guarantee their private water utilization.

The waterwheel is a machine created by the Dong people. It is set up beside the river and can raise flowing water up a few meters through the power of its own flow. Waterwheels look like wheels. The diameter of the waterwheel was based on the difference of height between the land and the river. There are a lot of bamboo sections tied on to the outer ends of the axostyles of the waterwheel. The bamboo sections dipping in the river are used as lodicules, to move the wheel by the power of the flow of the river water. As the wheel rotates, the bamboo sections also carry water

from the river to the land.

Another technology used is building a canal leading from the upstream areas of the river to irrigate downstream areas. The stream goes down quickly in its own channel. Villagers build their canal out in a different direction with amore smooth fall. So the upstream river water can keeps a higher level following the canal, and irrigate the land in downstream areas, even though these lands are higher than the level of the river downstream areas (see photo 5-1). In some places, canal has to span a big gap. Villagers overcome this problem through a “*Jian*” (flume), a wood or bamboo water pipe held by a wooden plinth to carry water. In the class period, this flume was also used by landowners to carry water across other people’s lands since originally no canal between lands existed (see photo 5-2).

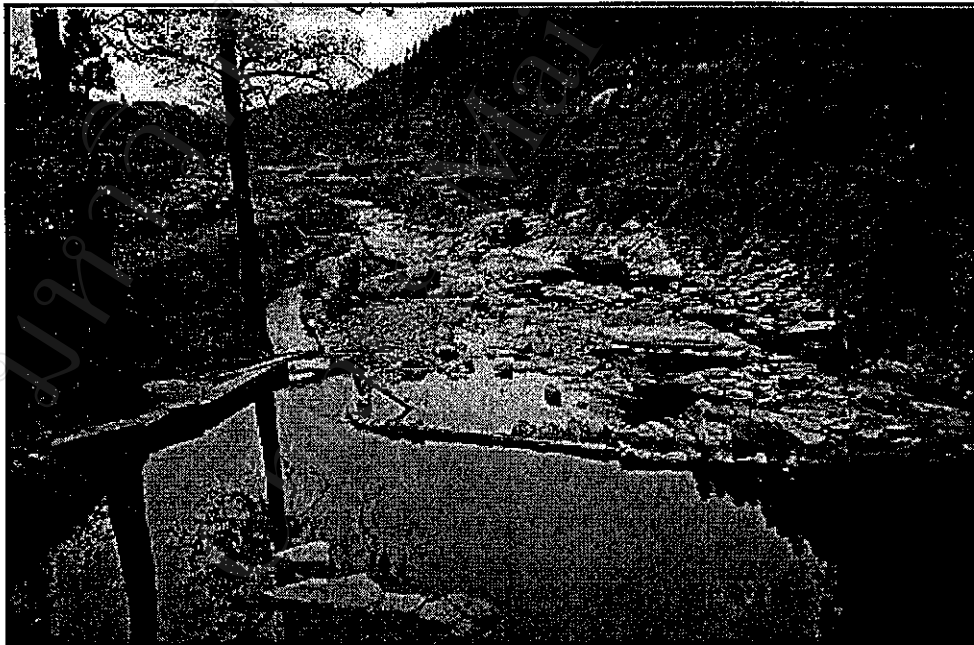


Photo 5-1 Canal



Photo 5-2 *Jian* (Flume)

In class stage, there a big canal was built from the point where the river enters the village (see map4-1). This canal carried the river water along the hillside in a smooth shallow slope to the downstream land. It could irrigate about 200 Mu of land located downstream on the two sides of the river. This canal has been continually used up until now, which is made possible through maintenance by villagers.

During the collective stage, all the villagers were organized together to do collective production. There were six cultivation zones for each of the six small productive teams in this village. In each cultivation zone, a lot of irrigation facilities were constructed by small productive team members. Through control facilities construction and local production, irrigation management was controlled by the Revolutionary Committee of Zengchong Village, not by the *Kuan* since it was destroyed by this committee.

Two river weirs were built along the river, one started at the entrance of the big canal at the upper end of the river meander which flows around the village, and the other at the bottom end of the same meander. These two weirs were built of cement and stone. They were built very strong and continue to be used up until now. These

two weirs raise the water level for irrigation. Villagers build or repaired canals connected to each weir. Each of these canals channeled water to the highest fields of the cultivation zone. The lower fields were irrigated by water flow down through the terraces ditch of the higher fields.

The strong and enduring canal system is relatively permanent, but waterwheels need to be repaired every year, and need re-built every three years. So they became redundant when enough weirs and canals had been put into use along the river to irrigate all the downstream lands.

In the clan stage, much rainwater and spring water eventually flowed down to the river. To fully utilize these water sources for irrigating the land in the upstream areas, villager built a lot of different size water ponds on the hills in collective stage. Spring water and rainwater were stored in these water ponds on the hill. Usually these water ponds were located at the point where mountains meet, so they can receive water from a bigger rain area. In the rainy season the abundant rainwater and spring water will fill up these ponds for dry season water use. These water ponds stored up lots of water for irrigation. Villagers built canals to carry water to their land connected to these water ponds. These canals were difficult to build because they were on the hillside. Sometimes the water pond was far from the land, and a canal had to span a big gap between hillsides. Villager connected a lot of big *Jian*, like building a big bridge over the gap to carry water.

In the household stage, land, forest and other materials were distributed into individual households, and production was practiced by individual households. This division was implemented at the small productive team level. All the lands in one cultivating zone, which belonged to one small productive team in the collective stage, were distributed to every household in this small productive team. Forests were divided on the proximity principle, which meant that the forest located most close to one's land, should be allocated to that person. This division made forest management

and spring water management be linked together for each household. If he managed his forest well, spring water alone will be enough for irrigating his land. Hence, supported by the government and World Bank, villagers planted a lot of trees, such as pines and firs which could grow quickly in their forest land. And their forests were managed under “*Cun Gui Min Yue*.” Through reforestation and good forest management, local spring water became very abundant in this stage.

Plastic water pipe as a new facility had been substituted for *Jian* in household period. *Jian* was made using wood or bamboo had a useful lifespan of only three years and had to have a plinth to hold it, but plastic water pipe is very light, easy to set up and can be used for a long time. So water pipe has been popular in this stage. In much the same way as *Jian* previously, plastic water pipe was also used by those farmers whose lands are far from canal water. In the collective stage, canals were built to arrive just at the top of the highest lands of the cultivation zone. Other lands got water only through water-flow down across upstream lands arranged collectively within the small productive team. In household period, land was divided into individual households. Water crossings required negotiation by different land owners. So some farmers carried water by water pipe to cross land independently.

Summarizing this section, water for irrigation in the clan stage depended on rainwater and spring water. Through the creation and implementation of canal and other technologies in the next three stages, river water gradually became the main source of irrigation in this village. Water for irrigation changed a lot through different water utilization knowledge practiced in different stages. This change also took place in water use for fishery.

5.2.2 The Complex Practice of Fishery Management

Fishery, another foundational local livelihood also depends on water resources. This water function has had a long history since the beginning of this village.

Traditionally, fish can be used as the main food in different seasons, the best gift for relatives and also an indicator of one's social status. Dong people are experts in raising fish and raising fish in paddy fields is a specialized knowledge of the Dong.

Villagers have two ways to raise fish. One is raise fish in the river. The other is to raise fish in the paddy fields. In clan stage, the river around the village was divided into four sections for the four clans to do fishery. In each river section the owners built two-layer dams. The first layer was built with stone and soil mixed tightly to keep river water in. The second layer, above the first layer, was built using tree branches, which can keep the fish inside, and at the same time let river water flow through it. Each section is used like a fishpond for one clan to do fishery collectively. When the fish were harvested, every member in this clan would get a share.

In clan stage, paddy fields were also used as fishpond. In the winter, villagers raised fry in their river section. About seven days after seedlings had been planted in the paddy fields, fry were also moved into paddy field. Fish were raised in paddy fields until harvest. When the harvest season came, water in a paddy field would be removed to catch fish. Using a paddy field to raise fish not only benefits grain growing but also gives a fish harvest of about twenty-five kilograms per Mu.

For those paddy fields which close to springheads, there are abundant water sources. So these paddy fields could also be used to raise fish after harvest. Villagers stopped up ditch-dam to keep water at a high level (about forty centimeters), and used tree branches to make a shed in the middle of the paddy fields as a fish house. In the harvest season, the fat fish are chosen as fish mothers and fish fathers to be raised in these fish houses to lay fish eggs and to hatch fry for the following season. When the cultivation season came, these fry would be moved to other paddy fields. At the same time, the abundance of water kept in this paddy field could be used to irrigate downstream land.

In the clan stage, the river was used as a fishpond by clan. In the class stage, land and forest was occupied by individual households through the privatization process in Zengchong village. Private fishponds also emerged in this period. Through practice of canal building technology, villager could carry river water into the village. So they dug fishponds inside the village and built a canal connecting these fishponds with the river. Mostly, these fishponds and canals belonged to landowners, because they could mobilize the labor necessary to build canals and fishponds. Although river sections continued to be managed collectively by clan, the fish in each river section was mainly used in clan festivals not split amongst all clan members. This was not a disaster because landowners could still get fish from their private fishponds. In this class period, the number of fishpond was an indicator of a landowner's possible wealth. So landowners built lots of fishponds along canals. Up until now some fishponds also existed in Zengchong village (see map 4-1).

Since spring water became less and less in this stage through deforestation, paddy fields lacked the water to raise fish. So fishery was mainly practiced in individual fishponds in class stage.

In collective stage, river sections allocated for clan management was canceled by the Revolutionary Committee of Zengchong Village, because it was a symbol of the clans. Nonexistence of clan and class was required by committee for socialist rebuilding by the Chinese Communist Party. Villagers were organized together in small productive teams to do fishery in the river. The river was divided into three sections. Every pair of small productive teams in connected cultivating zones managed one river section (see map 4-2). In each section, no dam was built by the villagers. Rules were arranged so that each small productive team could catch fish in their section. So the river wasn't used to raise fish like a manmade fishpond, just as a natural fish field. Fishery was practiced mainly in fishponds inside village. These fishponds were also divided into small productive teams. The members of each small productive team raised and harvested fish collectively.

Not all of the paddy fields were used as fishponds in this stage. Because government wanted to improve the agricultural productivity of paddy fields, new rice species and new cultivation technology had been introduced in Zengchong village. These new methods were clashed with local in paddy fishery practices. For instance, according to the government plan after harvest the land was to be used to cultivate rapeseed in the winter, not to raise fish.

In the household stage, river was taken as common property of the whole village not allocated to individual households. Every household was allowed catch fish in the river. Except using some wrong methods, such as poisoning and explosions, which killing all of the fish including the small ones. Although there was a strict law (*Cun Gui Min Yue*) forbids these wrong ways in Zengchong village, but in other river sections, which were belonged to other villages, people never stopped poisoning fish. This killed all fish in the river. So the number river fish decreased quickly all at once, and so the river finished being the main fish source for Zengchong villagers.

Since the population has recently increased fast, many fishponds inside the village and around the edges of the village have been used as the foundations for new houses for new generations. Fishponds inside the village decreased quickly. And in the past, villager only used the paddy field which close to spring water as fishponds. But after a few years of planting new trees under the two-mountain schemes spring water became abundant again and weirs and canals were constructed a lot in the collective stage. Paddy fields started to have good enough water for fishery. So paddy fields which were close to springhead, canals and weir were all used as fishponds in household stage.

Based on my investigation during the fieldwork, there are only thirteen small fishponds and one big fishpond (owned by six households) in Zengchong village. The other households (more than two hundred) use their paddy fields as fishponds. So in

the household stage, fishery is mainly practiced in the paddy fields.

In summary, water in the river and paddy fields was used for fishery in the clan stage. After that, the river's function as a fishpond became weaker and weaker, and also paddy fields. Fishponds inside the village have gradually been substituted for the river and become the main field of fishery practice. In the household stage, fishery in household's paddy fields was again practiced widely.

5.2.3 Water for Domestic Use and Others

Water utilization in this village can be found to be multi-functional. Apart from supporting villager's livelihoods by irrigation and fishery, water can also be used domestically, for example for washing and drinking, and also to prevent mice and fire, to produce electricity, to move water mills and so on.

In the clan stage, the source of water for domestic use was the river. Clan members washed in and carried water from their river section. Their drinking water was carried from each clan's river well. In the class stage, landowner had their private fishpond, canal and wells, they used water privately. Other villagers also used water from each clan's water source. In the collective stage and household stage, river and well which were owned by landowners in the past were all belonged to a common. So villagers could draw water for domestic use from any nearby water source.

Water can also be used as mouse and fire preventing in this village. In the clan stage, villagers built their clan granaries over the water in the edge of their river section. This way of construction prevented mice coming into the granary. Villager's houses and granaries were built of wood, and this was a good way of preventing fire. In the class stage, landowners built their granaries above their private fishponds. Others also built above the clan river water. These granaries were used continually in the collective stage. In the household stage, since the number of

fishponds inside the village decreased, the village determined that there weren't enough fishponds for fire preventing so community law decided that households who had fishpond inside the village couldn't use fishponds to build house foundations. And villagers also built some new canals to carry river inside the village to prevent fire (see map 4-1). Considering this case, the Congjiang County government invested some money in 2001 to build a tap water system. This system connects the spring water from the weir to village. And now this system can carry the spring water for local people's domestic use and fire preventing.

The village has built three electric stations along the river in the collective stage advised by the government. Those electric stations have not been used after 1997 because high voltage power has been sent to Zengchong village through the power-net of the government. There were three water powered grain mills along the river used by landowners in class stage. Electric power was introduced to two of the water mills. So there is just one water mill which continues to work at lower price than the electric mill.

Summary

The first part of this chapter describes what and how local social structure changed, and how this change has impacted on local *Kuan* institutions. From the clan stage to the household stage, because it has been impacted on by state policies and market mechanisms, the local social structure changed step by step from being clan-based to class-based, then team-based, and at last to household-based. Local *Kuan* also changed under the impact of social structure change. In the clan stage it started its clan-based form of local management. In the class stage, it was controlled by landowners. In the collective stage, it was canceled by the government. In the household stage, the *kuan* institution was reconstructed through its reintroduction by the local elders.

The second part represents the dynamic water utilization in Zengchong village. In the clan stage, irrigation depended on the rainwater and spring water, and river water was used for fishery, domestic use and mouse and fire prevention. In the class stage, river water was used by landowners to irrigate downstream land and private fishponds inside the village and supplied through canal and waterwheel. Spring water became scarce because the water keeping forest was cut extensively by landowners. In the collective stage, according to government plans, spring water, rainwater and river water were all fully used through boom facilities to improve agricultural productivity and to support industry development in the country by producing hydropower. Water use for fishery was weak in river and paddy fields, but continued in fishpond inside village. In the household stage, water use for agricultural production continued to be the main function, and also fishery, which was moved back into the villager's paddy fields.

This chapter describes the dynamism of local *Kuan* institutions and water utilization, which are the basic information about the local structure of power and interests---- the fundamental elements of legitimacy. So it would help to analyze the legitimacy of water resource management in this village, as presented in the next chapter.