



## Identifying the Cultural Issues of Inland fishery ICCAs in Taiwan

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# Outlines

- General introduction of stream fishery conservation schemes (ICCAs) in Taiwan
- Story I: Danayiku
- Story II: Lunpi
- Story III: Qingshuigou Creek
- Discussions & conclusions

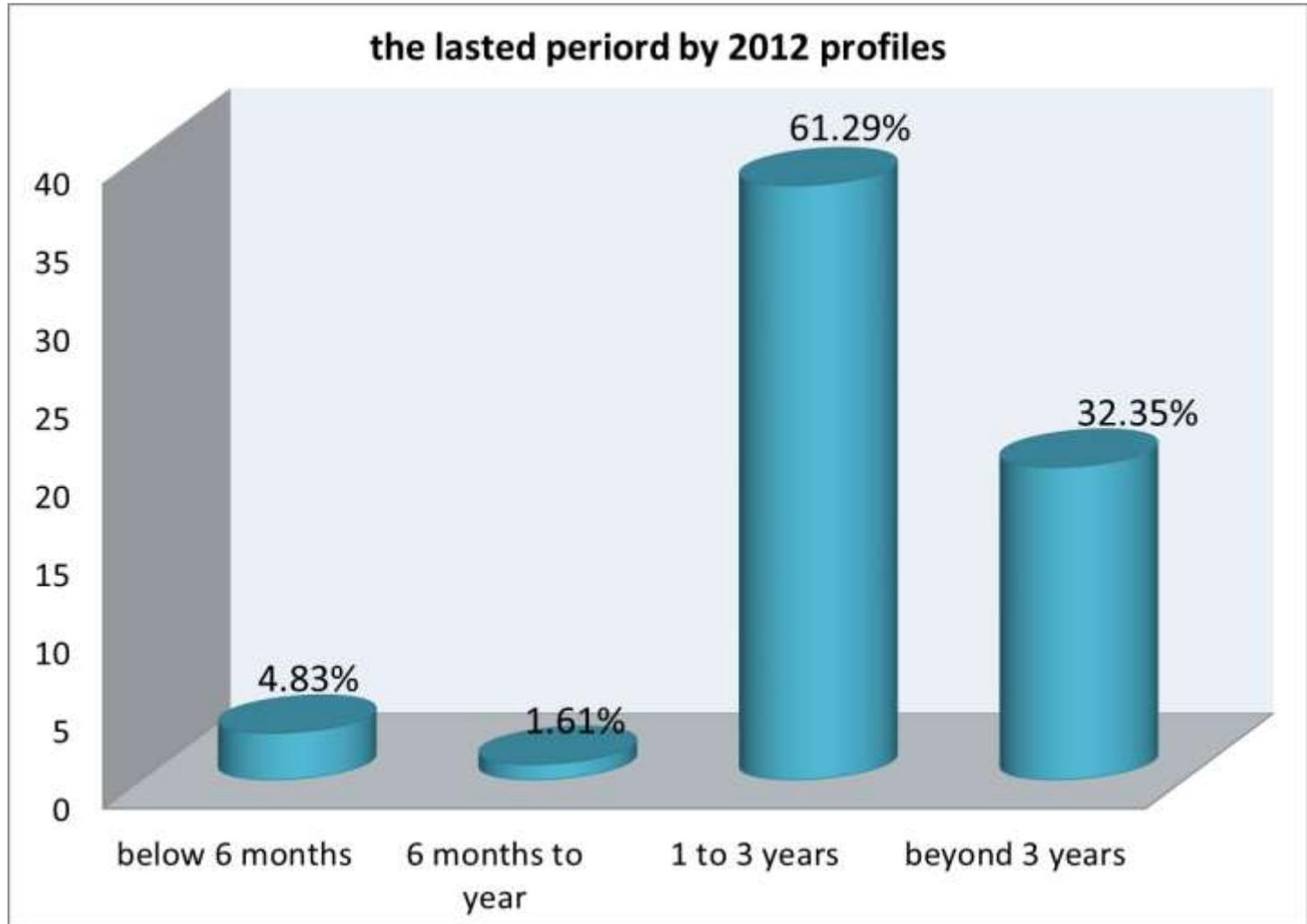
# Stream Fishery Conservation Scheme (Inland Fishery conservation)

- The **major type of ICCAs** in Taiwan so far
- It protects fresh water fishes and their habitats based on the **Fishery Act**
- Most of this kind of initiatives are keen to integrate with **local tourism development**

# Profiles of stream fishery conservation schemes

- There are totally 64 locations of stream fishery conservation scheme claimed by local governments (2000-2012)
- Each claim can only last for two or three years. The local authorities need re-claim the schemes every two or three years if they want to continue the conservation schemes.
- Based on the profiles in 2012, regarding the period of time for these cases of stream fishery cases, most of them have lasted for 1-3 years (38/62: 61%), next is those lasted for over 3 years (31/62: 32%), the remaining ones belonging to those lasted for less than 1 year.

# Profiles:



The story of Danayiku  
- social organization, traditional  
belief and stream conservation

# Case of Danayiku (in Shan-mei)

- One of the earliest sites in Taiwan to protect fresh water fishes initiated in 1980s.
- It created the fashion of fish-watching.
- It was the first case to **integrate tourism and conservation** which has become one of the major models for indigenous development in Taiwan.
- It then became the **Danayiku model** for many indigenous communities to follow
- The tribe used the profits earned from this scheme to support **a local social welfare system**.

# Locality of Danayiku

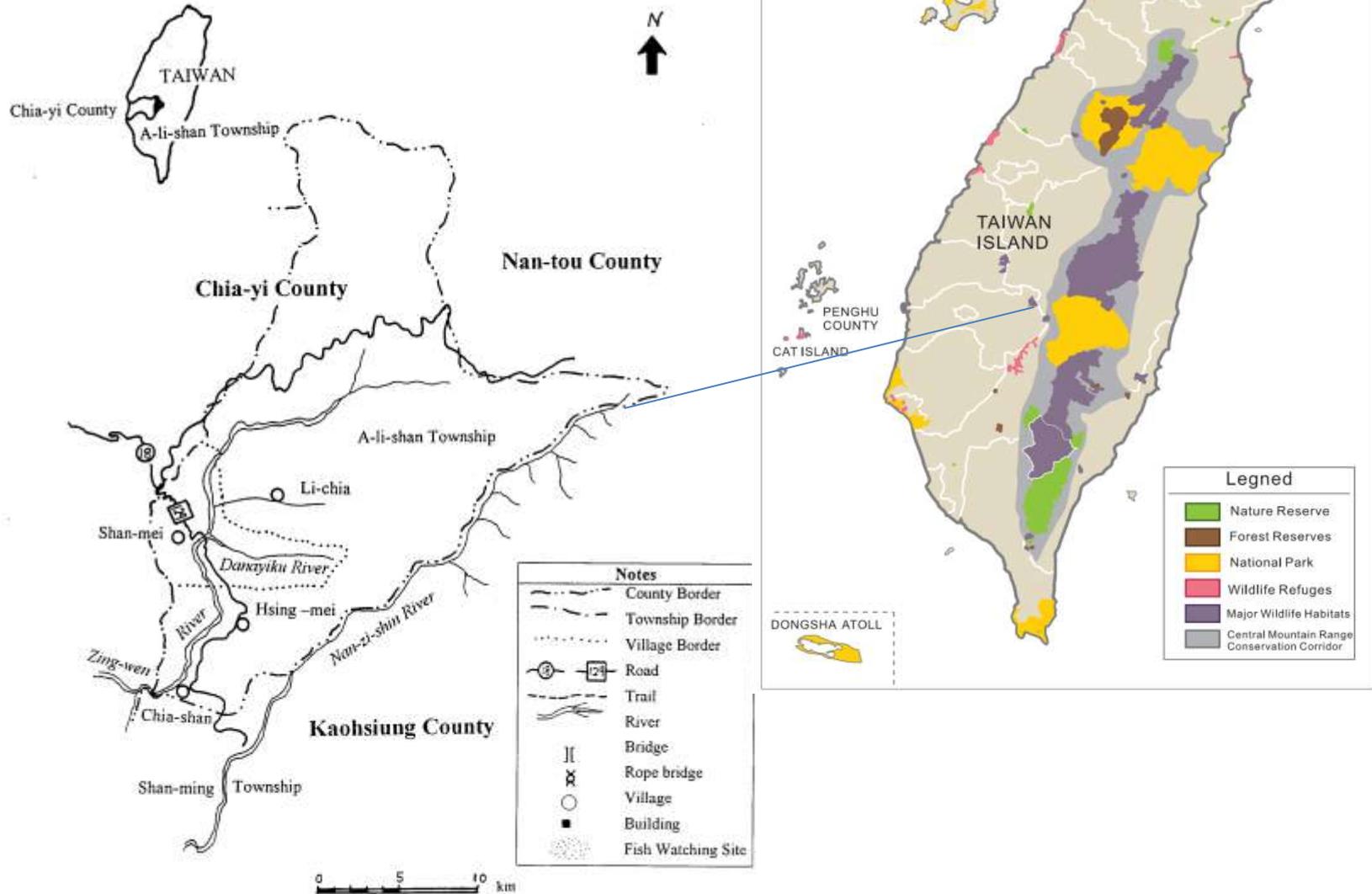


Figure 7.2 The Locality of the Shan-meì Village

# Shan-Mei (Tsou: Saviki)

- About 500-600 people, about 250 live outside: usu. **300 in the village**
- Tea, Makino bamboo, Ma bamboo (before 1997) → Now: **tourism**
- Religion: Catholic, Presbyterian church and **traditional religion (1/3)**
- Up to now, **traditional social organizations** still play a key role in Tsou's villages.
- The chief, the head of the army, braves, elders and **tribal meetings** composed of these persons formed the core of a traditional Tsou tribe in the past
- The chief represented the value of the whole tribe, was the chair of the tribe meeting.

# Tsou people believed

- **every river has a god** whom humans should respect. This is the basis on which Tsou people have developed their philosophy on the use of natural resources, '**collect only what you need**'.
- The Tsou tribes had the tradition that **family groups managed the fish fields of the river in their respective sections**.
- In the past, to defend their own fishing rights and territory, family groups of Tsou **put a curse** on borders to punish intruders.
- Individuals could only fish with spears and rods, and only joint parties of one or more family groups were able to conduct **poison fishing** within their territories. Sometimes the tribe banned fishing for a period of up to several years (3-5 yrs) to prepare for **joint group fishing** of the whole tribe.
- Anyone who broke the rules would be punished publicly in the annual celebration ceremony of the tribe
- There were rules on collecting larger fish and on releasing the juveniles back to the river.
- All these regulations concerning resources use and the traditional norm of Tsou people show their respect for nature and the wisdom of **using resources in a sustainable manner**.

# Danayiku

- Danayiku means '**clean river**' in Tsou, and previously the Danayiku valley (DNYK) was regarded as **a reserve for hunting and fishing in the rainy season** in order to reduce the danger to people of collecting food and game across flooded rivers.
- The minnow, *Varicorhinus barbatulus* (Pellegrin), called '**LUSKU AKU**' and meaning '**real fish**' in Tsou, is the dominant species in DNYK, or the Danayiku river, and is the preferred fish of the Tsou of A-li-shan.
- The big **five families** of Shan-mei owned the traditional fishing rights of DNYK, and the lands along the river belong mainly to aboriginal reserves and national forest.

# Cultural landscape



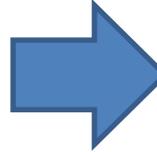


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# The status of DNYK

- In 1996, the Typhoon Herb hit A-li-Shan areas, the Tsou people in Shan-mei worked together to recover the habitats within two years and collected a national prize for community development in 2000.
- In 2009, the Typhoon Morakot hit south Taiwan and caused a forever change for the river landscapes. Part of residents were relocated to plain areas outside. Though the locals can not but to allow the government to re-build the dikes ignoring the idea to keep a wider natural waterway for the nature, there still is still **a strong community organization and powerful cohesion in the community.**

# Natural Disasters



DSC-T300 F5.6 1/400s ISO100

Before Typhon (2006)



After Typhon (2013)



DSC T300 F8 1/400 ISO100

# Factors to promote this ICCA

## **Social & cultural factors (institutions)**

- There are collective property system, traditional beliefs, on natural resources in DNYK.
- This case has promoted self recognition of the locals on culture and natural resources which strengthen the operation of this ICCA.

## **Other factors:**

- Government supports
- Social welfare

# The story of Lunpi



# The Lunpi tribe (Atayal: talah uraw)





# Original visions for Lunpi tribe development

- **Tourism & eco-industry** as focuses of local development
- They followed **the DNYK model** to implement the stream fishery conservation scheme on Gio-liao river and Lunpi creek.
- Then they cooperated with different governmental agencies to build the **ecological garden and the trails** along the river.
- In recent years, the locals turned to the proposal for a **co-managed protected areas** in order to protect tourism resources and to exclude foreign use.

# Background information of Lunpi

- As part of the Atayal nation, the Lunpi tribe has about 700 people. Most of them work in agricultural, industrial and public sectors.
- **Gaga** is one of the characteristics of Atayal people, which is their traditional social norms and organizations. People of a family group, or working groups or a tribe share the same gaga and should follow it all the time.
- **The Lunpi Community Development Organization (LCDO)** is the main local autonomous group guiding the development of Lunpi community, which has successfully won a few projects and funding from governmental agencies since its reorganization in early 2000s.

崙埤部落遷徙路徑

- 圖例
- 遷徙起點
  - 遷徙終點
  - 遷徙路徑
  - 遷徙時間



圖例

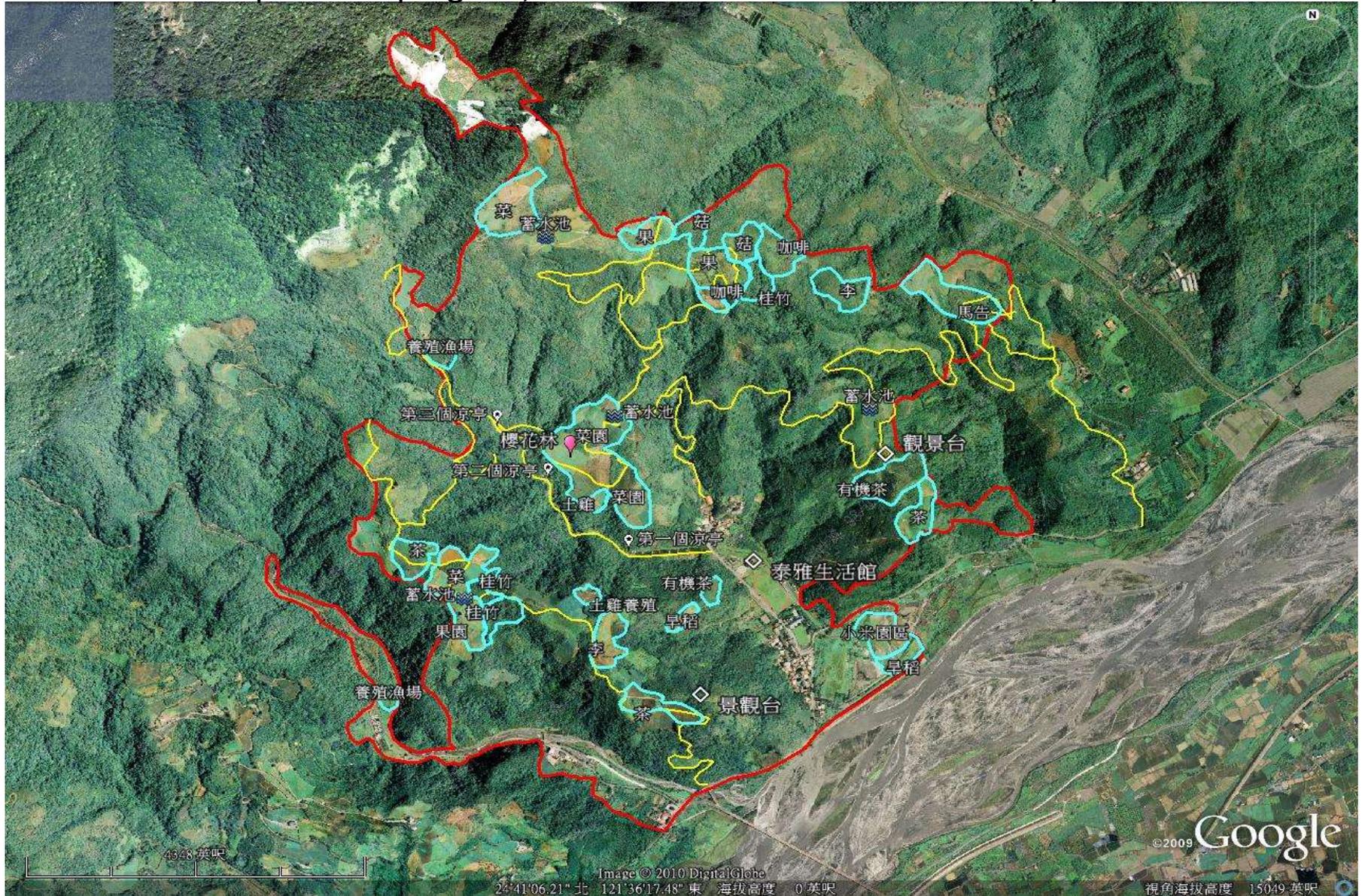
- 崙埤部落遷徙路徑
- 道路
- 崙埤部落
- 河流
- 山脈

宜蘭縣大同鄉崙埤部落傳統領域圖

# Working Landscapes of Lunpi

## - scope and distribution of the Recreational Farms Scheme

(red line is the scope of the program; blue line indicates other land use; yellow line is the roads)





# Gio-liao river





九寮溪入口



九寮溪中游



九寮溪上游

## Waterfalls upstream



1<sup>st</sup> waterfall



2<sup>nd</sup> waterfall





Checking point set by the tribe



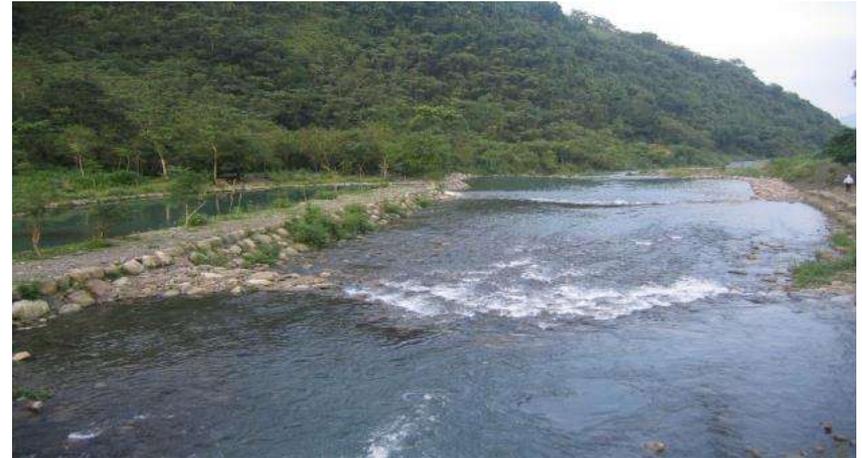
noticeboards



# The locals built wooden bridges and planted trees to promote tourism



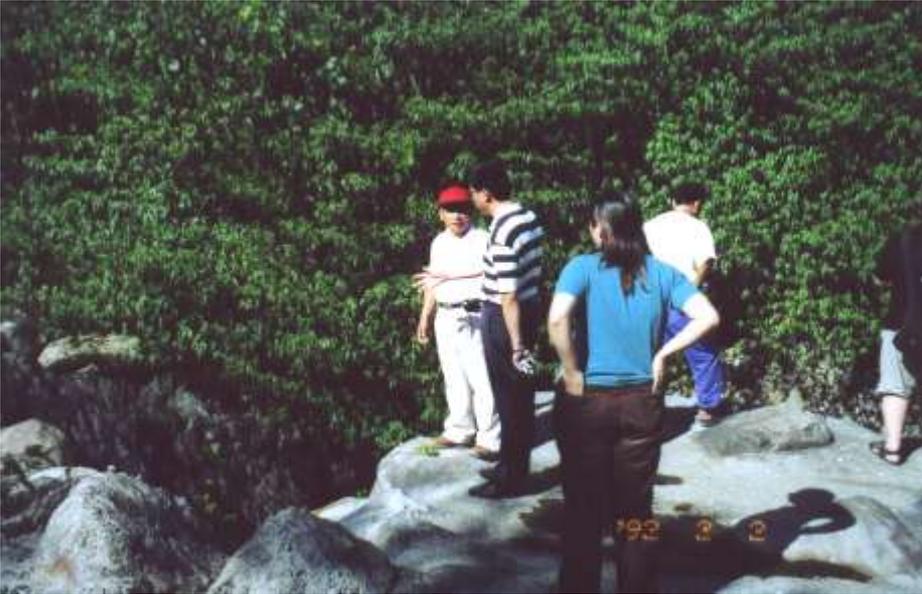
# Challenges of the stream fishery conservation scheme – too many tourists in summer



## Challenges – two fish farms upstream



# Challenges- Garbage



# Good outcomes for the conservation scheme



# Training for interpretation



# Planting trees in 2007

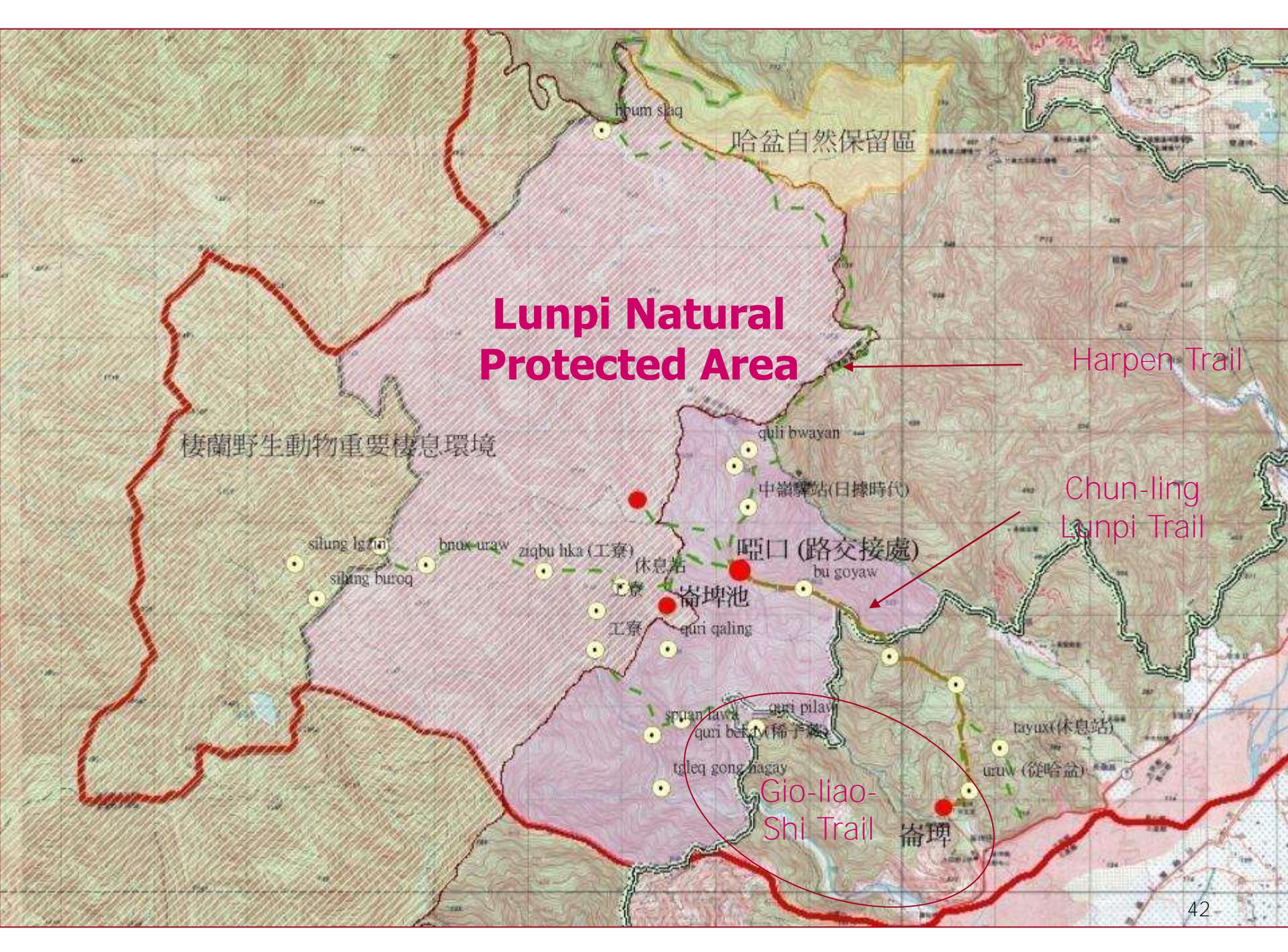


# Challenges for the conservation scheme in Lunpi

- Not yet identify a business model and an effective way to link with the commercial tourism
- It takes too long for the developing processes. The locals complain and gradually lose their patient
- Rely on the government too much

# A proposed Co-managed Natural Protected Area

- Designate a Natural Protected Areas by the Forest Act, and **outsourcing the local tribe** to do the ecological survey, environmental monitoring, resource patrolling and maintenance, scientific research, and educational campaign activities.
- Invite relevant agencies and tribes to establish a **taskforce of co-management**: negotiating and developing range, zoning, regulations and items for consignment.
- Developing **co-managed framework and management plan** (need collect approval of the government and the tribe both).



# Lunpi Natural Protected Area

Harpen Trail

Chun-ling Lunpi Trail

Gio-liao-Shi Trail



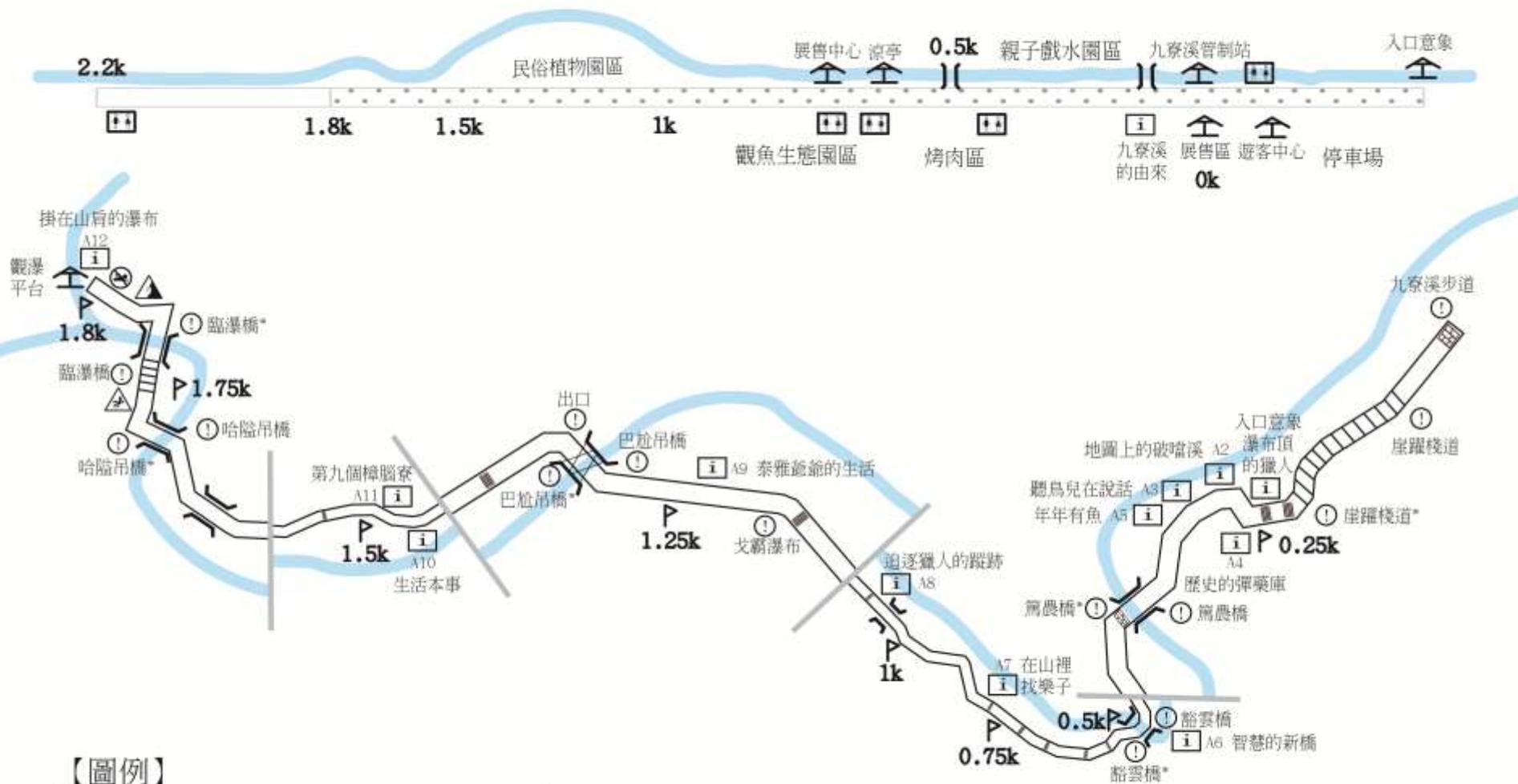
# 【崙埤九寮溪步道巡護圖】

填表日期：公元\_\_\_\_年\_\_\_\_月\_\_\_\_日

氣候：

巡護人：

起迄時間：\_\_\_\_：\_\_\_\_~\_\_\_\_：\_\_\_\_(分)



## 【圖例】

▶ 里程	□ 解說牌	▤ 木棧道
▲ 落石危險	⌋⌋ 橋	▣ 砌石階梯
⚠ 小心滑倒	⌋ 索橋	▤ 混凝土鋪面
⊘ 禁止戲水	— 九寮溪	— 木製水溝蓋
♻ 廁所	○ 告示牌(*表附說明)	⌋ 設施/涼亭

## 【記錄方式】

- Ⓢ 步道或設施有狀況的地方需圈起來(加描述或處理情形)
- ⊗ 設施嚴重損毀
- △ 有垃圾
- ! 危險警告

巡護人：李永得 【林美石磐步道—巡護簡圖】 林美社區發展協會 執行

由陽明山大學地理學系製

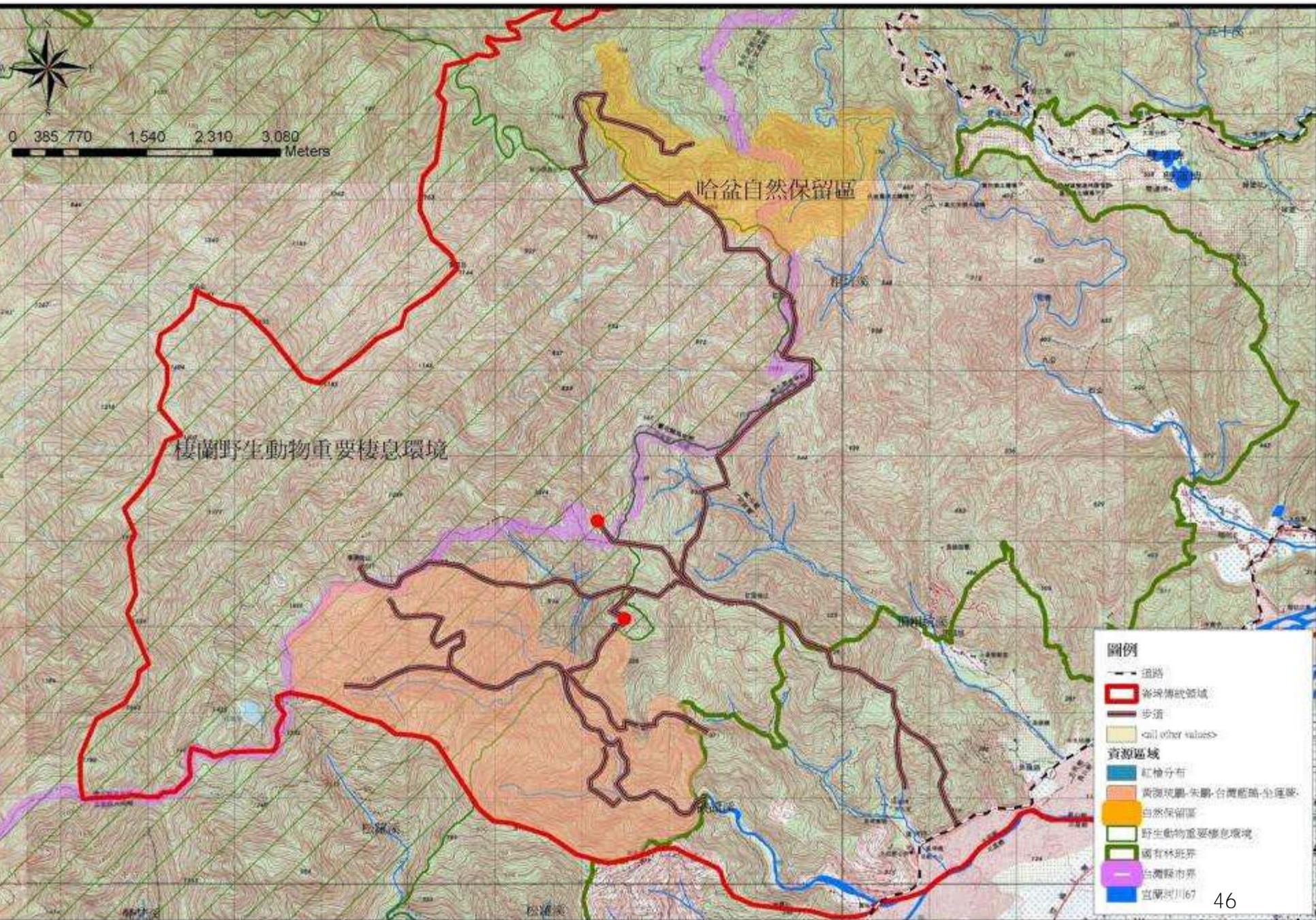
現作拍照已ok

已通知廠商



【圖例說明】

設施：		鋪面：	
解說牌	平台/其他	碎石鋪面	木屑鋪面
安全護欄	禁止進入	木棧道	橢圓木階梯
里程	禁止戲水	梯	石砌階梯
橋	落石危險		
梯	潛在危險點		



哈盆自然保留區

棲蘭野生動物重要棲息環境

圖例

-  道路
-  崙坪傳統領域
-  步道
-  <all other values>
- 資源區域**
-  紅檜分布
-  黃腹灰鵲-朱鵲-台灣藍鵲-金蓮花
-  自然保留區
-  野生動物重要棲息環境
-  國有林班界
-  台灣縣市界
-  宜蘭河川167

# Learning from the case of Lunpi

## Social & cultural factors (institutions)

- SCD is equal to traditional social organization (functional)
- Strong willingness to implement traditional social norm (GA GA)
- TEK integrated into interpretation

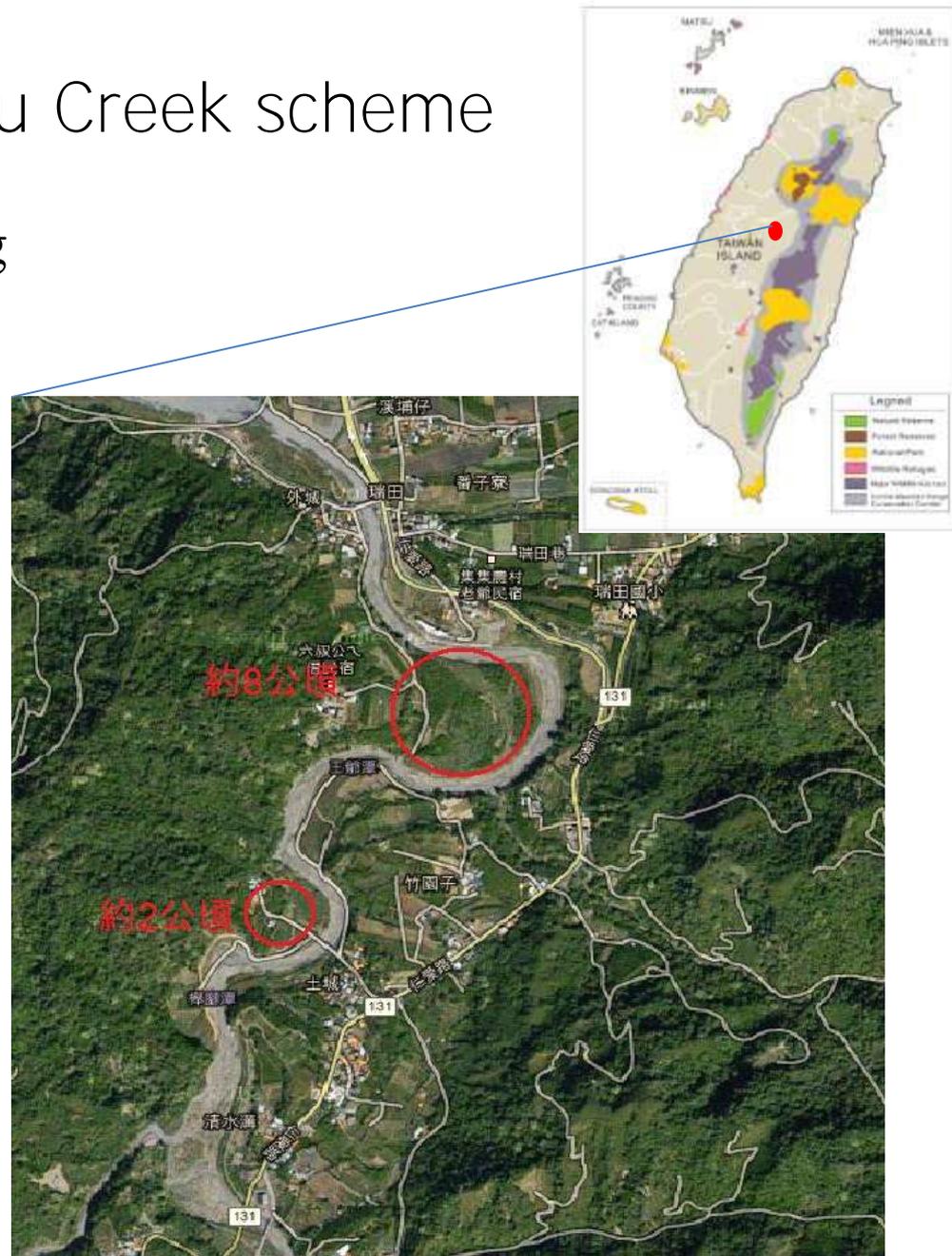
## Other factors

- Fishery Act to regulate outsiders
- FB help building the trail and setting up interpretation program

# The case of Qingshuigou Creek

# Profile of Qingshuigou Creek scheme

- Qingshuigou Creek Rongsheng Fish Conservation Association (RFCA)
- about 700 members
- Han Chinese
- Founded in 1995
- Protecting freshwater fishes:
  - Taiwan shoveljaw carp (*Varicorhinus barbatulus*)
  - Taiwan torrent carp (*Acrossocheilus paradoxus Günther*)
- Scope: Qingshuigou Creek watershed



# Folksay related to creek

The Chou-Shuei River



「 Do marry a wife, but not a husband from the other side of the Chou-Shuei River 」  
嫁夫不要跨過濁水溪，娶妻就要跨過清水溝。

**River or Creek was the border of different lifestyle and/or livelihoods during the old time while the traffic was limited 」**

Qingshuigou River



# Local Belief System



- Sho-long Gong is the main local temple and the traditional center of neighboring villages
- Big ceremony every 24 yrs.
- People are prohibited to hunt in the mountain and fish in the creek 2 years before the big ceremony.



# The creek god of conservation

- RFCA was founded for conservation
- Those three gods of the Sho-long Gong are respected as the creek god



2<sup>nd</sup> King



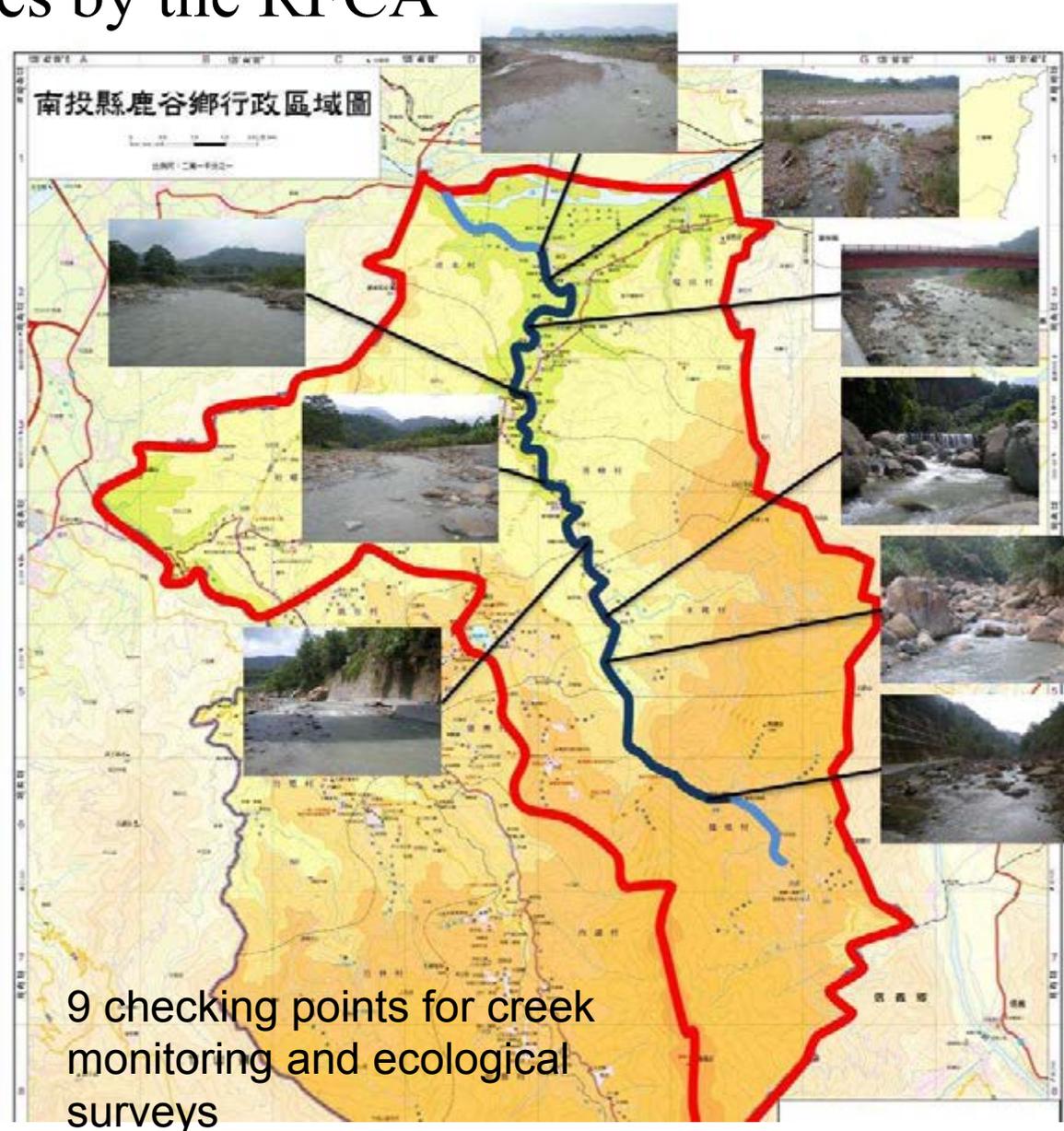
1st King (開基大王)



3rd King

# Activities by the RFCA

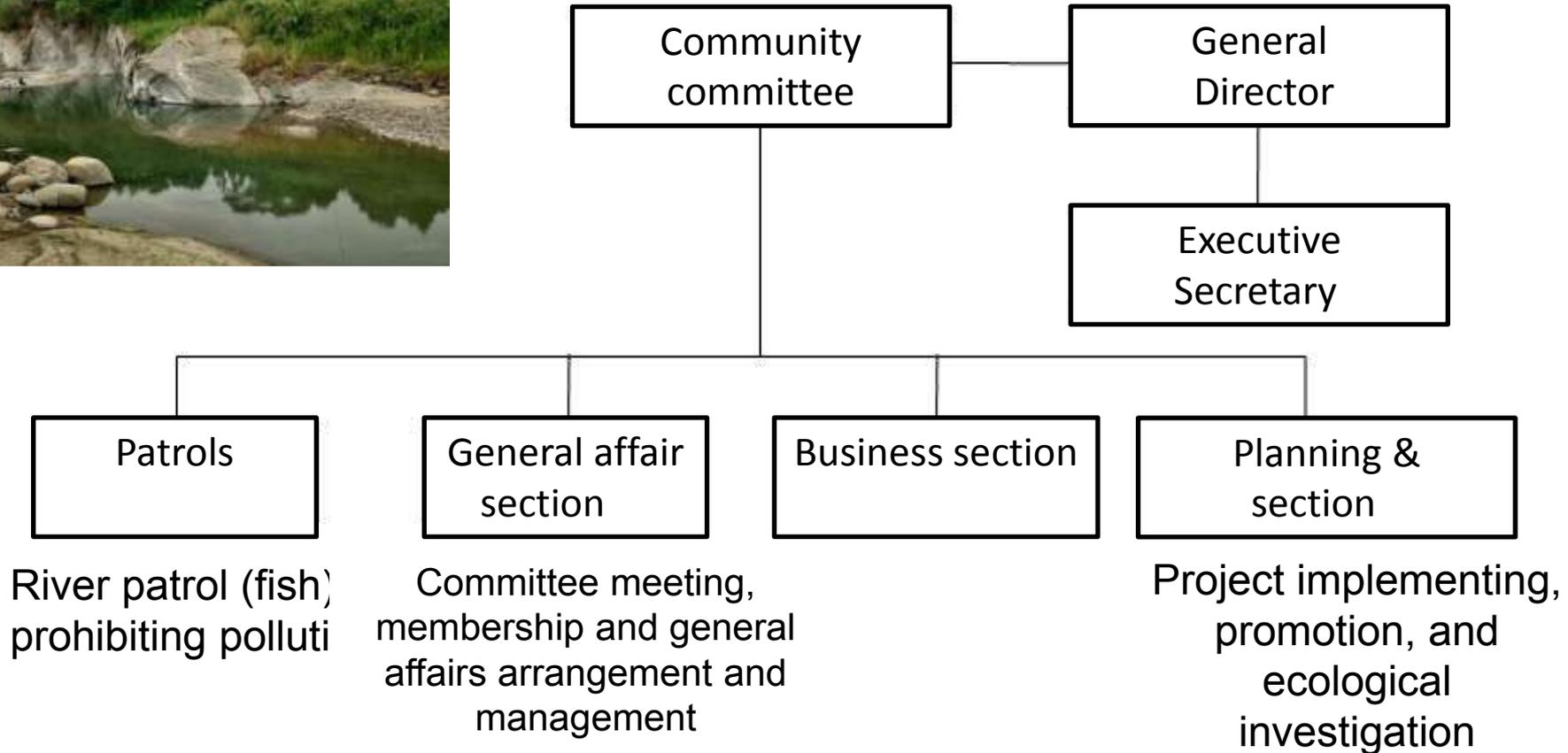
- **Species Restoration:**
  - Reintroduction local fishes.
  - to persuade angle fishermen to release small fish (<7 cm).
  - to persuade unsuitable release fish
- **Monitoring** and Ecological Survey in 9 checking points
  - Fish and shrimp survey : Temperature, water temperature, PH value, water flow, electric conductivity
  - Bird counting: amount, species and habitat.
  - Mammals and frogs survey



# The fish survey for conservation



# Organization Map of RFCA



主要幹部多人兼具護水防汛志工、環保志工、土石流、山林志工。

In addition to section duties, many committee leaders involved in other voluntary works for environmental protection.

# Habitat restoration & educational campaign

- Landscape management of riverside
  - Bicycle trail along riverside.
- Habitat management
  - Restore the habitat of creek basin
  - To remove inappropriate artificial facilities in the creek
- Community Patrolling to stop illegal fishing
- Environmental education and skill training course:
  - Reintroduction and skill training for community
  - Ecological Survey
  - Appealing Communications in Public



# Truths and Challenges

- **Belief system** has provided the base for the natural conservation and created the cooperation mechanism for this potential ICCA site.
- For river communities, such **cultural traditions** form out of belief systems and behaviors that adapt to the biological, physical, economic, and social circumstances of living with the river.
- **Challenges**
  - **Support of the township office and county government** is needed to make the claim and implement the regulations.
  - **Some potential conflicts** to sustain human culture and conservation
  - **Ways to seek for** adaptability and resilience—of links between conservation scheme and the community.

# Discussions & Conclusions

# Social & cultural institutions

- All 3 cases have strong links with religion, beliefs, social organizations, and norms...
- These social & cultural institutions are the main operation mechanisms of these cases
- The social & cultural institutions and the ICCAs were revived each other.

# The role of modern state legislations

- It is not a major tool of in situ conservation for the Fishery Act. There are rooms to encourage the locals to use natural resources in a sustainable way, but not total ban.
- The modern state legislations to some extent provide the locals legitimacy to implement their social institutions relevant to the natural resources, particularly to exclude outsiders accessing their resources by notifying the police.
- Bureaucracy and the local/regional politics are challenge for the locals to apply the Fishery Act for the authorities and/or political elites may have different aspects and/or priorities on resource conservation.
- It may be necessary to amend the Fishery Act or relevant legislations to authorize the local community some way to initiate the application.

# Economic incentives

- All 3 cases demonstrate their interests in developing economy. Therefore, it is important to have a successful business model and make sure equity for the profit distribution
- It may be necessary to generate economic profits in time in order to send the locals confidence and incubate more their patience
- There is also a need to avoid abuse the resources.

# Role of the government

- It is still very important to have the Government playing a key role to promote and implement ICCAs, particularly the social & cultural institutions being the core of ICCAs' operation which usually not recognized by the legislations.
- Under these circumstances, it will be very key to make the Government aware the benefits of ICCAs and the necessity for it to be open minded and flexible to deal with local enquiries.

**Thanks for your attentions. Any  
comment is welcomed.**

Further enquiry: [djlu@ntu.edu.tw](mailto:djlu@ntu.edu.tw)