

INSTITUTIONAL UNDERSTANDING OF WATER GOVERNANCE IN TAIPEI

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ABSTRACT: Water is one of the key resources for sustainable development. It is an ecological resource and an economic good. There is uneven distribution of water, both in the physical water distribution and in the second order system in a society, for a long time (Jenniver Sehring, 2009), which makes water management involves much cooperation and confliction between many actors working in different sectors of government. Consequently, water governance is not seen as regulation and management by one authoritative actor, but as interaction between interdependent collective actors among local, regional, national and international levels.

This paper introduces proposed research to examine changing forms of water governance and management mechanisms within the urban context in Taipei in four periods: the Qing Dynasty, the Japanese colonial period, the post war era and the period after the 1990s. The paper asks three questions: What kinds of institutions are involved in the three historical periods? How do they negotiate and influence each other? What kinds of water governance so they create? The research intends to understand not only the water governance trend in Taipei, but also the interaction from time to time.

KEYWORDS: institutionalism, Taipei, water governance

1 INTRODUCTION

Taiwan's urbanization was initially based on agricultural production, and started in the south. Since Japanese colonization in the late 1800s, the introduction of industrialization steadily shifted urbanization to the coastal cities in the north. Especially Taipei, the capital city in Japanese colonial period, have urbanized rapidly at that time. From the post war era around 1950s, urbanization accelerated and migration began to concentrate in the large cities. Taipei took the rapid urban expansion as well. Until 2009, there are over 6 million people in Taipei metropolitan¹ and the average density reach 10,000 per km².

Taipei, as a capital in Taiwan, plays a domestic role in cultural, economic and political aspects since the 1900s. The domestic phenomenon shows in many territories. Most institutions for urban development lead from the government rather than the cooperative participated process. Although more and more local-oriented events like performance art, IT services and creative promoting projects illustrate the release of social structure from the late 1990s, it still lacks of the studies about the water governance process through institutional approach. It remains the "black-box" decision-making process until now. The systematic absence is the start of the research. It aims to realize the water institutional structure from time to time, and also the domestic sectors. It starts in a short illustration of water governance in international scale, then hosts in the Taipei city to explain the entangle situation, and concludes the results at the end of this article.

2 GLOBAL TRENDS: FROM WATER MANAGEMENT TO WATER GOVERNANCE

Tony Allen (2003) identified four paradigms as shaping modern thinking about water management. First, the paradigm of industrial modernity started at late 1800s. Followed by the ecological paradigm in the 1960s and economic approach around 1990s, it moves to the political institutional paradigm since the beginning of 21st century.

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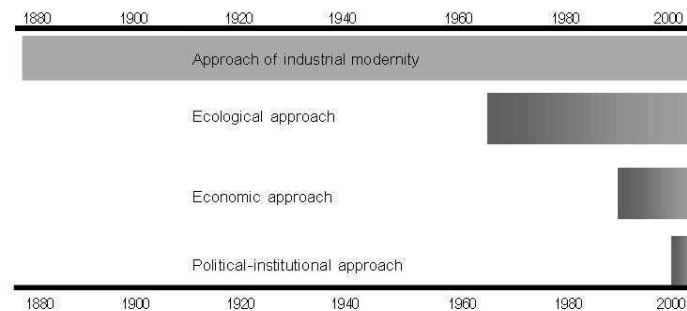


Figure 1 International discourse on water management (J. Sehring, 2009; based on Allen, 2003)

As shown in figure 1, Sehring's (2009) use "approach" instead of paradigms to emphasize the simultaneously interaction in between. In general, water has seen as an industrial resource since 19th century. The rising environmental awareness in the 1960s awakened the approach with ecological priority which criticized the huge water infrastructure to reduce the loss of bio-diversity. In early 1990s, the Dublin Principles² illustrated water with its economic value and should be recognized as a good. Sehring (2009) argued it by lacking of the adequate pricing mechanism and also causing for inefficient and wasteful water usage. Finally, the political-institutional approach started around the year 2000 as a forward point of view to deal with the global water scarcity. Now, an adequate solution strategy demand not only financial and technical means, but the societal capacities to handle and distribute the available water resources effectively and equitably are scarce as well.

After the 2nd World Water Forum in The Hague in 2000 and 2001 Bonn Freshwater Conference, good water governance has become as one of the main global challenges. This article tries to analyze the happening in Taipei within the global trend of water governance.

3 THE PROCEDURE OF WATER GOVERNANCE IN TAIPEI

3.1 The feudal society before 1895

Water governance in Taiwan started around the 1700s, when large-scale immigration moved from Fujian and Guangdong Province to Taiwan. These Chinese fishing and rice-farming families developed the water system on their own for irrigation. For instance, Liu-Gong ditch was built during Qing Dynasty by Mr. Xi-Liu and his workers. Mr. Guo built up a ditch flowed by Xin-Dian River. This project took about 30 years to finish and irrigated over 9200 hector of agricultural lands in south-eastern Taipei.

At this time, Taiwan was a small island located far away that neither central nor local government would invest water infrastructure here. Therefore, local gentries funded by themselves to build irrigation water ditch, and negotiated the usage priorities on their own. Both physical constructions and water management were private products which are able to deal to others. In other words, water institutions was created and formalized within certain powerful families.

The total private water administration somehow caused the problem for long-term maintenance. Some parts of Liu-Gong ditch were abandoned not because of the water system but the decline of the family. At the feudal society in Taiwan, water facilities took a high risk to destroy by the confliction or competition after changing the generations, and hard to work sustainably.

3.2 Japanese colonial period (1895-1945)

After losing the first Sino-Japanese war, Qing Empire officially ceded sovereignty over Taiwan to Japan in 1895. Japanese administration ruled really strict and lead people to give up their Chinese name, customs and use Japanese language as their everyday vernacular (Leitner, H. and Kang P., 1999). Meanwhile, Japanese government built up the first "public ditch" in 1901 and forfeiture the private ditches systematically. Until 1922, almost all physical infrastructures and the power of water distribution were transformed and belonged by the government. Japanese government so established the "Farmland Irrigation Associated" to

² The Dublin Principles were published in 1992 as one of the preparing conferences to the 1992 Earth Summit in Rio de Janeiro.

manage and plan for further development. In 1911, many ditches³ joined into Liu-Gong ditch and became the biggest irrigation facility which extended the drainage area from the south Eastern Taipei to the whole city⁴.

Japanese government controlled and legitimized their political rights during the colonial period, which also indicated in the water governance strategies clearly. It also shrank the administration of water usage successfully from private to central government. From now on, the water governance became a centralized institution.

3.3 Rapid urbanization after the Second World War

After the Second World War, the administrative power shifted from Japanese to KMT governors, who soon loosen their last bastion in 1949 in China and move to Taiwan. Taiwan suffered serious social unrest in the first decade. From 1960, an economic approach strategy published by the central government as a leading direction followed by several heavy infrastructure projects. Shihmen Reservoir was built up in 1962 and Feitsui Reservoir started later on. Both of them aimed to provide the source of water for domestic and industrial usage in Taipei metropolitan. Furthermore, the Flood Control Project for Taipei metropolitan was published in 1973, and added the dike into 200-year flood duration in 1987. This policy was so strict that several consanguineous villages, such as Hou-Jou village, were demolished for the Erh-Chung Flood Way, in order to complete the flooding management.

The irrigation system in Taipei also changed and removed in the 1970s. Because of the rapid urbanization of Taipei city, there were less than 300 hector of farmland still irrigated by Liu-Gong ditch around 1970s, and most parts of ditch were used for wastewater. After the engineering project covered the ditch to widen the road starting in 1972, the irrigation usage of Liu-Gong ditch was officially over and used as a main branch of sewage system in the city.

During this time, the water governance in Taipei kept its central-oriented structure from the Japanese colonial period. It somehow created the persuaded debate to give up the existing villages in order to achieve the “public benefits.” Meanwhile, there were no private investments and opinions involved in these huge water infrastructure projects. The negotiation and cooperation only happened within different governmental sectors.

3.4 Water regeneration after the 1990s

On the other hand, some community-oriented regeneration projects started around late 1990s. In 1998, Da-Shan neighbourhood made a consensus with Taipei city government to recover the branch of Liu-Gong ditch nearby. Although this project was delayed for many years by lacking of funding, the whole project was finished and linked the branch in NTU campus in 2003. This case is the first time that Taipei citizens fight for regeneration the covered water system. However, the following project announced by department of urban development in city government, which propose to recover the main part of the ditch under Sing-Sheng highway, reject by other sectors in city government in 2008. It is difficult to negotiate within conflicting interests in any cases.

4 NEW AGENDA FOR WATER GOVERNANCE

The article illustrates the development of water governance in Taipei since the beginning of seventeenth in order to read the water governance process through institutional points of view. At the end of this article, we provide three main points for conclusion. First, Taipei, as a global city, neither really matches the global developing procedure nor achieves the political-institutional approach of water governance. It is still seen as the product which has to be handled by engineering management. Because of lacking the multi-dimension understanding, technical approach is always as the only way to deal with our water issue until now.

Secondly, the aim of water governance in Taipei changed from irrigation to domestic and industrial usage within these three centuries. As well as the authority transformed from private to the government. The

³ There were eight ditches combined into Liu-Gong Ditch: including Shou-Lian ditch, Da-Tsu-Wei ditch, Hsei ditch, Shen-Bai-Kao ditch, Hsei-Tu-Di-Gong ditch, Hsei-Tu-Di-Gong ditch, Ya-Liao-Pu ditch and Neo-Thai-Pu Ditch.

⁴ Please refer to appendix 1.

central institutions are so powerful that private sectors forced to remove in some cases. However, several community-oriented projects formalize a potential institutional structure in the future. These private-oriented projects might focus on physical improvement spreading in the city fragmentally, but they still regenerate the abundant ditch into friendly water lanes for citizen's daily life successfully.

Finally, city is written from time to time. All changes are kept in our urban context to digest and transform again in a new way. The society needs to realize that good water governance is a democratic and coherent coordination and regulation process that leads to equitable, efficient, and sustainable water usage instead of pure technical programmes, and provides more kinds of sectors participate and negotiate in the institutions in order to governance water resources in a border way.

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