

University of Colorado Law School

## Colorado Law Scholarly Commons

---

Allocating and Managing Water for a Sustainable Future: Lessons from Around the World (Summer Conference, June 11-14)

2002

---

6-14-2002

### Power of Information Sharing for International Water Resources Management

Mikiyasu Nakayama

Follow this and additional works at: <https://scholar.law.colorado.edu/allocating-and-managing-water-for-sustainable-future>



Part of the [International Law Commons](#), [Natural Resources and Conservation Commons](#), [Natural Resources Management and Policy Commons](#), [Public Policy Commons](#), [Water Law Commons](#), and the [Water Resource Management Commons](#)

---

#### Citation Information

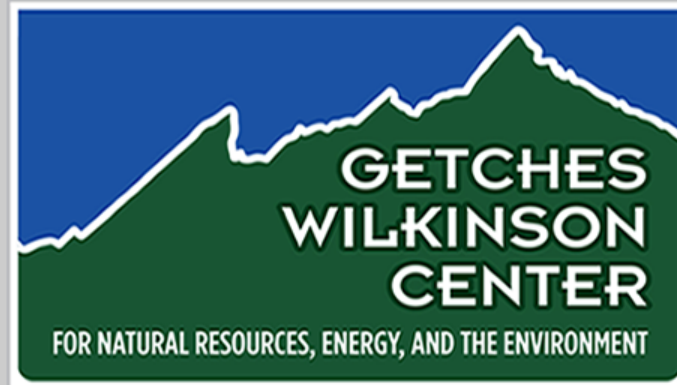
Nakayama, Mikiyasu, "Power of Information Sharing for International Water Resources Management" (2002). *Allocating and Managing Water for a Sustainable Future: Lessons from Around the World (Summer Conference, June 11-14)*.

<https://scholar.law.colorado.edu/allocating-and-managing-water-for-sustainable-future/73>

Reproduced with permission of the Getches-Wilkinson Center for Natural Resources, Energy, and the Environment (formerly the Natural Resources Law Center) at the University of Colorado Law School.



William A. Wise Law Library  
COLORADO **LAW**  
UNIVERSITY OF COLORADO **BOULDER**



Getches-Wilkinson Center Collection

Mikiyasu Nakayama, *Power of Information Sharing for International Water Resources Management, in ALLOCATING AND MANAGING WATER FOR A SUSTAINABLE FUTURE: LESSONS FROM AROUND THE WORLD* (Natural Res. Law Ctr., Univ. of Colo. Sch. of Law 2002).

Reproduced with permission of the Getches-Wilkinson Center for Natural Resources, Energy, and the Environment (formerly the Natural Resources Law Center) at the University of Colorado Law School.

# **Power of Information Sharing for International Water Resources Management**

Mikiyasu Nakayama  
United Graduate School of Agricultural Science<sup>1</sup>

Notes for a panel presentation  
at the conference on

“Allocating and Managing Water for a Sustainable Future:  
Lessons from Around the World”

June 11 – 14, 2002

---

<sup>1</sup> Tokyo University of Agriculture and Technology; 3-5-8 Saiwai-cho, Fuchuu-city, Tokyo 183-8509, Japan;  
Tel: +81-42-367-5667, Fax: +81-42-360-7167; E-mail: mikiyasu@cc.tuat.ac.jp

## Contents

Introduction .....	3
Contributions of Information Transparency .....	3
A Case in Africa .....	3
Cases in Asia .....	4
A Case in Europe .....	5
Decision Support System Accessible Through Internet .....	6
Conclusions .....	7
References .....	9

## **Introduction**

The importance of public participation for economic development activities has been stressed many times in the past. Few would dare to object to the concept, which is supposed to be applicable for water resources management. In order to make public participation constructive, information sharing and transparency are essential even for promoting collaboration of riparian states in international water systems.

The advancement of information technology has created a much better arena to promote public participation and information transparency. The objective of this study is to show how information sharing may change the water resources management, particularly in transparency at transboundary water systems.

## **Contributions of Information Transparency**

### **A case in Africa**

The role of information transparency and public participation for management of international freshwater systems has been addressed in the UNU's workshop on Southern African international waters, held on 25 and 26 September 2000 at Sandton, South Africa. Three speakers pointed out in their presentations that these two elements are essential to promote collaboration among riparian states, support from outside, and popular domestic support for management decisions (Nakayama and Jansky, 2000).

Bruch (2000) suggested that in the context of transboundary watercourses, access to information ensures that citizens and other members of civil society have the ability to request from governmental and intergovernmental authorities information on the status of the watercourse and its tributaries (including water flow and water quality), factors that could affect the watercourse or its tributaries, and norms, policies, and

management plans that shape activities relevant to the watercourse. Public participation includes the opportunity for members of the public to submit comments (and have the authority take due account of the information) regarding specific activities that could affect the watercourse; the development of norms, policies, and plans that govern the watercourse; and even in the development of the transboundary watercourse agreements themselves. Access to justice, which is important to ensure access to information and public participation, includes resort to national courts and agencies, international courts, and fact-finding and legislative bodies.

Bruch noted that many nations in Southern Africa have constitutional provisions and laws that already guarantee that citizens have access to information, process, and justice. He also pointed out that access to information could be promoted through a number of discrete mechanisms, many of which are relatively low cost. As a first step toward developing public participation in the management of transnational watercourses in Southern Africa, Environmental Impact Assessment (EIA) can be developed at the national level and harmonized through the region or across rivers. Another easy step is to open meetings of the river management authorities up to the public. It costs relatively little, and the public could participate as either silent observers or participating but non-voting observers.

### **Cases in Asia**

Nakayama (2000) pointed out the comparison between the Mekong River and the Ganges River. In the former, the Mekong Committee (now Mekong River Commission) has been instrumental as a focal point for disseminating information about the basin for last four decades. It collects and makes available meteorological and hydrological data in the basin, various studies carried out in the past for development and management of the basin, minutes and notes of discussions held in the Committee/Commission, and articles appeared in journals and news papers. This de-facto

information transparency policy in the Mekong basin has successfully promoted the supports from donor countries and organizations for the sake of economic development of the basin countries. It has also resulted in many academic research activities in and for the basin by many researchers in the world.

On the other hand, in the Ganges river basin, the hydrological data in India has been classified and no organization functions as a focal point for information transparency. Thus, not surprisingly, much less support has been offered by donors for management of the Ganges river system. It was simply because "outsiders" are unable to obtain sufficient amount of information about the Ganges river system to the extent they may develop their own project ideas. It is remarkable that the graduates of the Asian Institute of Technology (in Bangkok, Thailand) have developed many theses about the Mekong river basin, while few theses have ever been developed about the Ganges river system. This suggests that the intellectual resources of this highly advanced engineering college in Asia have not been used for the sake of the Ganges river basin, while the Mekong river basin has enjoyed the benefits from these resources (Jansky and Nakayama, 2001).

### **A case in Europe**

The importance of public participation in managing an international water system was also stressed within the framework of the UNU Danube project started in 1996 (Jansky, 1998). In 1977, Czechoslovakia and Hungary concluded a treaty for the construction of the Gabčíkovo-Nagymaros Barrier System along the Slovakian-Hungarian border some 50 km downstream as seen from Bratislava. In 1989, Hungary suspended and subsequently abandoned completion of the project alleging that it entailed grave risks to the Hungarian environment. Slovakia (created by the split of Czechoslovakia in 1993) denied these allegations and insisted that Hungary carry out its treaty obligations.

Since 1993, the UNU Danube project has held three conferences all in. The most recent, in June 1997 attracted more than 80 speakers from over 20 countries including the representatives of national institutions, research and academic areas, consultants and NGOs. A list of some practical current needs for the Danube region emerged from the exchange of views and ideas among participants of the conferences, which suggest; (a) to increase the information flow about the project activities which are undertaken within the framework and auspices of various international organizations on a governmental or academic level or within the NGO circles, and (b) to create the partnerships between civic initiatives in the whole Danube region and to support the involvement of the NGOs in the Danube Environmental Forum.

### **Decision Support System Accessible through Internet**

Recent technological development of information technologies provides us an opportunity to strengthen flow of adequate information among the stakeholders. The development of the Decision Support Systems (DSS) in the area of water resources management and environmental engineering has already quite a long and interesting history. Salewicz (2000) suggested the possibility of extending the access to the DSS developed for the management of international water systems and also inland water systems. The extension of the access to these tools and models can be achieved through the use of Internet technology and should be seen as viable tool for public participation and information transparency by making respective decision support systems and models available for interested parties through the Internet.

In the attempt to explore possibilities of the Internet technology for public participation in a decision making process associated with creation of new hydrological schemes and/or with the modifications/adjustments of operating policies used to manage the behavior of existing schemes, we would like to create an interactive model of considered hydrological scheme. It is important, that the decision problem must address



controversial, multiple-objective issue of the interest to many parties, who might be even directly impacted by the considered hydrological or water management scheme. The model should be designed in such a way, that its user should have a feeling of making himself/herself decisions, and some of them could/should be controversial ones.

The best way to bridge the separation between scientists on one side and practitioners and decision makers (not to mention public interest) on the other side is through increasing participation of decision makers, practitioners and interest groups in the use of tools developed by scientific community. As an example, Salewicz referred to his experiences during his involvement in the development of the above-mentioned DSS for the Zambezi River, dealing in particular with operation of two large reservoirs in this river basin. This activity was promoted by the UNEP in the mid-1980s with fairly limited computational capabilities. Still, decision-makers who participated in a training course showed their willingness and abilities to "play with" the DSS. These decision makers found that such a system helps them to better understand the existing situation and can be instrumental in considering the management issues in a comprehensive manner in order to search for other management alternatives.

Salewicz suggested that other stakeholders could benefit from a decision support system by making them available through the Internet. Anybody who has access to a particular web site through the Internet could examine the consequences of various scenarios they have in mind. Salewicz further suggested that the "proof of concept" should be carried out for the proposed "DSS-on-WEB" concept (Salewicz, 2001).

## **Conclusions**

Maintaining transparency of information and promoting public participation should be regarded, not only as a right given to the public but also as a clue to resolve an impasse. Good news is that the advancement of the information technology, in particular

ever increasing connections to the Internet, may give a great impetus towards the direction of promoting information transparency and public participation. New tools such as the web based DSS ought to be developed so that the public may benefit from these new movements.

## References

Bruch, C. (2000) Charting New Waters: Public Involvement in the Management of International Watercourses, UNU workshop on Southern African international waters, 25 and 26 September 2000, Sandton, South Africa

Jansky, L. (1998) Hydropolitics along the Danube, Work in Progress, United Nations University, 15(2), 6-7

Jansky, L. and Nakayama, M. (2001) Environmentally Sustainable Development Program of the United Nations University: Towards the international water systems program in 2002-2003, J. Japan Soc. Hydrol. & Water Resour., 14 (6)

Nakayama, M. (2000) Institutional Aspects of International Water System Management, UNU workshop on Southern African international waters, 25 and 26 September 2000, Sandton, South Africa

Nakayama, M. and Jansky, L. (2001) New Perspectives for Management of International Water Systems, Global Environmental Change, 11, 247-250.

Salewicz, K. A. (2000) Building the Bridge Between Decision Support Tools and Decision Making , UNU workshop on Southern African international waters, 25 and 26 September 2000, Sandton, South Africa

Salewicz, K. A. (2001) Decision Support Systems – How They Could be Developed in a Web Environment ?, ELI seminar on Improving International Water Management through Transparency and Public Participation, 6 December 2001, Washington D.C., U.S.A.