COMPLETION REPORT

Collaborative Learning of Integrated River Basin Management: A Comparative Study of the Tsurumi River Management Model and Pinang River Management Model

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This research found that the Tsurumi River Management model is a very workable multi-stakeholders management model which combines the strength of government, the private sector, the NGOs and the public. Japanese Stakeholders of the Tsurumi River were found to be very concerned and committed towards the conservation of the river and to protect people from floods. The most remarkable was the establishment of the Tsurumi River Information Centre which is run by NGOs for education of the public and school students. In contrast, the management of Pinang River in George Town (Malaysia) was largely top-down or governmentcontrolled with very little inputs from other stakeholders. This resulted in poor awareness, neglect and detachment of the public from rivers, leading to poor management and degradation of the river system from a Class I river (at its source) to a Class V river (at its estuary). This comparative study of two river management models in Japan and Malaysia showed that Malaysians can learn from the Japanese model, and adopt its management system. The Penang State Government and the Federal Government Agencies need to engage stakeholders and dedicate some responsibilities on river management to them. This is possible in the area of public awareness and education whereby NGOs have the passion, human resources, expertise and commitment, and private sector has the funds. This research found that increasingly, in Japan and Malaysia, the responsibility of managing rivers, are in need of diversification with the public, NGOs, industrialists, farmers, and other stakeholders playing a greater role. The research also found that sustainable management of rivers necessitates cooperation between government and all stakeholders. Japan's good history of effective river management as manifested in the Tsurumi River model, demonstrates the good cooperation between government, private sector and civil society in the effective management of the river basin. Integrated River Basin Management is practiced in the Japanese model and Malaysia should learn from and adopt this model. The results show that the Pinang River management was an example of ineffective management, resulting in pollution, erosion, loss of riverine biodiversity and loss of recreation areas. Adopting the Tsurumi River model of management will enable civil society and NGOs to participate actively in the conservation and restoration of the Pinang River, and this is a first step towards embarking on a sustainable path towards restoring the Pinang River from a "Dead River" to a "Living River". Via this project, we have organized a public forum on Save Our Pinang River Forum on 14 May 2016 whereby all stakeholders have agreed to conserve, revive and restore the river. Most importantly, the forum also agreed to push for a Pinang River Information Centre which will educate the public on all aspects of the river. These are the very first steps towards reviving the Pinang River to its original pristine condition.

Publication of the Results of Research Project:

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

- 1. 2015 April 18-19, Penang National Park, Universiti Sains Malaysia Mukah Head Centre, "Water Welfafrer Camp for Secondary School Children", "Water resources conservation and river water quality: how can we contribute and what must we do?", Ngai Weng Chan (Presenter) (see Photo 1).
- 2016 May 14, George Town (Penang) KOMTAR Auditorium 5, Save Our Sg Pinang River Forum, , "The Role of Public Education and Community Engagement in Integrated River Basin Management", Ngai Weng Chan (Presenter) (see Photo 2).

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

Published in Proceedings in Conference:

1. Proceedings of International Symposium of International Academic Consortium of Sustainable Cities, Yokohama City University, 11, "Stakeholders' Participation in Sustainable Water Resource Management: A Case Study of Muda River Basin", Sim Lay Mei and Chan Ngai Weng.

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