

COMPLETION REPORT

A Comparative Study on Law and Policy of Integrated Water Resource Management in Japan and Taiwan: With Special Reference to Yodo River and Kaoping River Basin's Management Experience and Future Prospect

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I. Background and Research Methods

The research is conducted in extensive collaborative study fashion between main investigator and Japanese collaborator. The researchers has collected and analyzed related policy documents, scholar works and legal documents with respect to integrated watershed management in Japan and Taiwan. In addition, the researchers have interviewed government officials of Kinki Ministry of Infrastructure, Transportation and Tourism Kikin Regional Development Bureau, Watershed Management Policy Office of Shiga Prefecture in Japan and Sixth River Bureau of Water Resource Management Administration, Kaohsiung City Government Water Resource Bureau in Taiwan. Many insightful comments have also collected and analyzed via several workshops held both in Japan and Taiwan that gather many scholars, NGO members, and government staffs from different disciplines to discuss watershed management related implementation and policy-oriented issues.

II. Research Findings

In accordance to the interview reports and literature analysis, this research following will provide the main finding of the research project.

1. The implementation of integrated approach to water resource management in Japan and Taiwan's both lacks clear and comprehensive legal mandates

The research found that both Japan and Taiwan suffer from a lack of specific legal mandates in establishing a single and comprehensive entity that is capable of implementing integrated watershed management measures that could address overlapping legal and institutional overlapping legal authority problems. The incorporation of IWRM in Japan's legal framework is mainly incorporated in existing law, mainly in River Act. It is notable that the recent amendment of Article 16 of River Act in 1997 expands Class A river governing authority with legal authority to "maintenance of sustainable fluvial environment" as the third legal purpose in addition to existing legal authority of water resource management and flood control. Taiwan has promulgated a special legislation, namely "Special Statute for the Comprehensive Management of River Basins" since January, 2014. This special legislation, however, does not provide a comprehensive legal framework that aims at incorporating IWRM concepts but instead to mandate the spending to structure measure mainly aims at preventing the flood. The Statue though addresses some of practical obstacles for implementing central government designated River Basin Management Plan but nevertheless fails to address overlapping government authority issues.

2. The water governance in Yodo River Basin and Kaoping River Basin have shown great concerns to establish multi-stakeholders decision-making and increasing use of non-structure measures

The research found that the Yodo River Management and Kaoping River Management both seek to establish multi-stakeholders management model, though in different way, that facilitates comments and mediate conflicts among government agencies dealing with different legal authority from upstream to downstream of the river, the NGOs, private party and local residents, and general public.

In 2003, the Yodo Watershed Committee (YWC) made an official recommendation to government proposing that the river conservation should rely on sustainable measures rather than relying on dam construction. Most recently, the Daido-kawa Dam, however, has become an important project for conserving water resource as part of Yodo River Basin Maintenance Plan since 2008. Members of Yodo River Basin Committee, scholars, local residents, and many NGOs had contested the dam construction plan. On the other hand, the research found that Kaoping Watershed Management in Taiwan is largely a top-down water governance model controlled by Water Resource Agency of Ministry of Economic Affairs rather than Yodo River's Collaborated Model that involves government at all levels, NGOs, and experts. The Kaoping Watershed Management provides limited information and public participation while proposing watershed management plan and thus resulted in longstanding untruthful relation between water authority and general public (including experts and NGOs).

3. The Local Ordinance has showed its influence to Watershed Management

In 2014, the Shiga Prefecture promulgated the Shiga Watershed Flood Mitigation Ordinance, it is notable that it emphasizes on flood plain management. The Ordinance mitigates the social impact of the flood by designating the Disaster Risk Areas (DRA, Art.13) and requires permit by the Prefecture Governor for construction of buildings in DRA, and mandate the leveling off the ground for new buildings in DRA (Art. 24). The Kaoping Watershed Management has also adopted land use adjustment approaches and retention measures to prevent flood. It is, however, suffers from difficulties in reaching the consent between river authority and private parties for the compensation for land restriction or transfer of land ownership from private parties to public owned lands.

III Conclusion and Suggestions

This research found that incorporating IWRM concepts in Watershed Management, especially in democratic society needs a well communicated and cooperated mechanism that allows river managers to consult and work closely with experts, NGOs, industrialists, local residents, and other stakeholders. The Yodo River Basin model provides a good lesson for developing innovative local ordinances that aims at non structure measures in preventing flood disasters which the research found in Shiga Prefecture. In support of this project, we organized a "Taiwan-Japan Integrated Water Basin Management Forum" on 19 March 2017 whereby government officials, scholars, and NGOs members have expressed an important view that in the face of climate change, both Yodo River Basin and Kaoping River Basin Management are deemed focusing on flood control too much and underestimate the impacts of drought. Thus, it is critical for to seek for alternative or recycled water resources rather than depending on conserving, reviving and restoring the water flows of the river.

Publication of the Results of Research Project:

Verbal Presentation (Date, Venue, Name of Conference, Title of Presentation, Presenter, etc.)

Oct. 19, International Conference Hall, National Kaohsiung University, 2017 East Asia Climate Change Adaptation and Disaster Management Law and Policy Forum, Title: "The Comparative Study on Integrated Water Resource Management in Japan and Taiwan: From Law and Policy Perspective"; Presenter: Dr. Hsing-Hao Wu and Dr. Mituso Matsumoto

Thesis (Name of Journal and its Date, Title and Author of Thesis, etc.)

Book (Publisher and Date of the Book, Title and Author of the Book, etc.)