

**Reconciling Man and River through Community Education:
A Challenging Case of Cooperation between Taipei Zoo and NGOs**
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Rivers are the cradles of civilization. Rivers create corresponding cultural landscapes and cultures in turn decide the fates of their rivers. Long ago, the Keelung River gave birth to prosperous villages along its banks. But now, resource abuse has left us with little more than a "drain pipe". We must learn about people's connection to rivers through studying the history of how people used to depend on the Keelung River for survival and development. Only then can we rebuild the strong and lasting bond between human civilizations and rivers.



The Keelung River passes through 7 Districts in Taipei.

Motive

For the busy citizens of Taipei, rivers issues may seem distant and irrelevant. But in fact, from the perspective of city development, Taipei owes its existence to the Keelung River. With a total length of 86 kilometers and a drainage area of 501 square kilometers, the Keelung River runs across northern Taiwan and is one of the major rivers of the Greater Taipei Area. It passes through 7 districts, including Songshan, Neihu, and Nangang, where rapid urbanization has caused intense development pressure. Point source pollution in these areas consists mainly of industrial wastewater and household sewage. As a result, only sections upstream of Keelung City and Sijhih are used for recreation by residents and visitors. The low accessibility of midstream and downstream sections can be contributed to poor water quality and high embankments. Currently, relationships between people and the Keelung River are mostly neutral or negative, as interactions are somewhat limited to the usage of

riverside parks and bike lanes along the straightened sections.

Back in the old days, the Keelung River used to be deep and full, surrounded by forests, lakes, and wetlands. Prehistoric people and the Pingpu aboriginals practiced hunting and shifting cultivation in close proximity to the river. Important cultures in the Taipei area that developed along the Keelung River include those found at the Yuanshan Site and Tatayou. Shell mounds discovered at the Yuanshan Site contained large quantities of shells, animal bones, and fish bones left over from meals, as well as a variety of tools made of clay, stone, or bone. Tatayou witnessed the height of the kiln industry when mud from the river was used to make bricks and tiles.



The Keelung River offers waterfalls and shell mounds. The shell mounds suggest that Taipei culture originated around the Keelung River.

Due to recurring floods, river-straightening projects began in 1966, and grassy riverside parks were built on the recovered land. Nearby streets were lined with automobile maintenance and repair centers, scrap iron mills, and tow yards. There was dust in the air, and a lack of cultural or community activities. After the 1970s, industrial and urban development brought serious pollution to the river water. Moreover, high embankments were built to contain floods, blocking off the Keelung River from the people of metropolitan Taipei.



Residents along the Keelung River are often under the impression that it is the source of floods in the summer, and carries the stench of agricultural and industrial wastewater all year round. Families do not go to the riverbanks for recreation, and schools do not use it for field observation practices. It seemed unthinkable that nearby

community development associations would make the Keelung River a topic of community education.

In the face of alarming water quality issues, both the Government and people are becoming aware of the importance and imminence of river protection. During recent years, the construction of more sewage treatment plants, higher sewage pipeline installation rates, and the efforts of environmental protection groups and the general public have helped to improve the situation, and the level of pollution has decreased from "severe" to "moderate". Parks and bike lanes along the riverside, boats cruising the "blue highway" waters, and holiday activities such as dragon boat races have also succeeded in drawing people back to the river. These changes have shown us a lesson – our concern and care is the door to a better environment, and education is undoubtedly the key to this door.

Rivers and the Taipei Zoo

Taipei Zoo is one of the most popular educational facilities, and enjoys a large amount of visitors and educational resources. In the past, the Zoo focused on the maintenance and management of animals. But recently, in addition to improving the quality of life for zoo animals, the Zoo has been actively "Going Beyond the Zoo and Into the Community" and carrying out environmental education and habitat preservation projects such as "Mobile Zoo" in order to keep instep with international conservation trends. Taipei Zoo sits by the Jingmei River, and is naturally interested in its ecological environment. Therefore, with support from the Council of Agriculture's Forestry Bureau, Taipei Zoo has been working with the Taipei Zoological Foundation on the "Jingmei River Wetland Wildlife Community Conservation Project" since 2003. The Zoo has also been cooperating with Wenshan Community College and other educational groups to hold a series of events based on "Protecting the Jingmei River" and has received wide acclaim.



The "Go, Go Duck" activity, one of the many activities based on "Protecting the Jingmei River" teaches children how to determine if a river is wildlife friendly.

In order to extend the successful experience of the Jingmei River project, Taipei Zoo proposed the "New City View – Community Education and Environmental

Protection along the Keelung River" sub-project in line with the Ministry of Education's "Community Education Learning System Project". The Keelung River was selected as the target area for community education because it passes through the most districts in Taipei, and also because it has a constant flow and world-class scenery.

Building a River Education System – A Challenge for Taipei Zoo and NGOs

Over the past decade, the public has developed a basic understanding of nature and ecological conservation. But most people still believe it is "not their concern" to observe wildlife, get close to nature, or take one step further and get involved in ecological conservation. A number of groups along the Keelung River are dedicated to river protection and environmental education. Their members are spontaneous and full of passion, and are invaluable in saving our rivers. However, in the past, river protection often focused on single or regional issues, and lacked overall planning. This project aimed to connect the individual community group points along the riverbanks to form a learning band and establish a sustainable learning system. Once the system was fully complete, people would become more enthusiastic about river issues, and have more opportunities to participate in river protection.

For the purpose of our goal, the following measures were adopted:

1. Discussing with and learning from experienced community groups by attending the Ministry of Education's national exchange meetings, visiting other counties and cities and observing their community education methods, and participating in regional conferences such as the International Conference on Taipei Studies and the World Water Monitoring Day lectures and forums.
2. Inviting relevant groups and holding working meetings to share experiences, exchange ideas, and discuss future cooperation.

3. Establishing a dedicated Keelung River website: The limitless communication capabilities of the Internet allow the website to serve as a platform for the public to interact with the river environment, as well as a bridge for different community groups to exchange and integrate information. The Keelung River Protection Site was



established in cooperation with the Taiwan Environmental Information Association. It is now online at <http://klriver.ngo.org.tw/>, and provides updated news on river protection. There are also blogs, a forum, and a learning area with teaching plans available for download, so that people can participate in river protection from home.

3. Attracting attention to river issues through events and exhibitions: For those who do not take the initiative to care, or who lack the channels to learn about river issues, large-scale events and exhibitions are a quick way to get their attention. In 2006, a series of events were designed or held under this project. The World Environment Day event gave visitors a tour of the riverside, demonstrated how to conduct water quality tests, and attracted many volunteers to help protect the river.



On World Environment Day, there were demonstrations on measuring water clarity, pH value, and dissolved oxygen concentration using samples from various sections of the Keelung River.

In June, the "Healthy City – Strolling down the Beautiful Riverbank" event at Dajia section combined culture and history with river development and ecology, and allowed people to get close to the river through the promotion of riverside activities. In December, at the "Danshui River Birthday Party" at Dadaocheng Dock, over 20 relevant groups held an exposition to conduct exchanges, speak out to the public sector and the media, and tell the public about river protection results. The Zoo also launched a series of promotions for activities held by individual groups.

5. Community classes: During citizenship weeks, series of lectures spanning 5 to 6 days were held at 8 community colleges in Taipei. Lecturers from different fields were invited to explore the topic from a variety of angles such as ecology, history, art, and public issues. The diverse lectures received enthusiastic results from the public. Also, with the help of community colleges, 3 river education workshops were held. In addition to lectures, participants were invited to further experience the river through field observations (such as drawing and biking) and GIS practice sessions. Besides being educational, the classes also make it

possible for participants to become potential teachers and join the line of protection in the future.



During citizenship weeks, lectures were held that invited the community to further their experiences with the River through activities such as drawing and biking.

6. Teaching plans for elementary and junior high school students: In addition to promoting community education classes, teaching elementary and junior high school students to care about our environment was also a goal of this project. For this purpose, environmental education professors and elementary and junior high school teachers were invited

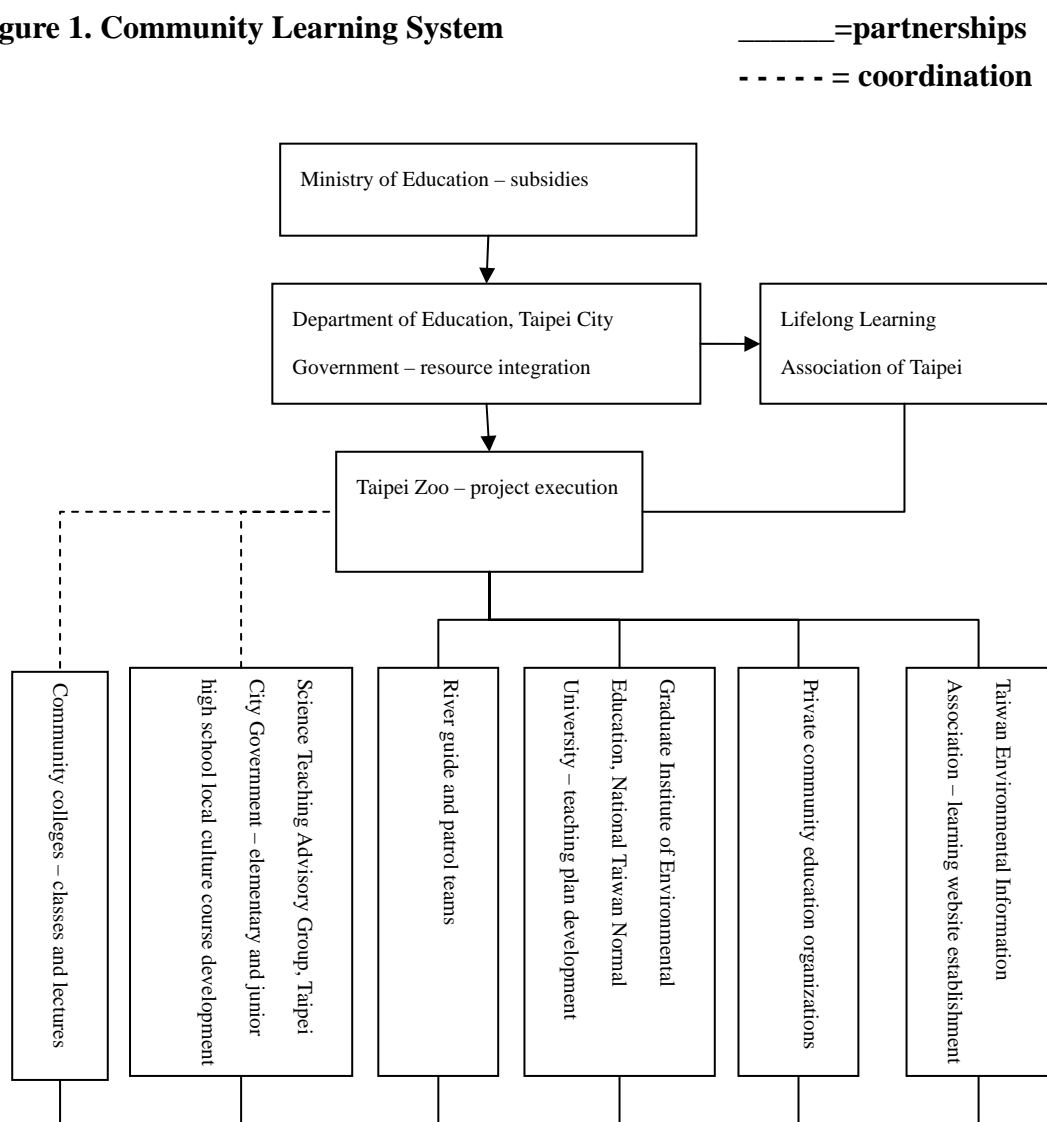


to help develop teaching plans. The current education system does not allow much flexibility for extra courses besides the main curriculum. Therefore, only preliminary experimental classes were conducted in cooperation with teachers who are willing to develop river protection courses. For example, the Zoo assisted Wanfang High School teachers in the "Going Down in History – Caring for Our Rivers" observation class which showed students how to monitor and record water quality in the field.

In addition to developing teaching plans, the Zoo also worked with local guide and protection teams to contact schools and promote environmental education in elementary and junior high schools. For example, the "Knowing our Land – An Ecological Tour among Chashan's Sweet Osmanthus Trees" activity in cooperation with the Keelung River Left Bank Guide Team led students upstream to find the origins of the river's tributaries and learn about local industries. It is hoped that by moving their learning ground from campus to riverside, knowledge and care for the land can be cultivated from the start for these children.

High school biology and chemistry are also incorporated into the Keelung River community education field observation classes.

Figure 1. Community Learning System



From Knowing, Caring, to Taking Action

During the process of connecting community groups, it was clear that Taipei people do care, and that many are still willing to contribute to this land. For the past two years, numerous private groups have joined in to protect our rivers. Upon his inauguration in 2007, Mayor Hau Lung-Bin proposed to "Activate Danshui River", an idea which is in sync with the public's expectations regarding river issues. Currently, normal river maintenance activities include exchanges and updates on the Keelung River Protection Site, monthly meetings of community groups, and active discussions with relevant government agencies. All the above indicate that river protection has headed in the right direction. What is needed now is more participation from the

public, and for people to see rivers as part of the community. This is indeed our greatest challenge.

This project may have been short in duration, but river protection work is a constant flow which never ends. With the seeds already planted by the Zoo and NGOs, community residents only need to form the consensus to care and protect, and our rivers can become a suitable habitat once again. Then, our children will be able to enjoy clean rivers on top of economic success.

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