

AN ANALYSIS OF INTERNATIONAL LAW, NATIONAL LEGISLATION, JUDGEMENTS, AND INSTITUTIONS AS THEY INTERRELATE WITH TERRITORIES AND AREAS CONSERVED BY INDIGENOUS PEOPLES AND LOCAL COMMUNITIES

REPORT No. 17

TAIWAN



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**Stockholm
University**

KALPAVRIKSH



**The ICCA
Consortium**

NATURAL JUSTICE

“Land is the foundation of the lives and cultures of Indigenous peoples all over the world... Without access to and respect for their rights over their lands, territories and natural resources, the survival of Indigenous peoples’ particular distinct cultures is threatened.”

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CONTENTS

INTRODUCTION:	3
PART I: COUNTRY, COMMUNITIES AND ICCAs	3
1.1 Country (or subnational region).....	4
1.2 Communities & Environmental Change.....	5
PART II: LAND, FRESHWATER AND MARINE LAWS & POLICIES	9
2.1 Land	10
2.2 Natural Resource Management	12
2.3 Fresh Water	13
PART III: PROTECTED AREAS, ICCAS AND SACRED NATURAL SITES	13
3.1 Protected Areas.....	13
3.2 ICCAs Within Protected Areas Systems	16
3.3 Trends and Recommendations.....	17
Part IV: HUMAN RIGHTS	19
PART V: JUDGMENTS.....	17
PART VI: IMPLEMENTATION	18
PART VII: LEGAL AND POLICY REFORM	191
PART VIII: CASE STUDIES.....	203
8.1 Case one.....	Error! Bookmark not defined.3
8.2 Case two.....	Error! Bookmark not defined.
8.3 Case three	Error! Bookmark not defined.2
Part IX: REFERENCES.....	36

INTRODUCTION

Across the world, areas with high or important biodiversity are often located within Indigenous peoples' and local communities' conserved territories and areas (ICCAs). Traditional and contemporary systems of stewardship embedded within cultural practices enable the conservation, restoration and connectivity of ecosystems, habitats, and specific species in accordance with indigenous and local worldviews. In spite of the benefits ICCAs have for maintaining the integrity of ecosystems, cultures and human wellbeing, they are under increasing threat. These threats are compounded because very few states adequately and appropriately value, support or recognize ICCAs and the crucial contribution of Indigenous peoples and local communities to their stewardship, governance and maintenance.

In this context, the ICCA Consortium conducted two studies from 2011-2012. The first (the *Legal Review*) analyses the interaction between ICCAs and international and national laws, judgements, and institutional frameworks. The second (the *Recognition Study*) considers various legal, administrative, social, and other ways of recognizing and supporting ICCAs. Both also explored the ways in which Indigenous peoples and local communities are working within international and national legal frameworks to secure their rights and maintain the resilience of their ICCAs. The box below sets out the full body of work.

1. Legal Review

- An analysis of international law and jurisprudence relevant to ICCAs
- Regional overviews and 15 country level reports:
 - *Africa*: Kenya, Namibia and Senegal
 - *Americas*: Bolivia, Canada, Chile, Panama, and Suriname
 - *Asia*: India, Iran, Malaysia, the Philippines, and Taiwan
 - *Pacific*: Australia and Fiji

2. Recognition Study

- An analysis of the legal and non-legal forms of recognizing and supporting ICCAs
- 19 country level reports:
 - *Africa*: Kenya, Namibia and Senegal
 - *Americas*: Bolivia, Canada, Chile, Costa Rica, Panama, and Suriname
 - *Asia*: India, Iran, the Philippines, and Russia
 - *Europe*: Croatia, Italy, Spain, and United Kingdom (England)

- *Pacific*: Australia and Fiji

The *Legal Review and Recognition Study*, including research methodology, international analysis, and regional and country reports, are available at: www.iccaconsortium.org.

This report is part of the legal review and focuses on Taiwan. It is authored by Dau-Jye Lu, Taiban Sasala and Chih-Liang Chao, in cooperation with the Tao Foundation.

1. COUNTRY, COMMUNITIES AND ICCAs

1.1 Country (or subnational region)

Taiwan, including Taiwan island, Penhu (Pescadore) islands, and other small islands, are located between Japan and the Philippines as one of the island arcs of the Western Pacific. Taiwan lies about 160 km from the southeast coast of China (Turner 1998: 401). The main Taiwan Island covers 36,000 km². It is shaped roughly like a tobacco leaf, with the central range of high mountains running from the northeast corner to the southern tip of the island, straddling the Tropic of Cancer. The climate is subtropical in the north and tropical in the south. Except for the mountain areas, the mean monthly temperature in winter is above 15 C. The mean annual rainfall is 2,580 mm, with a maximum of more than 5,280 mm. The typhoon season extends from July to September (Turner 1998: 402). Except for the western coastal plain and Pescadore Islands, Taiwan was once entirely covered by forests. At the present time, forests occupy more than 50% of the land in Taiwan (EPA 1996: 220-221).

Taiwan's location in three climatic zones and its diverse topography have endowed the country with abundant biodiversity. There are more than 4,000 species of vascular plants, a quarter being endemic to Taiwan. Some 62 species of mammals, 500 species of birds (40 % of which are resident), 95 species of reptiles, 32 amphibian species, 150 species of freshwater fish, and an estimated 17,600 insect species, including more than 400 species of butterflies, are known to exist in Taiwan's areas (COA 1997a: 3, EPA 1996: 282-288).

There are approximately 23.2 million people living in Taiwan (DGBAS 2012), of whom around 75% live in urban areas (Rayner *et al.* 1998: 21). The average population density is to over 600 people per square kilometre. The Han Chinese, the largest ethnic group in Taiwan, represent more than 98 percent of Taiwanese residents.

Until 1986, Taiwan (ROC) was effectively a one-party authoritarian state. Today, it is a fully functioning multiparty democracy (Castello-Cortes 1994: 525).

Taiwan is the world's 16th largest exportation and 17th importation nation, with per capita gross national production (GNP) topping US\$ 20,139 (WTO 2012, DGBAS 2012). It imports more than 99% of its energy needs (Bureau of Energy, Ministry of Economic Affairs 2011). Taiwan had an agriculture-based economy up to 1962. There was a shift from agriculture to industry during the 1950-80 period. From 1981-1995, the service sector has become a major force behind Taiwan's economic growth over the past several years. The GNP per capita grew from US\$ 145 in 1951 through US\$ 7,954 in 1990 and US\$ 20,713 in 2011 (Directorate-General of Budget, Accounting and Statistics, Executive Yuan). A unique characteristic of the Taiwanese economy is that "small to medium-sized enterprises make up 98.5% of its companies, 75-80% of all employment and 47% of the total economy" (Economist 1998: 9).

1.2 Communities and Environmental Change

According to the Article 2 of the Basic Act of Indigenous Peoples, "indigenous peoples" are defined as the traditional peoples who have inhabited Taiwan and obtain the approval of the central indigenous authority upon application. By 2011, the Council of Indigenous Affairs recognizes 14 indigenous peoples, including: Amis, Atayal, Paiwan, Bunun, Puyuma, Rukai, Tsou, Saisiyat, Yami (Tao), Tsao, Kavalan, Taroko, Sakizaya and Sediq.

There are about 512,700 indigenous people (including 23,000 people who did not identify themselves as belonging to any group) recognized by the Basic Act of Indigenous Peoples enacted in 2005 which occupy around 2% of the total population of Taiwan. These communities are spread over 16,000 square kilometers, about 45% of Taiwan's land coverage. **Figure 1** shows their distribution.

Taiwanese indigenous people lived in traditional tribal societies until around the 1930s since their initial immigration to Taiwan which may have happened as early as about 6,000 years ago (Li 1997, Wang 2003). They lived in mountain areas independently, developed close links with their surrounding environments and natural resources on which they rely, and accumulated many locally-relevant techniques and knowledge. After the 1930s, the Japanese Colonial Government and the subsequent post-World War Taiwan Authority took away the land titles from the indigenous people, built up modern state government and initiated market oriented

indigenous policy based on the culture of Han people (Lee 1996, 1997, Yen and Yang 2004, Chen 1994).

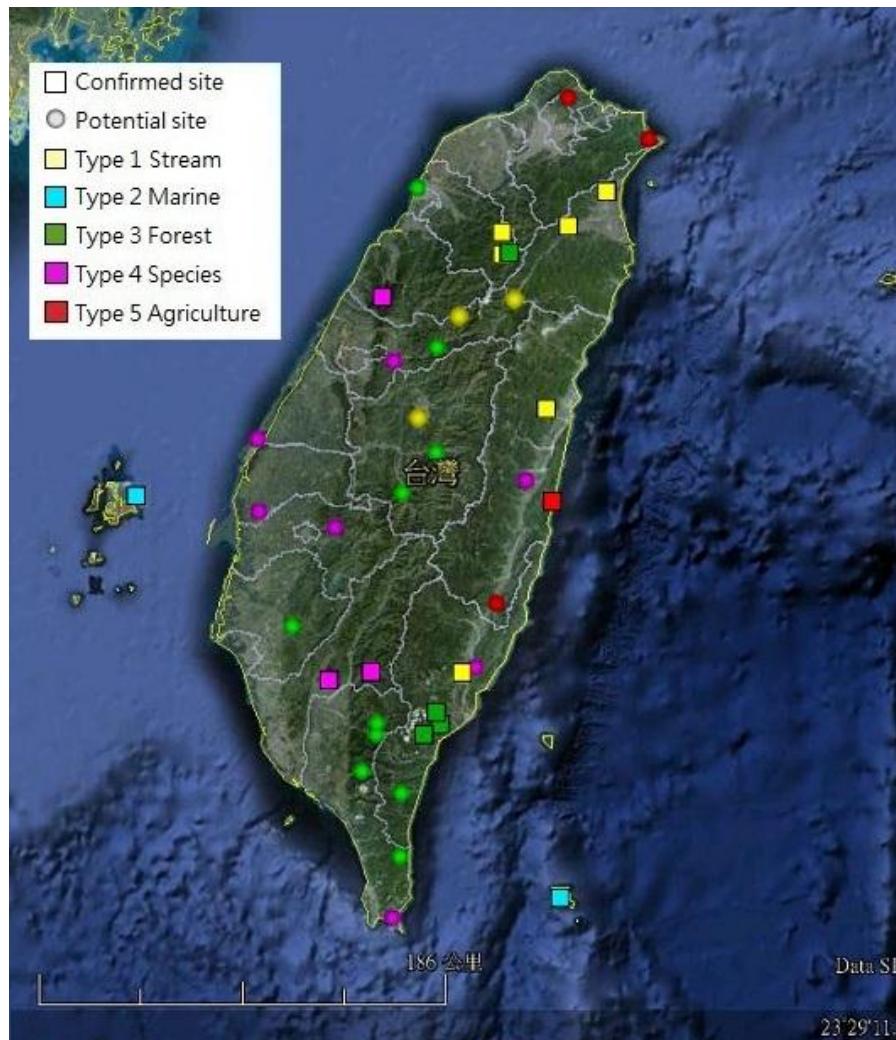


Figure 1: Types of ICCAs and their distribution in Taiwan

Resources Type	Confirmed (star)	Potential (square)
Type 1. Stream Conservation (Yellow)	1,2,3,4,5,6	7,8,9
Type 2. Marine Conservation (Blue)	1,2	
Type 3. Forest Conservation (Green)	1,2,3,4	5,6,7,8,9,10,11,12,13,14
Type 4. Species Conservation (Purple)	1,2,3	4,5,6,7,8,9,10
Type 5. Agricultural Ecosystem (Red)	1	2,3,4

Christianity was introduced to the indigenous areas around the 1950s, which has largely displaced the diversified traditional animism of indigenous peoples and reshaped their world views and values (Huang 1992, Chung 2000, Wu 2005). Since the 1960s-1970s, many indigenous people moved to work in the urban areas from their homelands where agriculture has become the major source of income, currency is used as part of the commodity-based economy (Chen 1994).

Since the 1990s, there has been further reductions in the numbers of indigenous people active in the mountains. The elders have passed away, and the middle aged and the younger generations have limited desire and capacity to live in the forests (Huang 2000, Sasala 2004, Wu 2005, Lu 2005a). Over 75% of population now live in urban areas in Taiwan, and the once forest-dependent indigenous people from mountain areas have altered their ways of life, and many of them now live and work in urban areas.

Territories and areas conserved by Indigenous peoples and local communities are defined by IUCN as "natural and/or modified ecosystems, containing significant biodiversity values, ecological benefits and cultural values, voluntarily conserved by indigenous peoples and local communities, both sedentary and mobile, through customary laws or other effective means" (World Park Congress, Recommendation v.26, 2003; Borrini-Feyerabend, 2010: 3). Three features are important to identify an ICCA:

- A well-defined people or community possesses a close and profound relation with an equally well-defined site (territory, area, habitat) and/ or species.
- The people or community is the major player in decision-making and implementation regarding the management of the site and/or species.
- The people's or community's management decisions and efforts lead to the conservation of habitats, species, genetic diversity, ecological functions/ benefits and associated cultural values (Borrini-Feyerabend *et al.*, 2010).

There are several kinds of habitats of wild fauna and flora and sites of high biodiversity which are mainly managed by local communities, especially indigenous peoples in Taiwan. Indeed, different indigenous peoples have different traditions to conserve and sustainably use biodiversity. For example, there was tradition for a tribe or a family to own and manage a section of stream for freshwater fish harvest in Tsou. Only members of the owner family can harvest fishes in their own stream section. Other persons of the tribe need to get permission of the owner family

before fishing and send part of their harvest to it afterward. Poisoning fishing was not allowed except the tribal collective fishing. Each tribe has its own specific day from May to August for tribal fishing in its own stream section. Tsou people had tribal poisoning fishing once every one or more years. It was quite usual to ban fishing in the tribe section of the stream for some time even the whole year before the tribe fishing (Lu 2000). Another case is the Ru-kai people dwelling in central range of southern Taiwan and living on planting, collecting and hunting who have developed strong links between social institutions and their surrounding natural resources. There were several influential factors for sustainability of traditional hunting in Ru-kai tribes, such as bird divine, taboos, family-based hunting fields and restricted sites (Pei 2001, Sasala 2004).

There are currently a number of new initiatives aimed at supporting local communities (including indigenous and non-indigenous ones) to protect and sustainably use local resources. For example, stream fishery conservation may be the most popular and successful initiative for the community to conserve freshwater fishes, aquatics and their habitats in streams since late 1990s. Specifically, the Fishery Act empowers the local authority (county, city and/or municipal government) to be able to ban fishing in some section(s) of a particular stream (Article 44). Thus while the community, NGO or the local government itself finds it necessity, they can lobby local government to make the claim of ban fishing. Usually the local government will consider attitudes, capacity and necessity of the local communities first. It is also possible for the local government to ban fishing where the Township Office asks and wishes to develop tourism based on resources within and along the stream. The Danayiku case of Shanmei was the most famous case of stream fishery conservation initiated by the local indigenous community with help from the Township Office and County Government. The other characteristic of Danayiku case is that it attracted a lot of tourists and made a major contribution to the local economy which was recognized as a model to integrate development and conservation in a landscape governed by indigenous communities (please refer to case studies for detailed information).

Other kinds of initiatives are also relevant, such as soil and water conservation and patrolling and reporting against illegal logging. Wang-shiang village of the Bunun people is an example in the mountain area of central Taiwan. Local residents decided not to develop the slope behind the village for soil and water conservation to avoid influences by natural disasters, such as heavy rainfall caused by typhoons or earthquakes. It also cooperates actively with the Administration Office of the

Experimental Forest of National Taiwan University to patrol their traditional lands and to report unusual activities in order to stop illegal logging.

Generally speaking, since late 1990s and early 2000s, there are a growing number of community programs sponsored by different ministries to support ecological survey, greening, patrolling and monitoring which more or less contribute to resources conservation and/or resource sustainable use at community scale. These initiatives promote community-based management on natural resources in Taiwan.

Modern national institutions and legislation do not recognize traditional social organizations and systems and the customary rights of indigenous people on lands and natural resources and is one of the major forces to degrade the traditional social institutions. This in turn, negatively impacts the capacity for the community and tribe to govern their territories and natural resource (Cultural and Art Foundation of Tsao 2006). However, in recent years, the government has passed the Basic Act of Indigenous Peoples which gives the indigenous people some rights to co-manage natural resources. Similarly, there are some signs which might create positive effects on ICCAs in the future, for example both proposals of the Act of Indigenous Autonomy and the Act to Recover Traditional Lands and Seas of Indigenous Peoples have been sent to the Legislative Yuan for review. Additionally, the Forestry Bureau has included ICCAs as part of the vision of its community forestry program, and the National Park Department claimed to adopt the idea of ICCA into its policy in several informal occasions. Notwithstanding these points, however, it is a fair characterization to state that authorities are still very reluctant to share power with them, let alone the community governance (Lu, et al. 2012).

2. LAND, FRESHWATER AND MARINE LAWS & POLICIES

2.1 Land

The only legislation that references territories is the Basic Act of Indigenous Peoples (2005) that defines "Indigenous Land" as the traditional territories and reservation land of indigenous peoples (Article 2), recognizes the right of indigenous people to lands and natural resources (Article 20), and to choose their life style, customs, clothing, models of social and economic institutions, methods of resource utilization and types of lands ownership and management (Article 23). Because the government has not yet passed any new law and relevant rules to recognize rights of traditional territories of indigenous people, there are only a few cases in which the indigenous people were able to make land claims from the government.

Article 22 of the Basic Act of Indigenous Peoples for the Rules of Resource Co-management in the Area of Indigenous People, sets out the most critical regulations for indigenous people regarding natural resource management.

The rules ask the central authorities of national parks, national scenic areas, forestry zones, ecological conserved areas, recreational areas and other resource governing areas, to make available to the public the content of any proposed projects, including objectives, range, management and local co-management matters in the Township Offices (Towns, Cities) within its coverage, and conduct public hearings, and collect consent of local indigenous people before its designation.

Notably, the High Court judged three local Atayals innocent for cutting tress in their traditional territories where also the national forests on 9 February 2010. The High Court accepted the concept of traditional territories and made clear that indigenous people can practice their traditions on these lands based on the Basic Act of Indigenous Peoples (for more information please refer to <http://smangus.blogspot.tw/>).

The indigenous reserve is the special zone which is reserved only for indigenous development which is under jurisdiction of the Council of Indigenous Affairs, Executive Yuan based on the Regulations on Development and Management of the Lands Reserved for Indigenous People. The policy originated in the Ching Dynasty in order to avoid abuses of Han people on indigenous territories (Wu, 2000). It turned to a policy tool to divide the forests into public ones (national forests) and subsistence use for indigenous people in the period of the Japanese Colony (1895-1945)(Lee, Wen-liang, 1996, 1997). According to the regulations, the reserve can be divided between those privately and government owned (mainly the Township Offices) and cannot be transferred to non-indigenous people (Yen and Yang 2004). Total coverage of the indigenous reserves is about 250,000 ha. However, only a low percentage of these reserves have been registered as properties of indigenous people (11.14% in 1998)(Yen 2000). Most of the reserves are located in national forests or difficult terrains. There is widespread illegal use by non-indigenous people (Yu 2002). There are also many indigenous reserves located in other zones, such as national parks, areas of freshwater protection, wildlife conservation, cultural and natural heritage protection, slope conservation and forests. Land use is regulated in these zones which cause many conflicts between the indigenous people and the management authorities of these zones. The indigenous people generally consider these land use regulations as damaging their rights and

traditional way of life (for example, hunting and collecting)(Yen 2000). Yu (2002) concluded that problems for land use of indigenous reserves include limited coverage owned by the indigenous people, illegal transfer to non-indigenous people, debates on legitimacy of indigenous property rights, serious poverty of indigenous people, and the overuse of indigenous reserves. Yen & Yang (2004) suggested that it may be possible to establish a communal land institutions of indigenous people based on indigenous reserves by making a new law to strengthen the legitimacy for the indigenous reserve to compete with other types of zones, and undertake community mapping in order to recover traditional territories to support the livelihood needs of indigenous people.

2.2 Natural Resource Management

Different state agencies take charge of different natural resources. Generally, the Ministry of Interior is the central authority of lands in Taiwan which regulates land uses of the urban plans and non-urban plans based on the Urban Planning Act and Regional Planning Act. Local governments, i.e., county, municipal and city governments implement the regulations.

The Forestry Bureau manages national forests based on the Forest Act (2004) and is the central authority of wildlife conservation based on the Wildlife Conservation Law (2009). Since forests occupied a very high percentage of traditional territories of indigenous people, and there was a debate of historical justice for the government to keep the land claim on national forests since the period time of Japanese Colony, the tensions never cease between the forestry bureau and indigenous people.

The streams in the forests are also under jurisdiction of the Forestry Bureau. Somehow the Fishery Bureau is mandated to regulate fishery activities in the stream, and the Water Resource Agency of the Ministry of Economy takes charge of the conservation and distribution of fresh water. Furthermore, the Bureau of Soil & Water Conservation, Council of Agriculture, Executive Yuan is responsible for reviewing slop and soil conservation (development) schemes. The Bureau of Mine of Ministry of Economic Affairs is responsible for mining matters. Since it is difficult to change or terminate mining contracts (whose duration are often over twenty years), many indigenous people consider mining companies as one of serious threats to their lands and natural resources. For example, the local indigenous people often complaint to the tribe meeting, Township Office and County Government of road destruction and landscapes irreparably changed by mining operations in their traditional territories in Lunpi. Unfortunately, nobody other than the Bureau of Mine

of Ministry of Economic Affairs is able to withdraw its mining license. Usually this bureau only reviews the mining license when it expires. There are very few cases in which mining license can be revoked, even after the designation of a protected area. Even the Ta-wu Mt National Reserve, the biggest strict regulated protected area in Taiwan set aside existing mines at its designation in 1988.

Regarding marine resources, there is no special legislation regulating the use of marine resources and environments except those relevant to pollution control, fishery rights, protected species and protected areas. The protected species are proclaimed by the Council of Agriculture, Executive Yuan according to the Wildlife Conservation Law (2009), which shall not be disturbed, abused, hunted, killed, traded, exhibited, displayed, owned, imported, exported, raised or bred, unless under special circumstances recognized in this or related legislation (Article 16). Trade, exhibition, display, owned or processed products of protected species are also regulated by the law (Article 6). There are few marine species protected by the law used by local communities, particularly indigenous tribes for livelihoods. For protected areas, few of them cover marine areas but none engage or reference indigenous people, though the government is very keen to establish a national park in Lanyu where it is still strong for the links between people and natural resources (please refer to case studies for further information of Lanyu). There are also several cases in which the local communities collect seaweeds and catch fish by stone tidal weirs in isles surrounding Taiwan.

2.3 Fresh Water

Regarding the fresh water, stream fishery conservation scheme mentioned in **Section 1** is the most relevant. For the indigenous reserves owned by the Township Office, it is very possible for the Office to offer a lease to any community-based organization under the approval of the Township Council. After the community-based organization collects permission of the Township Office to manage the reserve, the community or tribe could adopt customary laws and procedures to build up a collective mechanism to manage the rented indigenous reserves. This is the case for the stream fishery conservation scheme. Appreciated with the achievement of the Danayiku case (see the first case study), many indigenous tribes wish to adopt a similar approach under which local communities have more power on resource governance in the stream fishery conservation scheme sponsored by the Fishery Act (2008). While tourism development is the major objective for the local communities to implement the stream fishery

conservation scheme, it can be regarded as one kind of integrated conservation and development project (ICDP) (Lu 2000).

There is also the possibility for the Forestry Bureau to authorize the local community to manage the natural protected area based on Forest Act (Lu et al., 2010). However, there are not yet any recorded cases of this happening. Insufficient motivation, concerns about loss of control over forest management, and the paradigm of science management might be the main reasons of its failure (Lu et al. 2012).

Development programs are the major threats for the tenure rights anywhere in Taiwan, particularly, those initiated by the government. There is no national land use policy, and because there is a high demand on lands for trade, industrial and city development, there is intense competition between development and conservation. Development programs usually ignore environmental services and the problems of social justice. The hotel built at the sea shore of the Mei-li bay in the southeast of Taiwan provides an example of this dynamic. The Taitung County Government signed a “build, operate, and transfer” contract of 50 years with a hotel company which includes the public beach where belonging to the traditional territories of Tsz-tung community, an Yamei tribe. The contract allowed the building of the hotel on the beach and fence part of the beach as its play-ground. The tribe and many NGOs protested and accused the county government of improper environmental impact assessment. On 7 September 2012, the High Court determined that the environmental impact assessment was invalid. Somehow, the county government is still very keen to support the development project. It claimed that the case applied legally and will promote local economic development.

3. PROTECTED AREAS, ICCAs AND SACRED NATURAL SITES

3.1 Protected Areas

There is no overarching protected areas policy framework in Taiwan. The framework consists of a cluster of otherwise unrelated laws, including:

- National Park Act (2010) for the National Parks;
- Cultural Heritage Preservation Act (2011) for the Natural Reserves;
- Wildlife Conservation Law (2009) for the Wildlife Refuges and Major Wildlife Habitats; and
- Forest Act (2004) for the Forest Reserves.

One can collate from the above a working definition of a protected area in Taiwan to be: an area designated and regulated by the government to preserve biodiversity including species and ecosystems, unique natural scenery, mineral, and historic sites, and providing public recreation, scientific research and sustainable use.

3.1.1 *National Parks Act*

The National Parks aim to protect the nation's unique natural scenery, wild fauna and flora and historic sites and to provide public recreation and areas for scientific research, which can be regarded as type II protected area of the IUCN category. It adopts a centralized approach on management that dominated by the central government. Though there are some cases in which the National Park Administration claims to build up partnerships with local communities, true community participation is in fact quite limited in national parks (Lu et al. 2011).

3.1.2 *Cultural Heritage Preservation Act*

The Natural Reserve is equal to ones of the type I on the IUCN category which protects endangered endemic species, unique ecosystems and geological landscapes by no change their original natural situations. Since the government adopts a serious definition on "no change of original natural situations", it is very difficult for authorities and local communities to find a way to get involved in resource use for incentives. However, there was a debate to regarded resource use of indigenous people as part of the original situations of a reserve (Lu et al. 2010 and Workshops of Management Effectiveness Evaluation of the Tawu Mt NR). More can be done to interact with local indigenous tribes in this case.

3.1.3 *Wildlife Conservation Law*

The Major Wildlife Habitats and Wildlife Refuges focus on the protection of wild fauna and flora and their habitats. They allow flexible human interference and management to conserve, maintain, restore and sustainably use wildlife resources and their habitats. The Major Wildlife Habitat is one kind of protected area of loose management framework. It does not have a management plan, and existing land use can continue except where there is a significant impact on wildlife in the area. Any new development project should gain permission of the central authority first. Wildlife Refuges are designated by local authorities for Major Wildlife Habitats (Article 10). Though there is a decentralized approach for the refuge, the government maintains the administration and authority of the refuge. Since local

government interacts with local communities closely, as we have had a more democratic and open society in recent years. There were instances that illustrated the possibility for local communities to participate in management and share with decision power with the local authorities (Lu et al. 2006).

3.1.4 *Forest Act*

Forest Reserves aim to maintain forest ecology and preserve biodiversity. According the Regulations to Establishing Forest Reserves, the reserve can be managed by local communities. This creates room for co-management of a protected area while considering with the Rules of Resource Co-management in the Area of Indigenous People (Lu et al. 2010).

The Ministry of Interior (Agency of Construction and Planning) takes responsible for the National Park matters. The Council of Agriculture, Executive Yuan (Forestry Bureau) is the central authority of Cultural Heritage Preservation Act, Wildlife Conservation Law and Forest Act. Together they are the major protected areas agencies in Taiwan.

All these protected areas ignore or pay little attentions to the cultural values or attributes of the wildlife and areas. For example, it bans any traditional indigenous hunting which was popular before designation and may be one of the forces to form the biodiversity of the Ta-Wu Natural Reserve, but allow existing coastal fishery activities in Wazihwei and Kuan-Du Nature Reserve.

The Forestry Bureau claimed informally that it has adopted ICCAs or community governance as part of the long term objectives for its community forestry program. The Agency of Construction & Planning also revealed that it has already listed the ICCA as one of its priorities which could be a tool to include local communities in the management institutions of national parks, and one kind of national natural park that is still under developed.

Both Forestry Bureau and National Parks Administrations have taken measures to help people living within or nearby the protected areas in order to collect more local supports and to build up partnerships with them. Regarding to local government, they are more willing to respond to local enquiries for political benefits. The measures generally adopted by the government for sharing benefits of protected areas include tourism, environmental education, capacity building, infrastructure, job opportunities, etc. Among them, ecotourism is the most popular one, which can supposedly generate economic incentives with minimum impacts on protected

areas. The ecotourism activities hosted by the Shur-ding community in Kending National Park is one of the most famous examples in Taiwan (Liao, 2011). The local community organized a volunteer team to help patrol and monitor trails and resources along the trails. The Kending National Park Administrations helps campaigns and marketing of the ecotourism course, and sponsors the local community some projects for capacity building, including survey, monitoring, organizing and ecotourism planning and management. The Forestry Bureau uses it as a template to promote community forestry. Nevertheless, the government still dominates the power of decision-making for these programs or activities.

Generally speaking, though it asks the government to establish co-management mechanism while designating any protected area in indigenous areas for the Basic Act of Indigenous Peoples, most management authorities are only willing to consult with local people, but reluctant to allow them to share with the power of decision-making (Lu, et al. 2012).

3.2 ICCAs Within Protected Areas Systems

Taiwan does not have any legislation which explicitly recognizes terrestrial, riparian or marine protected or conserved areas governed by Indigenous peoples and/or local communities.

The Executive Yuan of Taiwan Government passed the draft of the Act of Indigenous People's Autonomy on 23 September 2010.¹ This draft mentions that indigenous people can hunt wildlife, collect forest products, flora and fungi, extract mining, and water for traditions, ceremony and personal use without commercial purposes (Article 21). To some extent, the zoning for resource conservation in the area of indigenous autonomy may be some kind of ICCA since the law recognizes the community where people live together by traditional norms (Article 6) as a unit to survey and patrol natural resources of this area (Article 7). Many activists of indigenous movement argued that the draft limited power and right of indigenous people because it would set up some criteria for establishing an autonomic zone, mainly following existing institutions, administrative boundaries and the political power of modern democratic society which ignores traditional territories, traditional social institutions and the differences between tribes. Nevertheless, the draft has sent to the Legislative Yuan for reviewing. This means that the government has a policy to establish the area of indigenous autonomy. Since there are too many

¹ Download from the website of Executive Yuan on 12 April 2012,
<http://www.ey.gov.tw/ct.asp?xItem=73253&ctNode=1435&mp=1>

variables in the legislative processes, it is difficult to say anything about its content at this stage.

There is also some space for the Rural Rejuvenation Act (2010) to support ICCAs since the act sponsors local communities to organize themselves, develop plans and implement the plans which might include habitat and resource conservation.

3.3 Trends and Recommendations

Overall, recent legislation is paying more attention to indigenous rights. However, there are still not enough political commitment, regulations, and resources to support implementing community-based governance. While many officers already have the idea of local participation and have learnt to respect indigenous culture, it is too early to say that the government will adopt a participatory approach to natural resources management.

4. HUMAN RIGHTS

Since July 1987, when the martial law was lifted, both human rights and civil liberties have promoted dramatically in Taiwan. It mentions that citizens of the Republic of China (Taiwan) can enjoy freedom of speech, press, assembly, movement, residence and religious belief as well as the political rights according to its Constitution. Although Taiwan (Republic of China) lost its membership of the United Nations in 1971, it is keen to embody U.N. human rights conventions. The Legislative Yuan ratified the International Covenant on Civil and Political Rights and the international Covenant on Economic Social and Cultural Rights of the United Nations (1966) on March 31, 2009. The President promulgated the act on April 22 and it came into force on December of that year. The Presidential Office Human Rights Consultative Committee is mandated to monitor the implementation of the covenants and to promote public awareness of human rights. Further, the Legislative Yuan passed the Enforcement Act for the Convention on the Elimination of All Forms of Discrimination against Women. The rights of self-determination for all peoples might be the one which is relevant to indigenous people. Somehow there is no legislation for indigenous people to implement the self-determination in Taiwan.

5. JUDGEMENTS

There are two cases relevant to indigenous people's way of life and governance of territories and natural resources. The first, the Tsao's Chief event, happened in Feb 2003 when the traditional chief and his son of one village of the Tsao took wild honey from a non-indigenous person who were suspected of collecting the honey in their

traditional territory. The police arrested the Father and son as the non-indigenous people reported the situation. The Tsao Father and son were judged guilty for robbery by the high court in 2004. Since traditionally the tribe chief needs to protect tribe property, the judge caused a lot of debates in Taiwan. Nevertheless, this case shows that the modern legislative system remains reluctant to recognize traditional territories of indigenous people. Many indigenous people protested the action of the police. There followed a lot of discussions and debates with some suggestions that there was a need to establish an indigenous court to deal with these issues from the perspectives of the customary laws of relevant indigenous tribes.

The second case is the Windthrow Beech event in Smagus. It happened in the traditional territories of Atayal tribe groups to which the Smangus belong, in 2005. Forestry officers stamp marked a wind-fallen tree after a typhoon. Three Atayals of Smagus collected it and met with policemen on the way home. The police arrested these three Atayals and sent them to the court by the Forest Act. They were judged as guilty by the local court of theft in 2007, and as nonprosecution (innocent) by the high court in 2010. This was the first time that the modern state respected the traditional territory of indigenous people and their right to distribute and use woods on it in Taiwan. In order to respond to the judge of the high court, the Forestry Bureau claimed a special zone on the forests and developed special rules allowing local Atayals to use woods in this forests (for more information please refer to the website: <http://smangus.blogspot.tw/>) .

From these two cases, we observe a tendency for the court to pay more attention to indigenous rights and to recognize traditional institutions of indigenous people, which might contribute to self-determination and autonomy of indigenous people, particularly the indigenous governance on natural resources in the future.

6. IMPLEMENTATION

Since authorities (ministries) of different natural resources are not willing to implement co-management with indigenous people asked by the Basic Act of Indigenous Peoples, there may be a need for a more comprehensive legal basis (Lu, et al. 2012). It is also possible to increase political will of these authorities by increasing political pressure from the locals or the Legislative Yuan. Lu et al. (2012) mentioned that the management paradigm behind the reluctance of these authorities dominated by scientific experts and central government might be one of the key reasons for their inaction. In order to introduce more participatory thinking and practices, we suggest that at first the Forestry Bureau and National Park Administrations should invite and empower local communities, particularly the

indigenous tribes, to get involved in general management activities, such as resource monitoring. Then it is possible to share information and improve dialogues and communications each other, even to try to build up some mutual trusts, in order to prepare for co-management matters. Regarding community-based governance, it may be very crucial to show to the authorities, like Fishery Bureau or Forestry Bureau, what the communities can contribute to resource conservation and lobby their supports. A formal way to support and implement indigenous institutions will be very helpful to promote community-based governance. Also there is a need to develop campaigns around the idea of ICCA and promote awareness of local communities.

7. LEGAL AND POLICY REFORM

The following reforms are suggested:

1. It is necessary to open some space for the community to play a role relating to *in situ* conservation. Learning from the instance of customary laws relating to fisheries (adat) being recognized by the Fisheries Department in Sabah, Malaysia, we suggest that there should be legislative support for a similar community-based mechanism. For example, the indigenous court consists of leaders and delegations of local communities supported by legislation in Sabah, which is one of the key factors for a successful ICCA.
2. A collective property right will be very helpful to promote ICCAs. Based on the experiences of indigenous reserves in Taiwan, non-indigenous people usually access and use the reserves by trading with their indigenous landowners. The situations might be improved as there is a category of communal property, which can link with traditional social institutions.
3. Since the social organization of many indigenous tribes have been largely degraded, it is necessary to either revive traditional indigenous institutions, or encourage some innovative way to assemble an effective community mechanism. There already have been many community policies in different ministries in Taiwan. Somehow, they usually aim to use the community as a tool to achieve their objectives. Few of them are able to empower local communities, especially to organize people to build up independent community institutions. Also since there is no clear policy framework for some community programs, they either become some kind of charity, or degrade further the remaining social institutions in the tribes.
4. Clear policy to support community-based governance is required. According to Lu et al. (2012) there should be a comprehensive network to push agencies of natural

resources, such as national parks, or forestry bureau developing clear policy framework and objectives for their subordinates to follow. It reveals that clear policy framework (i.e. clear objectives, power structure and scope) is helpful for the locals to get involved and for the officers to control key resources. For example, though the Kending National Park Administration controls tourism, and limits the community's power of final decision making, the local communities are happy with the opportunity to do the business of ecotourism and take charge of interpretation, patrolling, monitoring and reporting.

5. While there are community mechanisms, we need a sustainable mechanism including legislative supports to sponsor the community mechanisms. This will require particularly: capacity building which includes skill and technology needed to better understand environments; resources and for conducting monitoring; financial incentives to support the operation sustainably; quantity and quality of human resources; good organization to allow community participation and implementation effectively; and the most important one, legislative support. While people in the government have participatory approaches, there may incubate a participatory approach in its bureaucratic system, which will form the base of attitude and behavior of its officers to support governance types other than the Government on natural resources.

6. There should be a sustainable capacity building program to educate and train the government officers about legal pluralism and the social-economic dimension of community.

7. It is important to have diversified extent of punishment, particularly those social punishment in order to allow practicing customary laws and/or community governance which mainly based on social relationships.

8. CASE STUDIES

8.1 The Danayiku Nature Park at Shan-mei: A case of stream and fishery conservation type of ICCA in Taiwan (Dau-Jye Lu)

This is a case located at the area still on the process of recovery from the flooding and debris flow caused by a big typhoon in 2009. The Danayiku Nature Park (DNYK), located at the Shan-mei Village of the A-li-shan Township in the Chia-yi County, is a community park situated along the valley of the Danayiku river, a tributary of the Zing-wen river. It includes indigenous reserves and national forests (Figure 2). Shan-mei, named '*saviki*' in Tsou, is one of the indigenous villages in the A-li-shan

Township, located nearest to the Han people and the lower lands (Figure 3). There are more than 500 registered residents in Shan-mei with about 150-250 of them usually living outside the village.

The economy of Shan-mei was dominated by agriculture, with tea and bamboo as its major agricultural products (DUPCKU 1997, Lee 1998). Since the opening of DNYK in 1995, tourism soon became one of key incomes for the locals. In recent years, the government invested a lot to develop tourism industry in A-li-shan which is one of the popular destinations for tourists from mainland China the major source of tourists in Taiwan.

The idea of the conservation scheme of the DNYK was proposed originally for the development of tourism. Learning from the experience of visiting nature parks in South Africa and the Yang-ming-shan National Park in Taipei, and aware of the demands of nature tourism, the idea of protecting fish in the DNYK Valley for tourism purposes was proposed. Uncontrollable illegal electrofishing by outsiders in late 1980s and early 1990s was another key reason for the Shan-mei people to hasten the progress of tourism development of DNYK.

The idea of the natural park was initiated in 1985. It took about 10 years for local people to achieve the common ground and negotiate and transfer the ownerships of stream sections in the Danayiku valley from family groups to the community, and organizing and develop management institutions of the DNYK. While Shan-mei people had internal common ground on fish protection, it asked the Township Office and the County Government to claim no fishing based on the Fishery Act. The DNYK Nature Park was open for fish watching on 24 January 1995, and began to generate income from parking fees and the environment cleaning fee (Lee 1998: 21). Owned and operated by Shan-mei community, local leaders adopted the name “Nature Park” for the scheme of DNYK because of the flexibility of the term, although they originally wanted to give it the formal designation of a protected area.

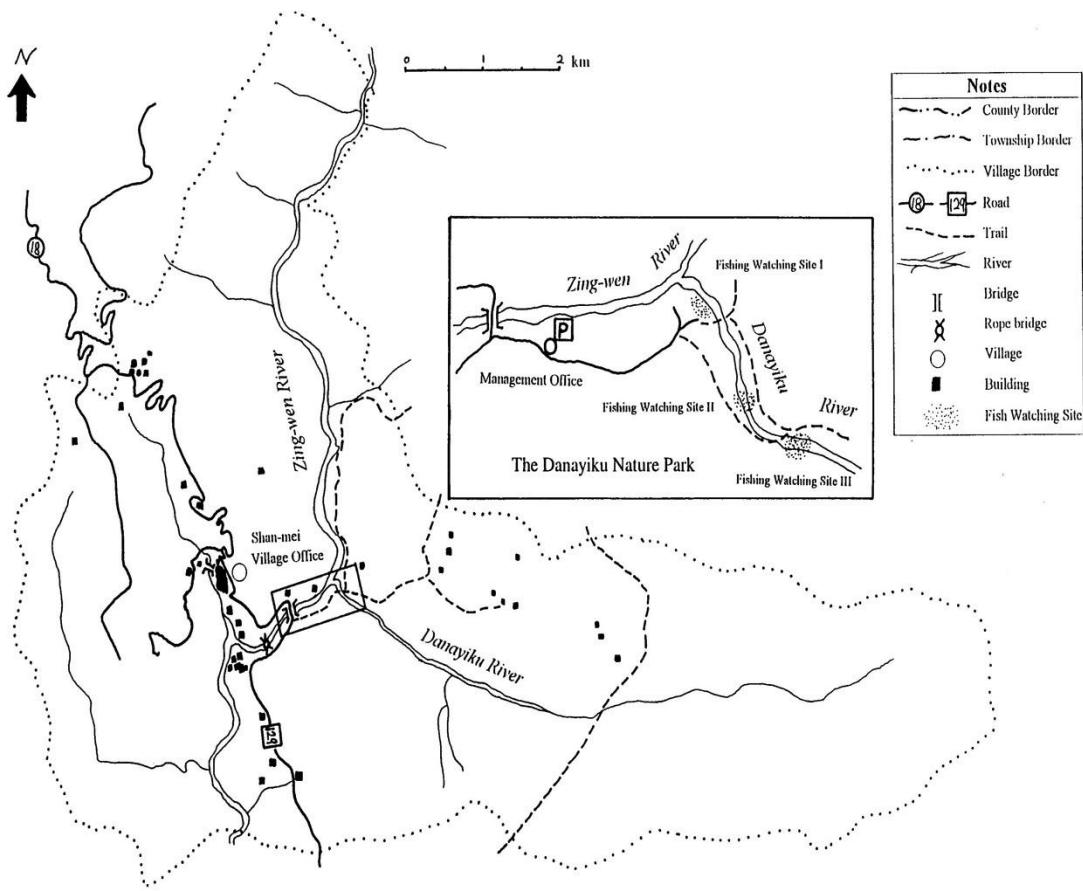


Figure 2 The Map of Shan-mei and the Danayiku Nature Park (adopted from Lu 2000)

DNYK successfully attracted a lot of tourists, averaging over 1,000 visitors per day in early 2000s and generated incomes for the community and local people. The annual income of SCD (Shanmei Association of Community Development) mainly from the DYNK could reach to several millions of NT\$, and was once over 100,000 NT\$ in early 2000s. This did not include those income other than SCD, particularly those private sectors benefited by the visitors, such as B & B, camp sites, interpreters, and so on. It was awarded by the President as the Model of Conservation. From the records of local forestry agency, this maybe few of local rivers which can observe abundant fish stock and avoid from illegal fishing, including electrofishing and poison fishing.

There are several factors which may attribute to the success of the DNYK. The organization of SCD, its management body, is based on the traditional organization of Tsao. The board of directors of SCD are composed of representatives of family groups. Shan-mei is a tribe with strong sense of identity, and local residents are keen to obey the decisions of the tribe (Lee 1998).

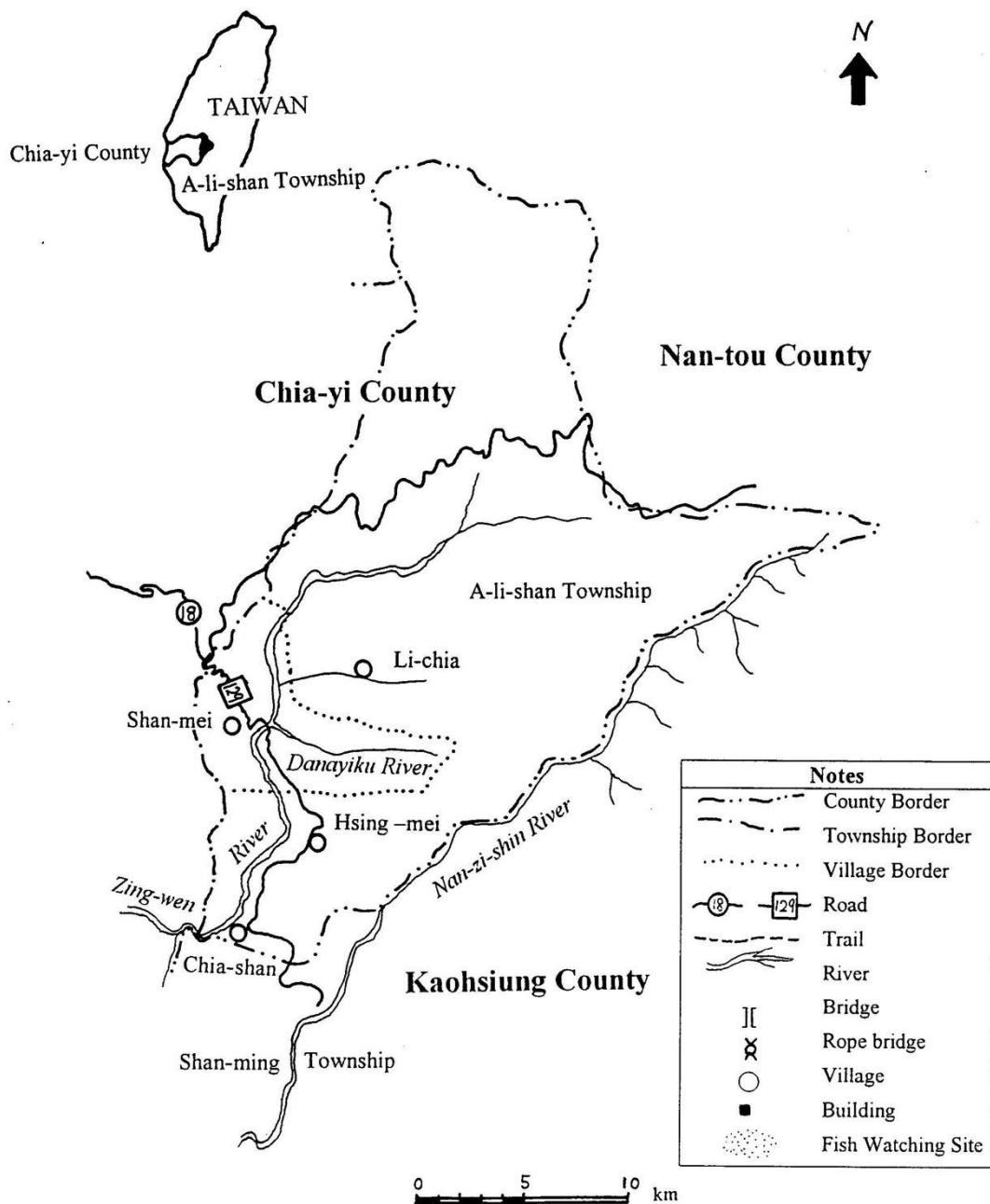


Figure 3 The Locality of the Shan-mei Village (adopted from Lu 2000)

Leaders of Shan-mei collect minnows upstream to re-establish the fish stock and organized volunteers to patrol the river side mainly at night. Shan-mei people adopted a non-discriminatory approach on law enforcement to reduce free riders' activities as much as possible. This won the respect of local people and cut down the number of cases when regulations were violated. Once there was a senior teacher of the local primary school who led his sons-in-law to poison fish within their traditional

territory in DNYK. They were caught and fined by the nephew of the teacher who was one of the local leaders responsible for law enforcement matters in the DNYK scheme. After several precedents, local people recognised the regulations and conservation scheme of DNYK. There were very few cases which need send to the police to punish by the Fishery Act.

The supports of the government was also a very important factor for the success of DNYK. The local government sponsored a lot the labours and infrastructure of DNYK. The Award for Nature Conservation given by the COA in 1992 not only encouraged local residents of Shan-mei, but also brought in a great deal of funding, although most of the money did not come from government conservation agencies. The Award was a turning point for the local government to change its attitude from regarding conservation contradicting to tourism to backup integration between them.

Since SCD does not include all adult residents of Shan-mei, also only part of local people involved in tourism industry, it is very smart for SCD to distribute profits of DNYK to the locals by welfare considerations, such as the subsidy for marriage, scholarships, and dead, elderly cares.

Learning from information on site that the community-based organization, SCD, which plays a key role on managing the DNYK, the scheme contributing significantly to freshwater fish and its habitats conservation, we identify DNYK as an ICCA. Although it still on the recovery process, we do believe the fish will finally be recovered in the valley, and linkage between Shan-mei people and the fish will be continued.

8.2 Pongso No Tao (Dau-Jye Lu and Chih-Hei Lin)

Lanyu is a volcanic island of 45 Km² off the southeastern coast of Taiwan (Figure 4). It is the homeland of the Tao (Yami), an ethnic group who migrated here from Batan archipelago about 800 years ago. Tao people call this island, Ponso no Tao (island of the people). As of June 2012, the Tao people have a population of 4,286 men and women, 3,847 peoples are registered on the home island Pongso no Tao and 439 peoples are in Taiwan. On the Pongso no Tao, as of June 2012, there live a population of 4,743 men and women, including 248 of indigenous peoples other than the Tao, and 648 of Chinese immigrants. Since its geographic isolation and special governmental policy, Tao people retain more traditional culture and institutions even though that there is a Township Office with an elected Magistrate to govern this island. Somehow, the Tao people still face more and more threats on

degradation of traditional institutions as the fast development of transportation and information technology, and tourism.

The human-environment relationship of Tao in Lanyu is quite different to those of indigenous peoples in Taiwan for different climate and natural resources context. This addresses the uniqueness of the Tao culture. They all traditionally rely on marine fish and taro for the six villages in the island. It belongs to paternal society for the Tao people. There is little hierarchy but different distribution of labor and resource for different sex and age within Tao society. For example, it is women who plant taros, men for fishing. There are species of fishes for elders to have only. Most of public issues, like forest and fresh water supply are managed and discussed by family group. For marine fishing, it is the village issue. Based on a tour to visit Lanyu in the summer of 2011, we observed that traditional institutions of Tao still operated well in forest, Taro planting, and marine fishing. Since Tao people can control them which being some kind of sustainable way of livelihoods and resource conservation, we defined them as some kind of ICCA.

We introduce briefly these resource conservation (use) systems below:

1. The taro planting and freshwater: In the past, the taro fields and relevant fresh water are common property of a family group. Each family plants what coverage it can within the lands of the family group it belongs to. It is women's job to plant taros. Since there was no money in the past, the size of taro fields and the capacity of the women was extent of wealth of a family, . The taro fields were cultivated along the watershed by terraces. The family group managed and distributed fresh water.

Usually the elder women collected more fields and fresh water to plant taros. Nowadays, many taro terraces are abandoned because people have more and more imported foods and many young people change their livelihoods, even move to Taiwan for living. However, there are still some taro terraces and some schemes are initiated to try to recover the taro planting and fresh water conservation in Lanyu.



Figure 4: Map of Pongso no Tao (Lanyu), © Tao Foundation

2. There are forests inland particularly on the hills in Lanyu. The forests or woods are managed by family groups, though some of them are national forests. Woods are used to build traditional houses and canoes. Tao people carve the logo of their own family group and/or family on woods of their family group to reservation (Figure 5). As a boy is born, they will plant new trees in the forests. While one tree is cut, Tao people will plant three new ones to ascertain the sustainability of the forest. After planting new trees, they will tend (weed or prune) the trees at intervals. There are several key timings for a Tao man. His Father will bring him to forests to choose woods when becoming an adult, and teach him how to build the traditional canoe. As the canoe is built, he will owe the capacity to fishing and marriage. A young couple needs to catch fish and plant taros for exchange labors with neighbors to build a house. The more children they have, the bigger house they need. Thus they need keep fishing and planting taros for building bigger house all the time. As the government encouraged Tao people to build and live in modern houses built by concrete and bricks, the traditional house with indigenous knowledge to adapt with strong wind from the sea and to drain flooding water has gradually become historical building and/or relics. There are nevertheless still quite a few people live in the old village with traditional houses.

3. The village beachhead is the harbor of canoes for the whole village. Marine fishing is the village level issues. Every village has its own village beachhead where near to its costal fishing sites. It is the middle point between lands and marine for the Tao. Meanwhile, it is also an very important public space for the launching ceremony of canoe, place to go to the sea for fishing, having traditional ceremonies and educations. The village beachhead represents the institutions for the Tao to use marine resources (Rapongan 2009).

In recent years, as many young men drove powerboats subsidized by the government and anchored in the modern harbor built by the government. The introduction of powerboat and new fishing materials and technique promote effectively the efficiency of fishing, but degraded the management institutions of marine fishing, canoe building, role of village beachhead, and the management of woods in the forest. Nevertheless, there are still several Tao men rowing their canoes and fishing by hands in each village.



Figure 5 Family mark on trunk of a tree in Pongso no Tao (by Syaman Misiva, Tao Foundation)

8.3 Smangus village and the management of their traditional territory (Huei-Chung Hsiao, Pei-hsin Hsu and Chih-Liang Chao)

This case involves an indigenous tribe of *Atayal* named *Smangus*. It is one of the most remote and recently developed indigenous villages in northern Taiwan. During the last two decades, it has transformed into a popular tourism site known for its nearby grove of ancient Formosan red cypress tress (*Chamaecyparis formosensis Matsum*), and for its collectively-run tourism business and land use system. For conservationists, *Smangus* is special for its dedication to sustainable use of local natural resources based on indigenous ecological knowledge and customs. It has promoted and implemented its own natural resource management plans for eight years on their traditional territory and achieved some positive outcomes.

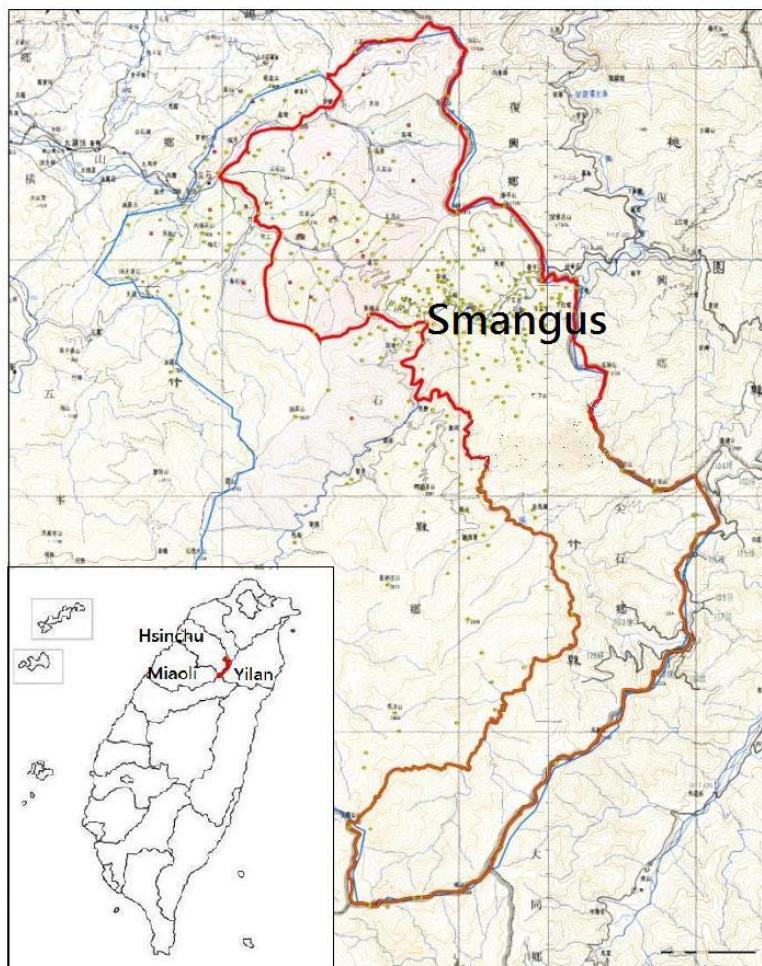


Figure 6 Map of Smagus's traditional territories (Council of Indigenous Peoples, Executive Yuan)

Indigenous traditional territory and its management

In Taiwan, most indigenous traditional territories are now state-owned and managed by the Forestry Bureau according to the law. The use of natural resources in the national forests is strictly regulated if not forbidden. It is also the case of *Smangus*. But *Smangus* villagers are determined to use the resources in their traditional territory in their own terms as part of their rights for autonomy. They established the Community Council of *Smangus* in the early 2000s to be the decision-making organ of the community's public affairs. At first, *Smangus* villagers reorganized their tourism business in a way that they call 'collective management'. The idea is to allow all villagers, whether rich or poor, can benefit evenly from the tourism development in *Smangus*, as long as they are willing to work together and follow the rules made collectively by all the members of the Community Council. After a couple of years experimenting on collective management of tourism business, in 2003, the majority of *Smangus* households agreed to the collective ownership of the lands they privately possessed (outside the national forests) according to modern laws, so that the community as a whole could utilize and manage the land in a more efficient and integrated way.

Smangus villagers call their collective management model of resources and businesses '*Tnunan Smangus*'. '*Tnunan*' in their language and culture means 'togetherness', 'sustainability', 'sharing', and 'love'. In 2005, the *Smangus* Community Council launched a five-year plan of forest preservation, which aimed to survey local ecological resources and indigenous ecological knowledge in their traditional territory. To do this, they cooperated with a university research center. As surveyors have observed some unusual activities in the forests that might be relevant to illegal logging or hunting, the *Smangus* Community Council claimed that conservation is the top priority for the management of its traditional territory and ecological resources, and that the Council has the power to decide the way to use resources. To show their determination to protect local biodiversity, the Community Council also decides to punish community members who violate the hunting bans by internal rules or the national law. After the first five-year period of preservation plan, while the residents saw obvious increase of wildlife around their village, they decided to implement another five-year project.

There were some challenges for *Smangu* to manage their traditional territory and resources autonomously. The government welcomes the villagers' conservation efforts but in general denies their rights to utilize natural resources in the national forests. In 2005, three *Smangus* villagers were brought to the court for their

collection of forest products in the national forests, an action that violates the Forest Act. The *Smangus* Community Council insisted that these villagers were executing its collective decision, which is totally lawful in terms of their internal rules as well as the Indigenous Basic Law that came into effect in February 2005. After more than four years of lawsuit, the High Court of Taiwan declared the three villagers not guilty, in accordance with the Indigenous Basic Law. This verdict is a groundbreaking one for *Smangus* as well as other indigenous tribes in Taiwan, for it is the first time in the history of Taiwan that the judicial system recognizes indigenous rights over their traditional territory.



Figure 7: Traditional territory investigation

Photograph: Lahuy Icyh



Figure 8: Specimen preservation

Photograph: Hsu, Pei-Hsin



Figure 9: The pray creamery for tourist

Photograph: Hsu, Pei-Hsin



Figure 10: TEK interpretation

Photograph: Hsu, Pei-Hsin

9. REFERENCES

- Bureau of Energy, Ministry of Economic Affairs. 2011. *2010 Annual report*.
2012/05/20 downloaded from
http://web3.moeaboe.gov.tw/ECW/populace/content/ContentLink.aspx?menu_id=137.*
- Castello-Cortes, Ian. (ed.) 1994. *A Dorling Kindersley Book*. Dorling Kindersley Ltd., UK.
733pp.
- Chen, Zong-Han. 1994. *Analysis of Aborigines Policies in Taiwan after the Second World War: From State and Society Perspectives*. Taipei: Master Thesis of Institute of the Three Principles of the People, National Taiwan University. *
- Council of Agriculture, Executive Yuan (COA). 1997a. *The Nature Reserves in Taiwan*. COA, Taiwan. 46pp.
- Department of Urban Planning, Cheng-kung University (DUPCKU). 1997. *The General Development Plan of the Chia-yi County – An outline for the A-li-shan Township*. The Chia-yi County Government (CCG), Taiwan. 151pp. *
- Directorate-General of Budget, Accounting and Statistics, Executive Yuan (DGBAS), 2012. *Population of Taiwan*. DGBAS, Taiwan. Retrieved 17 July 2012,
<http://eng.stat.gov.tw/lp.asp?ctNode=2204&CtUnit=1053&BaseDSD=35&MP=5>
- Economist. 1998. *Taiwan - in praise of paranoia*. A special survey of the Economist, 7 Nov 1998. The Economist, UK. 18pp.
- Environmental Protection Administration, Executive Yuan (EPA). 1996. *Environmental Yearbook Taiwan 1996*. EPA, Taiwan. 719pp.*
- Huang, Chang-Sing. 2000. The Hunting Culture of East Seediq. *Field Materials Institute of Ethnology Academia Sinica* 15: 1-104.*
- Huang, Ying-Guei. 1992. *Cultural Practice and Social Life among the Bunun of Taketonpu*. Taipei: Institute of Ethnology Academia Sinica.*
- Jhong, Sih-Jin. 2000. *Research of the Lily Institutions in Rukai*. *(unpublished)
- Lee, Tien-Ming. 1998. *Forever Danayiku: The Story of Shan-me Community* (draft). Unpublished research report of Chia-yi County Government and the Political Institute of National Chung-Cheng University, Taiwan. 26pp. *

- Lee, Wen-liang. 1996. Taiwan's Rinya Management during the Early Stage of Colonial Rule - A Case Study of Ta-k'a-k'a (Ta-his, T'ao Yuan) in Northern Taiwan. *Taiwan Historical Research* 3 (1): 144-169.
- Lee, Wen-liang. 1997. The Undertaking of Arranging Forest-lands and the Conformation of Land Ownership in Eastern Taiwan (1910-1925)]. *Journal of Eastern Taiwan Studies* 2: 169-195.*
- Li, Paul Jen-Kuei. 1997. *Migration of Austronesian People in Taiwan*. Taipei: Chang-Ming Publishing Co.*
- Liao, Yi-Fen. 2011. *Opportunities and Challenges of Taking Ecotourism as a Tribal Development Strategy — A case study of Shir-Ding Community in Kenting National Park*. Master Thesis of Department of Geography, National Taiwan University, Taiwan.*
- Lu, D. J., H. C. Chueh and C. W. Kao. 2012. Why They Cannot Work Together: A Study of the Co-Management of Natural Resources with Indigenous People in Taiwan. *Society & Natural Resources* 25:105-112.
- Lu, D.J., Chen, Lu-ling, Taiban, Sasala, Chueh, Ho-Chia, Pei, Kurtis Jai-Chyi, Tsai, Bor-Wen and Wang, Chin-Fah. 2010. The challenges and opportunities to implement co-managed mechanism of natural protected area in Taiwan. *Taiwan Journal of Indigenous Studies*, 3(2): 91-130.*
- Lu, Dau-Jye , Wu, Wen-Ching, Pei, K. Jai-Chyi, Taiban, Sasala. 2006. Establishment of the Links Among Community-based Conservation, Indigenous Hunting and Wildlife Management. *Journal of Geographical Science* (46) : 1-29 (2006).*
- Lu, Dau-Jye, Chueh, Ho-Chia, Kao, Chieh-Wen, Kurtis Jai-Chyi Pei, Yen, Jia-jy, Liu, Tzu-Ming, Taiban, Sasala, Tsai, Bor-Wen, Chao, Chih-Liang. 2011. The Situation Analysis and Challenge of Co-management for Protected Areas in Taiwan. *Taiwan Journal of Indigenous Studies*, 4(2): 1-37.*
- Lu, Dau-Jye. 2000. *Participation, Institutions and Protected Area Management – A Qualitative Analysis of Wildlife Refuges in Taiwan*. Aberystwyth, UK: PhD thesis of the Institute of Geography and Earth Science, University of Wales.
- Pei, Jai-Chyi. 2001. Make good use of traditional knowledge for co-management of natural resource. In: *Taking People Back-Local participating in Natural*

- Resources*, edited by Chiou-Fang Lee, pp. 205-211. Hualien: Taroko National Park Administrations.* 205-201 °
- Rapongan, Syman. 2009. Marine Knowledge of Tao in Pongso No Tao. *Taiwan Indigenous Studies Review* 5: 125-154.*
- Rayner, Caroline, S.G. Roberts, P. Willet and B.M. Willett. (Compiled & ed.) 1998. *Philip's Geographical Digest 1998-99*. George Philip Ltd., UK. 128pp.
- Sasala, Taiban. 2004. *Searching for the Lost Arrow-Perspectives and actions of tribalism*. Taipei: Foundation of National Development, Culture and Education.*
- Tsao Foundation of Culture and Art. 2006. *Studying, Compiling and Evaluating the Inclusion of Indigenous Customary Laws into Current Legislative System-Tsao and Rukei*. Taipei: Research Report of Council of Indigenous People*
- Turner, Barry. (ed.) 1998. *The Statesman's Yearbook 1998-1999: the essential political and economic guide to all the countries of the world*. Macmillan Reference Ltd, UK.
- Wang, Ming-Huey. 2003. Review and forecast of indigenous movement in Taiwan. In: *Analysis of Social Movement Cross Straits*, edited by Mao-kuei Chang and Yung-Niang Cheng, pp. 95-135. Taipei: New Naturalism. *
- World Trade Organization (WTO). 2012. *International Trade Statistics 2011*. 10 May 2012 downloaded from the website of www.wto.org/statistics.
- Wu, Shuh-Tsrong. 2000. *A Study of The Changes of Taiwan Aborigines' Land Ownership Right Institution- From Commonly Owned to Privately Owned since 1895*. Taipei: PhD Thesis of Department of Land Economy, National Cheng-Chi University.*
- Wu, Wen-Ching. 2005. *Representing Hunters: Exploration on the Meaning of Hunters in a Rukai Tribe*. Taipei: MSc Thesis of School of Forestry and Resource Conservation, National Taiwan University.*
- Yen, Ai-ching. 2000. Current Issues and Strategies on Reserved Land for Aborigines. *Journal of National Cheng-Chi University*, 80: 57-104.
- Yen, Ai-ching and Yang, Kuo-Chu. 2004. *Land Institutions and Economic Development of Indigenous People*. Taipei: Dao-Hsiang.

Yu, Jhong-Yi. 2002. *Land Rights of Indigenous People-Also Discussing the safeguard of the Taiwan Authority on Land Rights of Indigenous People*. Taipei: Master Thesis of Chun-Shan Institute, National Cheng-Chi University.*

* in Chinese