

Traditional Institution and Institutional Choice: Two CPR Self-Governing Cases of *Atayal* Indigenous Tribe in Taiwan

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Abstract: The sovereignty of land and natural resources of Taiwan indigenous people have been seriously challenged by the expansion of state power and capitalistic market economy since 19th century. Consequently, many indigenous communities have made efforts to adjust to and negotiate with modern institutions. This article analyses the logic of the lapse of indigenes' land tenure, and examines two common pool resource (CPR) self-governing cases, which *Atayal* communities seek to manage by collective action for collective interest. Furthermore, drawing from neo-institutional economic perspective, this article discusses both how the internal institution affects the solidarity of communities and the derivation of *Gaga*, a traditional institution of *Atayal* tribe. In spite of the fact that the formal organization of *Gaga* no longer exists, its' Meta rule leads to the formation of social constraints then affects the institutional choice. In the end, this article suggests that the reform of land tenure institution support CPR self-governing in indigenous areas, which will diminish the conflicts emerging from the interaction between state power and capitalistic market economy.

Keywords: Institutional choice, internal institution, common pool resources, indigenes, reserved-land, *Atayal*, Taiwan

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Introduction

From 17th to 19th century, Dutch, Cheng Dynasty, and Ching Dynasty had governed the plain area of western Taiwan consecutively. However, the central mountainous areas where the indigenous tribes located had never been governed by invaders until 1895, during which the Japanese colonial era began.¹ Japanese colonial Government implemented the land investigation in 1898, and then started a five-year project to conquer indigenes with dominative modern weapon since 1910. After that, the mountainous areas, which were previously owned by different indigenous communities, were totally nationalized. Japanese colonial Government claimed these lands as Terra Nullius, because there was no private land tenure institution in traditional² indigenous societies, and their land tenures were never registered by any official documents. In 1925, the National Forest Business Project was launched and confined indigenes to live in reserved-lands in 1928, which were only a small proportion out of the whole mountains. At the same time, many communities were forced to migrate to lower mountainous areas, and shift their traditional hunting and gathering production to agro-cultivation.

In 1945, R.O.C. from Mainland China replaced the Japanese colonial government. R.O.C. Government retained the area of reserved-lands, and promulgated “Administrative Measures of Mountainous Reserved-lands in Taiwan Provincial Counties”³ in 1948. While the reserved-lands owned by the State, the indigenes were only bestowed usufruct rights and they were forbidden to exchange, sell off or set mortgage on reserved-lands. In 1966, the reserved-lands tenure institution was transformed to partly privatization from nationalization in arable land. Consequently, capital of non-indigenes was encouraged to get into this area⁴. In spite of the fact that reserved-lands trades between indigenes and non-indigenes were forbidden in the regulation, there were huge amounts of private reserved-lands trades in the black

¹ Before 1874, Chin Dynasty kept prohibiting Chinese immigrants from crossing the boundary between Chinese and indigenous area, and defined such behavior as “illegally crossing the frontier”. In 1874, an international conflict between Chin and Japan, which was caused by a Japanese shipwreck happened on the east coast, made Chin changed its policy to “explore the mountainous area and comfort the indigenes”. However, faced with fiery resistance, Chin can never successfully extend its force into the mountainous indigenous areas before Japan took over it in 1895.

² “Tradition” is an abstract idea, especially without relative referent point to define its time period. The traditions of Taiwan indigenes here mean the culture formed and operated before they contacted with foreign invading civilizations. And, because of methodological limitations, the traditional society represented here was based on the extant ethnologic literatures and field works processed by author of this article.

³ The regulation was reformulated as “Indigenous Peoples’ Reservation Lands Development Management Procedure” in 1990, and modified several times; the recent amendment ordinance was announced in 2003.

⁴ For example, the relevant regulation was modified under six times of land use investigations to make non-indigenes’ illegal occupation in public land became legal during 1958 to 1985.

market. However, private lands sold out by individuals can hardly be returned. On the other hand, the trade in black market even has been more frequent than ever.

The first purpose of this article is to analyse how indigenes' land tenure lapsed under the institution formed by the interaction between political power and market mechanism, within different agencies.

Nowadays, many indigenous communities try to reclaim their right of land and natural resource occupied by the government force in the very beginning. For example, Council of Indigenous Peoples, Executive Yuan plan to restore traditional Indigenous territory and request for natural resources co-management with local tribes. Although indigenous communities try to reclaim the right to natural resource, the practicability of community-based management was queried. Most of communities seek their legitimate rights under the discourse of historical sovereignty. However, the precondition to practice the right is it should be accepted by the public policy making procedure in the political system. The first challenge it faced is the question that if indigenous communities possess the ability to manage these resources. The second challenge derived from the previous one is the question to the traditional Indigenous territory claimed. Although the ethnographic literature gave pictures of institutions in every tribe, the fact that many new variables involved and even destroyed its organization cannot be ignored. How does it work and does it still works today? Without concrete description, it falls into unrealistic nostalgia.

The second purpose of this article is to answer the questions above after examined the following existent community-based resources management cases empirically.⁵

Within the existent Taiwan indigenous tribes, *Atayal* tribe occupied the biggest area of mountains. In 2004 March, its population (about 90,208) is just second to *Amis* tribe (159,190).⁶ To be compared with *Amis* tribe, *Atayal* people are more advantage that the heads of 11 townships they live in were indemnify to be indigenes by law. On the other hand, living cross high sea level elevation to mid sea level elevation, *Atayal* people faced both diverse problems of resources use and land property problems raised after contacted with non-indigenes. The **Jianshih** Township illustrated in the following analysis is a typical *Atayal* township. With further

⁵ We know that only two CPR cases not long-lasting may be not sufficient to manifest the durability of institutions as denoted by Agrawal (2001), we try to show the indigenes commit themselves to follow the set of rules they have devised in most instances, and how the internal institution affects the solidarity of communities and the derivation of traditional institution.

⁶ Data source: Table 8. Statistics of Indigenous Population in Taiwan and Fukien Areas by Tribes for Townships, Cities and District, <http://www.apc.gov.tw/upload/govinfo/aps/9303/aprp5823.htm>

discrimination, *Atayal* tribe here includes *Mknazi*, *Maliqwan* and *Kalapai* lineages. Two common pool resource (CPR)⁷ self-governing cases in this township chosen to be examined are: the community forest of *Sinsibu* Community and the fish band protecting action in *Maliqwan* River (see Table1). Although forest and fish band belong to different kinds of resources and user groups, based on the successful collective action and traditional *Gaga* institution, the tribe can mobilize management of CPR.

Table 1: Resources and appropriator in the two cases

Resources & Appropriators	Cases	Community forest of <i>Sinsibu</i>	Fish band protecting action in <i>Maliqwan</i> River of <i>Yiogohon</i> village
Resource		Forest	Fish band
Appropriators		<i>Mknazi</i> community	Several <i>Maliqwan</i> communities

Institution can be defined as a set of formal and informal rules, including their enforcement arrangements (Schmoller 1900:61). The purpose of an institution is to steer individual behavior in a particular direction. Insofar as it is successful in realizing this objective, an institution provides structure to everyday activity and thus reduces uncertainty (North 1990:239). Ostrom defines institution “as the sets of working rules that are used to determine who is eligible to make decisions in some arena, what actions are allowed or constrained, what aggregation rules will be used, what procedure must be followed, what information must or must not be provided, and what payoffs will be assigned to individuals depend on their actions....All rules contain prescriptions that forbid, permit, or require some actions or outcome. Working rules are those actually used, monitored, and enforced when individuals make choices about the actions they will take...” (1990:51) As refer to CPR settings, the working rules used by appropriators may differ considerably from legislative, administrative, or court regulations (Wade 1988), she puts more emphasis on de facto rules actually used in CPR fields to understand the incentives and consequences they produce (Ostrom 1990:51).

Since CPR have long been subject to overexploitation and misuse by individuals

⁷ CPR, according to the definition of Ostrom (1990:30), means a natural or artificial resource system which is costly (but not impossible) to exclude the potential beneficiary who benefited with appropriating its resource unit. At the same time, although one appropriator can hardly exclude another, but one persons’ appropriating to the resource unit will reduce the others’ benefit.

acting in their own best interests, as described in three dominant models -- the tragedy of the commons (Hardin 1968), the prisoners' dilemma (Dawes 1973,1975), and the logic of collective action (Olson 1965), conventional solutions typically involve either centralized governmental regulation or privatization of the resource. But, according to Ostrom (1990), there is a third approach to resolving the problem of the commons: the design of durable cooperative institutions that are organized and governed by the resource users themselves. Through empirical studies, there exist some situations that people chose to support cooperative rules (institution) and realized collective interest. In illustrating institutional choice framework, she indicates individuals frequently internalize a shared norm which is one of the important variables affecting individual choice (Ostrom 1990:205-7).

Different distinctions between informal and formal institutions, Kasper & Streit (1998) classifies institutions as internal institutions and external institutions with the origin of it: internal institutions are rules evolved within in the light of experience and external institutions are rules designed externally and imposed on society from above by political action (100). They distinguish four categories of internal institutions which include conventions, internalized rules, customs and manners and formalized internal rules; and describe further the different ways these compositions constrained people to comply with the rules. Furthermore, they denote internal institutions derived within peoples' experience and practice gradually. (Table 2)

Table 2: Compositions and Connotations of institutions

Compositions of institutions			Connotation
Internal institutions	Informal	Conventions	Rules are of immediate benefit to the persons self-enforced, and are of harm to persons violated.
		Internalized rules (Internal norm)	Rules are learned by habituation, education and experience and are normally obeyed spontaneously. Violations of such rules are sanctioned by a bad conscience.
		Customs and manners (Shared norm)	Violations of such rules are sanctioned informally by reactions of others (eg. by exclusion).
	Formal	Formalized internal rules	Rules are emerged with experience, but violations of such rules are sanctioned in an organized manner by some members of society.

External institutions	Law and rules	Formal rules are designed, imposed and enforced from above by political authorities.
Enforcement arrangement	Initiation organizations	Rules are enforced by specific organizations

Source: Kasper & Streit , 1998: 102-7.

After describing how people cooperated in the cases illustrated, the last purpose of this article is to interpret how *Atayal* traditional institution derived and affected institutional choice. Furthermore, suggestions regarding external institutions reform for enhancing the ability of indigenous communities shall be given to reform the internal institutions, which can be properly combined to external institutions. In this way, the conflicts emerged under the interaction between state power and capitalism market economy can also be diminished.

The paper is based largely on fieldwork and interviews we undertook during 2001-2 to 36 *Atayal* public officials, head of communities, grand old men, councilors, the clergy, teachers, community fieldworkers, and residents. Information was obtained mostly through unstructured interviews with local people at times separately and supplemented by later visits in a few townships.

Atayal* Tribe in *Jianshih* Township and *Gaga* of *Atayal

Jianshih Township, near the Centre Mountains, located in the northern part of Taiwan and administered by *Hsinchu* County, which possess two *Atayal* townships. The total area of this Township is 527.5795 square kilometers. The *Atayal* population is 6,787 which occupies more than 95% of total population (7,019) in this township. Within the Taiwan indigenous tribes, *Atayal* was well known as her traditional facial tattoo, head hunting and fiery bloody battles in revolting Japanese colonist. There exists an important story of Rainbow Bridge in the myths of *Atayal* tribe: every soul of dead will come to a bridge weaving with rainbow and shall be trialed by the soul of ancestors. If you did follow the regulations of *Gaga* in your entire life, then you can pass the bridge successfully and become a part of the soul of ancestors. In contrast, if you have ever violated it, then you will be pushed down the bridge, and suffer the punishment that mercilessly bit by beasts of prey. In this section, we shall describe the relationship between traditional culture and land tenure institution, and government failure under current land tenure institution arrangement.

Traditional *Gaga* and land tenure institution

Gaga, traditionally means co-sacrifice, co-production and co-distribution kin groups. People from the same *Gaga* need to follow the common regulations.

Meanwhile, in *Atayal* language, *Gaga* also refers to the regulations a member needs to follow. There is no obvious social class in the traditional *Atayal* society. Except the *Maraho* (group leader) of *Gaga*, there is no hierarchy such as nobles and populace in some other tribes. Beside, the *Maraho* was not born by hereditary but chosen on the basis of ability. When a *Maraho* is getting older and weaker, a new *Maraho* will be chose to displace him. Therefore, the status of power in a traditional *Atayal* society is not immobilized but its growth and decline depends on individual ability. Although obvious social hierarchy does not exist, groups possess strong constraint to their members. The basis of the constraint is polytheism, the belief in *Utux*, which are composed by spirit of ancestors. *Gaga* is just the instructions left by ancestors. The members in a same *Gaga* will have to bear common responsibilities to the blame caused by any others in the group. The members in the same *Gaga* must follow the common values and instructions to sacrifice, production, distribution and interpersonal relationship. *Atayal* people believe: once you violate it, catastrophe will not only come to yourself but come to every member in your *Gaga* (Lee, 1985: 390). On the other hand, a member can choose to leave his original *Gaga*, and then join another one, which is willing to accept him. Along with migrating to various regions in the history, the archetype of “one community one *Gaga*” is evolved to diverse types such as several communities formed one *Gaga* and several *Gagas* in one community (Zhe, 1980).

The organization of *Gaga* and the constraint surround polytheism also regulate the use of land resources and the distribution of tenure (Table 3). According to the utilization, land can be districted to housing, farming, hunting and fishing fields. Hunting and fishing fields belong to each *Gaga*, and the property rights are commons to its members. The housing and farming fields includes diverse private and common properties. In some communities, farming lands belong to *Gaga* too. Cultivating, trails opening and water carrying over it should go after public negotiation. In other communities, individuals can own farming lands. However, in spite of that, the owners cannot refuse others to open trails and carry water over it. If any dispute happened, arbitration will be process trough *Gaga* (Taiwan General Government, 1919: 343-345; Wei, 1965: 71-87; Institute of Ethnology in Academia Sinica Ed., Taiwan General Government, 1996: 197-205, 231-251; Yen, 1998b: 41-49).

Table 3: The Compositions of land tenure institution in traditional Atayal society

Compositions of institution		Gaga
Internal	Informal	Concept of bearing common responsibility led by polytheism

institutions	Formal	<ul style="list-style-type: none"> •The formation of properties: Hunting and fishing fields are commons; some farming lands are partially privatized. •The way to own the properties : Properties of the housing, hunting and fishing fields between <i>Gagas</i> are decided by principles including preoccupation, abandonment, battle and surrender. □ Housing and farming fields inside <i>Gaga</i> are decided by basic principles including preoccupation, abandonment, negotiation and inheritance.
External institutions	Formal	none
Organization		Co-sacrifice, co-production and co-distribution kin groups

Two good examples to explain how *Gaga* works in resources management are the way Atayal people distribute their hunting and fishing fields. Traditionally, Atayal people get the fish they need by spear and poisonous rattan. A river runs through different communities is districted to different sections. Different sections belong to different *Gaga* organizations in the communities. Leaders in every *Gaga* organizations will meet every summer and negotiated the time their *Gaga* can fish in their own section. The major rules are: group fishing can only be held in summer and there should be always only one *Gaga* organization fish in one section in a time. Under the rules, fish band can keep sustainable. Similarly, every *Gaga* organizations owns their hunting fields. Hunting fields are usually districted with mountain ridges. *Gaga* forbid hunters from hunting in breeding season. Further more, there are always some sacred places people should never invade within the cross of ridges. According to the legend, those who violate the *Gaga* and invade the sacred place will get serous punishment from Utux (spirit of ancestors). In the perspective of modern animal conservation, the sacred places formed safety valves that animals can get refuge.

According to the perspectives of functionalism and Neo-institutional economic, *Gaga* plays an important role for resources utilization and distribution in Atayal culture. And, it helps to internalize external effects in productions. For example, in the hunting activities, personal action cannot be more effective than a group action. On the other hand, group did not regulate individual but hunting unlimited will influence quarry of others. In case of that properties were spread on extensive space, co-owning and mutual supervising are more effective ways to keep these properties. Beside, morals and negotiation are more useful and flexible than legal rules to form constraint and mediate conflict (Hayami, 1998:92-95).

Government failure under contemporary land tenure arrangement

Atayal people kept on the production of swidden, hunting and gathering before Japan colonial era. In 1899, colonial government established the Camphor Bureau in Shin-Chu; in 1915, after the five-year conquering project, government began the land and forest investigation, and then implemented monopoly institution for attracting Japanese capitalist in metropolitan state to set enterprises in plain area and develop mountain area here. In 1919, Shin-Chu Track Developing Commercial Firm was established and light railways were laid in succession. As the defense line of Japanese force was moving forward to mountain area, exchanging stations were set in *Atayal* communities as the centers for economic and military control in this area gradually. After camphor lumbering began, Mining Association Enterprise was established for the coal mining in Kalapai community (Chronicle of Shin-Chu County, 1956). All the raw materials were sent to factories in plain area, and then transport to metropolitan state after processing. On the other hand, the institutes for political control, such as police stations and indigenous children education schools were also established.

The operation of *Gaga* was impacted. For example, a dispute between Mknazi and Maliqwan lineages caused by a manslaughter event in hunting field was aggravated because the Japanese police station provided huge amount of Mausers and bullets to both of them. The combat between two lineages lasted for two years. Then, Japanese police just involved to suppressing and mediating. It ingeniously weakens the negotiating function of *Gaga*. In the same time, police stations seriously banned those who overstep the boundary of reserved-land and cultivate on the “national properties” (Yen,1999:93). People who were forced to migrate to river valley and began the agro-cultivation in certain location have to exchange the goods they need with the crops.

In spite of the fact that indigenous society was divorced from the exploit by colonialism after R.O.C. took over the Japanese colonial government since 1945, the center/periphery structure between plain and mountain areas was strengthened. R.O.C. government received the Japanese enterprises as national industry and fastened the pace to develop mountain areas. For example, in 1949, Shi-Chu Coal Mining Bureau established. In 1950, Forest Managing Institute was established on the location, which is the strategic passage between two indigenous townships. One year later, new railway was completed and pushed forward to deeper mountains. All the lands in indigenous townships were nationalized. Central government controlled the exploit of mountainous resources directly. Only very few parts of arable lands were allowed to

be used (but not owned) by individuals. Meanwhile, new political institution was induced; local township government replaced the status of police station in colonial era. During the reign of the White Terror, some indigenous elites were arrested and the others were fostered to be head of township. Series of policies were implemented to assimilate indigenes in this period.

The area of reserved-land was remained on the purpose to “stabilize life of indigenes and develop economy in mountainous areas” (Administrative Measures of Mountainous Reserved-lands in Taiwan Provincial Counties, Article 1, 1948). On the other hand, although the restrictions for non-indigenes to enter indigenous township and rent the national forest and reserved land were loosen gradually, however, the restriction that non-indigenes cannot possess reserved-land was retained. Even though government transfers its reserved-land policy from totally nationalization to partly privatization in 1966 (as mentioned earlier, arable reserved-lands were privatized in this year), a relevant regulation that private reserved-land can only be traded between indigenes was kept. It appeared the decision of government was to ensure the reserved-land tenure of indigenes. In the aspect of political value, it is helpful to legitimate the dominion of government.

In 1980s, Taiwan went through a series of social movement and political reforms. The policy of national assimilation was also changed. Government delimited about 17,000 hectares new reserved-land to respond the “Turn back my land” movements since 1988. Government consequently privatized part of forestland and distributed it to individuals two years later. The way government maximizing its political value in indigenous land tenure issue is to distribute land ownerships to individuals and keep protecting indigenes from lapse their lands in market with prohibition.

However, along with the expansion of non-indigenes’ activities, the restriction retained for political consideration can hardly against market mechanism. Reserved-land trades between indigenes and non-indigenes are more frequent than ever (Yen, 1998a; Yen, 1999). Furthermore, during the period of fieldwork, author even found the intermediary companies involved in the trades and advertised openly⁸. This situation had never been seen before. At the same time, Non-indigenes groups united to lobby legislator and administrative department. They asked for procedural justices and free market. The model of development was also changed, it transfer to tourism

⁸ The way to avoid the restriction is to set mortgage on land after indigenous seller received money from non-indigenous buyer. So, Even though the nominal owner is still the indigenes, the actually user changed. And, indigenes can hardly ask for returning the land because the mortgage value is much higher than the striking price.

but not high value crops cultivation as earlier years.

Poverty of townships like Gen-Shi aggravates the tendency of land lapse. According to governmental statistic, its average education and incomes are far behind non-indigenous areas in Taiwan. Although the privatization of land tenure means that the effort you make is the fruit you get. And, it was supposed to be an incentive for individuals to optimize the utilization of their property. However, in many situations, peasants have no way to make efforts.

The arable lands in non-indigenous areas were also regulated that it can only be traded between farmers. However, indigenous peasants cannot get capital as easy as non-indigenes. Government helped peasants to get capital through Peasant Association and Peasant Bank. However, there were few Peasant Associations in indigenous areas. When indigenes tried to get loan from bank with the mortgage on reserved-land, they were often refused because of the extremely low price of their land, which could only be traded between the minor and poor indigenes. Without the way to get capital (it often means no way to get technique at the same time), individual indigenous peasants can hardly manage their arable well. The following description is a try to explain the logic of reserved-land tenure lapse (table 4).

Table 4: Payoff matrix of trade between indigenes and non-indigenes

		Indigenes	
		Willing to sell	Not willing to sell
Non-indigenes	Willing to buy	RV2-(P+X), MV- (P+X)	C-X, RV1
	Not willing to buy	C, RV1-X	C, RV1

MV : market value

RV : income value

RV1 : the income value indigenes manage their land can earn

RV2 : the income value non-indigenes manage the same land can earn

P : the punishment will get when trade parties disobey the regulation

C : the capital to buy the land

X : the transaction cost who is seeking and willing to trade have to pay

According to the theory, market value is the money when trade is achieved. And, the income value is the recovering of money that calculates the total net income from manages the land. According to the payoff array, when $(MV- P-X) > RV1$, indigenes will chose the strategy to sell their land. On the other hand, non-indigenes will choose

the strategy to buy the land, in case $(RV2 - P - X) > C$.

The variables affect their strategies are the punishment (P) and the different consideration to income values (RV1, RV2). Because government can hardly get the complete information to supervise the trade, (P) is relatively small. In the aspect of income value, because of the disparity between non-indigenes and indigenes' ability to get capital and technique, non-indigenes can make higher income value in the same land. Meanwhile, because of the disparity between non-indigenes and indigenes' ability to get capital, the recovering discounts between them are different. It also makes the income value of non-indigenes higher.⁹

Because of the low ability to get capital and technique, indigenes get lower income value than non-indigenes. If non-indigenes buyer provides a market value, which is higher than the income value indigenes can earn by managing the land; indigenes will choose to sell it often. Comparatively, because non-indigenes can make higher profit value by managing the same land, the income value is still positive after deducting the market value. The trade achieved under the consideration for seeking maximal interest to individuals, and the lapse of indigenous land tenure began.

In brief, the privatization of land tenure institution and the disadvantage of indigenes in market trades have formed the logic of reserved-land lapse. The political intervention to market can be understood as a way to realize social justice, but the ways government used lead to an adverse result. If the land tenure institution can be an instrument to realize social justice with its constraints to behaviors of human interaction in land use and distribution, is there any choice beside nationalization and privatization? The following two cases can bring into further discussion.

Internal Institution as the Capitals of Self-governing:

Case of community forestry in *Sinsibu* community

⁹ $\therefore RV1 = NV1 / RD1,$

(NV1 is the net income of indigenes, RD1 is the discount rate for indigenes)

$RV2 = NV2 / RD2;$

(NV2 is the net income of non-indigenes, RD2 is the discount rate for non-indigenes)

and $NV2 > NV1$ and $RD2 < RD1$

$\therefore RV2 > RV1$

Sinsibu community, located at 1,700 meters above sea level, is the first stop of ancient *Mknazi* migrant while they moved along Central Mountains from central part of Taiwan hundreds years ago. All the residents belong to *Mknazi* lineage, and the population now is about 30 households

Most residents here earn their living with fruits production. Beside, hunting and gathering are also important activities. In the early years, because the Forestry Bureau (FB) refused Atayal people to get into the national forest that was used by Atayal people previously, sporadic disputes happened all the time. In 1986, while FB tried to fell trees near here, *Sinsibu* residents united neighboring communities protested in front of working station of FB and stopped the action. In 1990, an arrow shot from hiding hurt a forest investigator of FB, and he was sent to hospital in emergency. Nowadays, residents still keep on patrolling the forest. In the view of residents here, FB is still an adventive occupant. Because of the negative experience and distrust, the forestry control of government was challenged by residents here (Wang, 2000).

Recently, the reserved forest became an important resource of income. According to an investigation, the 88,160 hectares forest across three neighboring indigenous townships was the biggest and most complete natural *Chamaecyparis Formosensis* Mats in Taiwan. And, the area of such forest near *Sinsibu* community is about 5,000 hectares. Every holiday, tourist will come to stay at this community, then go mountain climbing and observe forest the next day. The home stay and forestry explanation become new income sources of residents.

Although tourists brought income to *Sinsibu* residents, they also brought crisis to environment. For example, garbage littered on the forest path, flowers and branches were picked off. On January 2001, about one hundred residents gathered at the entrance of climbing path and made a circuit of “forest pilgrimage”. Media journalists were informed to interview it. A bulletin board with “*Sinsibu* community pledge” on it was set. Tourists were prohibited to catch animals, pick plant and litter garbage. Pastor of local church introduced the species in the forest and the history of *Atayal* activities to journalists. He pronounced, “No forest, no life exists. In order to stop the infringing and selfish behavior of tourists, we claim the determination for protecting the inherited land to our ancestors, also to our Han¹⁰ friends.” After the activity, residents set a customs pass on the entrance and limited number of customers to get into the forest.

¹⁰ Non-indigenes, the major ethnic group in Taiwan

The effort of residents to manage their resource was not achieved suddenly. In fact, the participation of public affairs began long time ago. Because residents here are almost Christian, church plays an important role in community mobilization. For example, residents would rather spend 18 years to build local church by themselves than hire non-local labors to do so. In the first 8 years, residents collected money to buy the materials. In the next 10 years they built the church with their own hands. The pastor in the church was one of the locals. He graduated from Christian school and came back to serve in church more than twenty years ago. Villagers here are quite convinced to his propagation. According to his explanation, there is no conflict between the believing of *utux* (the sprit of ancestors) and Christian doctrines. “God is the power above all, and *utux* exist under the power”, he said, “The rules of church is just the Gaga of God. And, we should follow the Gaga of God just as we follow the Gaga taught by ancestors”. Residents participated in the actives of church frequently. Under the organization of church, the residents re-established a traditional ceremony to offer the sacrifice to ancestors. The ceremony had been stopped for more than fifty years since it was prohibited in Japanese colonist era. Residents began to edit an Atayal language teaching material and accomplished the works of community embellishment with no payment. Residents also voluntarily patrol the river and made an agreement to protect fish band in it. Cooperation like that accumulated the experience and self-confidence of people to act for common interest.

Belonging to the same lineage and possessing the same idea about Gaga, residents here shared strong internal constraint and have long-term experience for cooperation. During the filed work of author, while interviewees were asked questions as “what punishment will be put to those who violate agreements between residents?”The answers showed that the blame from others is just a serious punishment. “It is ashamed if you can not be trusted by others.”Although there was no certain punishment, internal constraint made people keep on cooperation. And, the experiences of cooperation strengthened the trust between villagers. Such an internal institution combined with church organization, became an important capital for community mobilization.

There exists two major opposite approaches in the discussion of “social capital”. According to Bourdieu (1992), it’s a substantive or potential resource relevant to gain the continuous interpersonal network that can know and respect each other in society. He distinguished culture capital from economic capital and social capital. Then, pointed out that the amount of social capital owned by individual can be judged with the extent of social networks he can mobilize and the capital owned by the members in the networks. In this aspect, one can explain those who owned similar culture capital and economic capital will have different achievement in a society. Another approach was advanced by Putnam (1993). He pointed out the characters like trust, norm and interpersonal network can help a society to overcome the dilemma of collective action. Putnam defined these characters as social capital. Meanwhile, social capital is not personal property but benefit every individual in a society. He considered social capital as networks of civic engagement. In this aspect, one can explain the different societies owned different ability for creating social capital would lead to different results of social development.

The definitions and descriptions to social capital between Bourdieu and Putnam are quite opposite. However, Birner & Wittmer induced the distinction between private property and public good in economic theory, described that Bourdieu and Putnam are observing a same object with two aspects. In order to analyze how local community gained political influence; they further induced the idea of political capital and pointed out that political capital is a kind of resource. In the aspect of individual agency, political capital is the resources, which can be used to influence the policymaking. In the aspect of public, political capital are the structural variables in political system. At the last, they suggested a table cross-connected by social capital and political capital, public aspect and agency aspect. With this table, one can discuss the process local community transferred social capital to political capital.

In 1998, public concerned the 88,160 hectares natural *Sabina chinensis* forest because one governmental forestry business-developing unit planned to fall a part of them in Chi-Lan Mountain managed by Veterans Affairs Commission(VAC). VAC claimed that the best way to manage forest is to fell it, reforest it and make full use of its economic value. Environment protecting groups united and fought against this plan, and appealed for reserve the forest. Two camps stood opposite to each other and it led to uncertainty for dealing with the forest in Chi-Lan Mountain. After strongly criticizing the forestry policy, environment-protecting groups began to ask for setting a national park to reserve the *Sabina chinensis* forest in it (Lin, 2001:95).

On December 1999, environment-protecting groups held a demonstration to ask for the national park. Exceeding their expectations, a “weak noise” appeared in the contingents of marchers (Lin, 2002:3). A group of marchers composed by residents claimed the Chi-Lan Mountain is the traditional territory of *Atayal* people, and so-called Chi-Lan Mountain is actually the Maqau Mountain in *Atayal* language. Furthermore, they claimed the Maqau Mountain was the hunting field belonged to their Gaga in the history. They protested against the setting of national park, because it will limit their cultural activities. The “noise” impacted justifiability of this demonstration and brought new variables to it. On August 2000, government published its plan about the national park. However, the planned area is far below the demand of environment protecting groups. They turned to seek for support from *Atayal* residents and demanded more negotiation with government. During the process they interacted with *Atayal* people, a new pattern of national park was put forward. *Atayal* residents asked for a co-managing mechanism. Ministry of Interior (MOI) accepted this pattern after negotiation. The MOI invited representatives of *Atayal* residents, environment protecting groups, government officers, legislators and scholars to compose a consulting committee of “Maqau” national park.

By now, this committee and its planning work are still continuing. January 2002, pastor of Sinsibu community was elected assemblyman of Gen Shi Township; it made Sinsibu community can involve in the planning procedure with more right to voice out opinions.

In this case, the combination of internal institution and churchly organization mobilized community successfully. After participating civil action and linking up other social groups, the social capitals were transferred to political capitals. These political capitals enable Sinsibu to influence the public policy decision, and then seek for its interest. According to table illustrated by Birner & Wittmer, the social capitals and the political capitals formed owned by Sinsibu in the issue of national park can be discriminated as Table 5.

In the aspect of individual agency, community members, intensification of internal institution and production of time-space knowledge make community society can be mobilized to purchase specific goal. In the aspect of public, community organization, internal institution and specific time-space knowledge formed the cooperative network. By ways of linking with elite groups, amplifying influence with election and using time-space knowledge strategically, Sinsibu successfully affected the structural variables in political system. They seem to be more close to the goal of governing their forest legitimately. To review the process Sinsibu succeed in the issue of

National Forest Park, the role church plays in community mobilization is a key point. Furthermore, the combination between the ideal of Gaga and church organization is the reason church can play such a role successfully.

Table 5: social capitals and political capitals owned by Sinsibu

Types of capital	In the aspect of public (Structural capital)	In aspect of individual agency (Infra capital)
Social capitals	Organization Internal institution Time-space knowledge	Members in organization Intensification of internal institution Production of time-space knowledge
Political capitals	Elite groups Election institution Public opinion	Link with Elite groups Participate election Use time-space knowledge

(Source: refer to Birner & Wittmer 2000:20)

The Accumulation of Institutional Capitals:

Case in “Maliqwan” river fish band protecting action

Yiogohon Village, traditionally named “Liliyon” in *Atayal* language, means “river bank”. It located in southeast part of Gen-Shi Township, 800-1360 meters above sea level. *Mliqwan* River, which was named after the lineage lives here, runs through this village. Several *Mliqwan* lineage communities composed this village; its total population is about 1,200.

Mliqwan is the headstream of Shi-Men Reservoir, which is a major water supplier to north Taiwan. In earlier years, fishing is the important production second to hunting and gathering. Except for food, some time it was held for entertainment. Every community owned its fishing field clearly. Fishing activities can be discriminated to personal activity and collective activity. Individuals could catch fish with bamboo arrow or fishing cage. The fish caught would be distributed to their relatives and neighbors. Group fishing was held in every summer. People narcotized fish with poisonous rattan, then picked the fish in their own fishing field. The fish, which were narcotized but not picked, would regain consciousness and keep alive. It kept the fish band sustainable in this river. However, since the tourists came more and more often, some tourists began to catch fish with eclectic instrument and cyanide, fish band here went exhausted. Ecological crisis in river was raised.

“We began to cross the boundary and fish in the rivers of other townships.

However, it caused conflicts very often.” Said an interviewees, “ They(villagers in other townships) questioned us why didn’t we have our won river to fish, and it really embarrassed us”. Since 1999, villagers started to draft a “Mliqwan river protecting agreement”, and began to protect their river in action. The fish band protecting action cross several communities. Even though it extends a wide area, villagers overcame the costs for communication successfully. Pastors of churches, schoolteachers, and neighborhoods from different communities were invited to join meetings, and then composted the managing committee to discuss and confirm the agreement.

All these presents hold a traditional ceremony for the beginning of the committee. They killed a sacrificial pig and swore after drinking a toast. According to interviewees, this ceremony is a part of Gaga . “Utux will punish those who rebel the promise”. More than 300 villagers signed on the agreement after the ceremony. In the agreement, they claimed: “all the resources in Mliqwan River belong to all the villagers. In order to manage them effectively, to make us a better living environment and to bring our next generation a better future, I am willing to entrust my managing right to river managing committee and join the works for protecting the river.” To consider most of the members need to work in the farm, they convened discussions at night and patrolled the river when they could rest from farming.

Wasn’t there any villager try to rebel the rule of protecting the fish? “Yes, there was”, said a local leader, “A guy rebelled against the rule and stole fish from the river, and he died in accident months later. After that, another guy who was with him came to repent to me, and swore that he would never steal fish again”. Most villagers believed the accident was a punishment from Utux.

On January 2001, villagers began to hold training courses every month. The courses included “how to explain the relationship between us and animal, plant here to outsider”, “how to use observing instruments”, “how to learn the successful fish band protecting experience in Danayiku”. Some experts from other places were invited to lecture for villagers. Meanwhile, grand old residents were arranged to tell about history of *Mliqwan* River and relevant knowledge in different churches and elementary schools.

Because communities in this village were all belong to the same lineage, people could cooperate with more trust. Almost every resident in one community had some relatives in others. On the other hand, because they initiated the action spontaneously,

they knew more complete specific time-space information well. The composition of committee can prove that. The agreement clearly regulated villagers could apply for fishing in the need of cultural ceremonies, church activities and weddings. It also regulated villagers should apply through schools, churches or neighborhoods. While an interviewee was asked the question about how to make villagers to follow the agreement, he answered “in our place, feeling walks in front of law, it will be sham if one breaks his promise”. “*Yiaqaih la, ungat Gaga* (*Atayal* language, means that will be bad and impolite)” another interviewee added after him.

Because the committee understood the interactions within villagers, they constructed a wide cooperation on the basis of minor units. Every unit could bring into full play the constraint to its members. In the same time, with the cross communities meetings, different units could exchange information in the committee.

During the period *Yiogohon* villagers made efforts to manage their river resources, they had faced two problems. The first problem was that they were refused while they tried to get subsidy from township government. The reason township government rejected them was no enough budgets. The second problem, while patrollers tried to stop those tourists who were fishing in the river, there was no regulation to support their position. Some time, tourists insisted that villagers had no right to stop them from fishing in a public river stubbornly.

Despite no subsidy from government, villagers still kept patrolling their river to demonstrate their determination. With the network composed by different social units such as school, church and neighborhood, their efforts got response soon. A township government officer who was from Mliqwan lineage exercised his authority to help this action. Meetings were held in the township government to discuss the possibility for fish band protecting. Participants invited to attend the meeting increased step by step. In the final meeting, amount of participants is 150 people, which included villagers from *Yiogohon*. The officer started to make a program for the fish band protecting budget in next year.

Since the action was supported by local government, villagers began to deal with their second problem. They revealed the difficulty of lacking legitimate position through village present in the township assembly. Township government reflected this problem and the volunteer patrolling behavior to county government. Gen-Shi Township was determined as a fish reserved region, and prohibit people from fishing in it, according to the central Fishing Law. Additionally, township government was authorized to make relevant managing regulations. Six months later, township

assembly passed the regulations, and villagers earned the legitimate position to protect their river.

During the period Yiogohon villagers gradually gained success in the fish band protecting action, people from other villages in the same township began to follow this example. The Kalapai Village followed their steps made an agreement within villagers and sent their program to township government. Meanwhile, county government began to agree for funding the river fish band protecting budget in Gen-Shi Township. One month after the official document of county government arrived, Water Resources Bureau of central government also sent a document to township government and expressed that they will offer some subsidy.

Nowadays, every village have organized their team and patrolled their river section. Fish protecting have been a common practice in this township. In the last stage of authors' filed work, a fish band breeding plan submitted by a community named Tabaho was rejected by county government with the reason of budget again. However, as an interviewee in Tabaho said "no mater there is budget or not, we should still keep going. To protect the river is duty of us."

This case appeals the effect of institution learning and the phenomenon of institutional capital accumulation. Along with the success of villagers in Yiogoho, other villagers raised the will to protect their river. At the same time, the example of Yiogoho decreased the cost for them to grope in the dark. When Yiogoho constructed their cooperative organization with different minor units, they also build a wide network. To the villagers, this network made people keep their promise. Furthermore, these connections accumulated their capitals to seek legislate position and financial support. Every little success accumulated the capital for next step. Beside, the township government also discharged it functions in resources distribution and information coordination. Without transferring the information about the will of villagers by local political system, they could not solve the problem of lacking legislate position so soon.

The Derivation of *Gaga* and its Effects on Institutional Choice

Before modern state came, traditional *Atayal* society had operated with common rules, which were based on *Gaga* institutions. While state came with the character of highly concentrated violence potential and exercised its power, the production of rules became different. A relative enclosed *Atayal* society had begun to face the higher, external regulations. The experience of *Atayal* reveals the interactions between external and internal institutions. External institutions influence the formation of

internal institutions. For example, the composed privatization tenure institutions has changed the acknowledgement to land of *Atayal* people. In contrast, it is also possible for internal institutions to change external ones. The cases in *Sinsibu* and *Yiogohon* proved it. Obviously, the possibility depends on the distribution of violence potential, or, the decentralization of power.

The concept that one could own his private land and sell it was formed under the compelling factor (the implement of private institution) and the incentive factor (the interest in market trade). However, to the common pool properties, which can not be privatized, *Atayal* people still kept or tried to govern with cooperative rules. In spite of the fact that these rules were not operated in traditional *Gaga* organization, they are relevant to the Meta rule of it. Kasper & Streit (1998) point out: in many situations, lower norms were adjusted, but they still existed in a higher rule and framework of value (392-4). The transition of institution forms a path under the lead of framework of value. Such a higher rule and framework of value was defined as Meta rule. The Meta rule partly decides that if the challenge to internal institution in operation can be accepted by most of people in the society.

Being rules, *Gaga* possessed the basic character that “members of same group bearing same responsibility”. Nowadays, the word *Gaga* is merely used to refer to a specific group, but still used to refer to polite and regulation. It means that the character mentioned above was internalized as a value. In the cases of *Sinsibu* and *Yiogohon*, the internalized, personal preference does exist. It was realized in the highly participation of collective actions and the internal constraints. According to the perspective of Kasper & Streit (1998), the cooperation in both cases was formed along the derived path under the lead of the two basic characters of *Gaga*.

The original functions such as co-sacrifice, co-production and co-distribution of traditional *Gaga* organization faded out along with the influence of state power. However, even though it no longer exists, new rules are built on the commons with new organizations under the lead of its Meta rule. In the cases of *Sinsibu* and *Mliqwan*, the concept of bearing same responsibility was combined with new objects: church and River managing committee. It was developed into the acknowledgement to right of forest, the morality to protect the river, and the formal institutions like “*Sinsibu* community pledge” and “*Mliqwan* River protecting agreement” after interacting with external institutions. Nowadays, the meaning of “*Gaga*” was shifted, but the symbol of “*Gaga*” intensifies the guilty of people if they disobey the principle of bearing same responsibility.

Table6: the comparison of compositions between traditional *Gaga* and two cases

Compositions of institution			The norm Ostrom refer to	Traditional <i>Gaga</i>	Case in <i>Sinsibu</i>	Case in <i>Mliqwan</i>
Internal institution	Informal	Conventions				
		Internalized rules	Internal norm	Bearing same responsibility	Bearing same responsibility	Bearing same responsibility
		Customs and manners	Shared norm		Acknowledgement to the right of forest.	Morality to protect the river and fish
	Formal	Formalized rules		Properties Types & properties acquisition	Community forestry pledge	River protecting agreement
External institution	Formal				Forestry Law Reserved-land policy	Fishing Law Reserved-land policy
Organization				Kin groups	From church to community association	River managing committee include minor units

Considering the success of these formal internal institutions (community forest pledge and river protecting agreement) as the result of rational choice with the institutional choice framework illustrated by Ostrom, we can describe that the internal norm (Bearing same responsibility) derived from the Meta rule of *Gaga* and the information of share norm (acknowledgement to the right of forest, morality to protect the river) made villagers tend to follow the support to them.

Furthermore, the internal institutions were not formed in a vacuum but a process interacted with external factors. The formal internal institutions can never work alone. Success of the pledge and agreement should partly attribute to the CPRs characters of forest and fish band. Because of the CPRs characters, external institutions can hardly privatize them. It made villagers try to manage them with their own ways. At the same time, the initiative efforts of human agency and the decentralization of political system made villagers overcome the costs to implement their formal internal institutions.

New Challenges

Even though both the cases successfully managed their resource through collective

actions, new challenges came consequently. March 2003, a conflict between *Maliqwan* River Managing Committee and local government officers was caused. The recovering and increasing fish band made the village more famous. The committee made further plan to develop *Yiogohon* Village. In the first step, they districted the river to several sections just as traditional way. After that, different sections were opened to foreign fishers in turn and the fishers were asked to pay the payment to the committee. Under the proposal of the committee, the payment collected can be used in community actives and even used to hire jobless villagers for cleaning the rubbish river. However, soon after the action began, local government officers came to the committee and prohibited their action. According to the law, committee has no right to ask for payment from foreign fishers. The prohibition frustrated villagers a lot. By the time this article was done, dispute is still contineuted.

On the other hand, even though *Sinsibu* residents tended to cooperate with central government for constructing a national forest park that government and indigenous communities can “co-manage”. Opposite opinion came fiery from some other indigenous communities near the location of the park supposed to be set in. These communities accused those who agreed with setting the park are betraying the whole *Atayal* ethnic group. In their view, “co-management” is just a trick of government to set one more national park and gives more restrictions to the actives in the area. Actually, according to the historical experience, not only the national parks district affected indigenes directly, the tourist business came along with it also gave further impacts to many indigenous communities. Reserved lands with potentially commercial interest were usually purchased by non-indigenous business groups with the illegal way described earlier in this article. An example happened recently can give further description of the sense of crisis in indigenous communities. An indigenous community located in a national park named Yiu-San National Park kept on protesting to government for years. The community kept on demanding government to modify the boundary of the park and excluded the community from it. However, just after the government agreed to the proposal in last year, the community members changed their minds. They turned to ask for staying in the boundary of the national park. So many years after the park was set, the region near the park has become a complete tourist resort with greedy foreign business men waiting to purchase any new land released in further step.

A national park with “co-management” mechanism indeed provides a positive image to the future of indigenous communities. However, risks also exist. Community like *Sinsibu* may be confident to overcome it, but it can not be ignored that not all the communities near the location of Maqau National Park supposed to be located in have

possessed the same conditions.

Different challenges came to the two cases both reminded us the insufficiency current land tenure institutions. Even though government tried to protect reserved land from being sold out, the prohibition from central government can not completely stop the individual behaviors to seek their interest within market activities. The decreasing of fish band in Maliqwan River before *Yiogohon* Villagers began their collective action proved that state power can not perfectly manage the resource as well. Since the committee organized by villagers can do a better job, villagers should be relatively entrusted to deal with the income from foreign fishers and get more motivation to deal with further development issue. Hence, being the Fundamental external institution, the land tenure institution should be modified to allow community owning specific land and land resources. In this way, the external institutions can provide intensives and possibility for community to deal with the public affairs within their living environment. Those communities abominate the interference of state power and fear the compact of market mechanism can get new inspiration from it. According to the experiences of the two cases in this article, the traditional *Gaga* can be ingenious applied to adapt in modern world. The communities, who can successfully interpret *Gaga*, can therefore decrease the cost of community mobilization. To allow community owning specific land and land resources can also give more chance for community members to interpret what their *Gaga* nowadays is.

. Conclusion

As the analysis in the cases has shown, not only the traditional *Atayal* society but also the modern *Atayal* communities can govern the common in their living environment with cooperative ways. It should be doubtless that modern *Atayal* people possess the ability to manage their resources with the rules developed by themselves. These cases prove two advantages of CPRs self-governing to decrease transaction cost: First, because the rules for cooperation were formed inside local communities, people can gain time-space information more completely. The formalized rules correspond to the internal norm derived with Mata rule of culture can decrease the transaction cost for supervising and executing. Second, CPRs self-governing institution can be imitated in local network and expanded, it decreases the transaction cost for institutions supply.

Since the CPRs self-governing way is practicable in indigenous communities, and it also performed good effects in protecting common resources from exhausted by vast and undeterminable outsiders, the relevant external institutions should be adjusted to empower indigenous communities to operate it. The reform of current

dualistic division of nationalized/privatized in reserved land is important and necessary. If the property right of CPR system can belong to community, the transaction cost of institution innovation and executing will be decrease. It will also protect the ability of communities to develop the proper internal institutions. Furthermore, it will not only prevent certain lands from lapse but also increase the possibility for communities to internalize external interest with their specific social capital.

All agencies will try to seek their best interest within limited resources. But the structural disadvantage seems make some of them keep on being losers. The characters of material resources destine that they cannot be explored unlimited, however, institutions can be progressed to make higher value and diminish conflicts under ceaseless efforts of agencies. As Ostrom (1990:23) addressed, all the institutions can be considered as games in a broad sense. If we can change the items and of sequence choice, provide new information, new punishment and incentive, then the foregone conclusion can possibly be changed.

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