

Special Feature on Groundwater Management and Policy

The WEPA Project: An Information Platform for the Water Environment in the Asian Monsoon Region

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The state of global water resources and the environment is rapidly deteriorating despite international conservation efforts. The situation in the Asian monsoon region and regions in Africa, in particular, has become serious. Many past measures to conserve water resources have been ineffective because of weak governance and lack of capacity to tackle environmental and water-related issues. Adequate knowledge and information is therefore vital in the sound management of water resources, and a number of databases have been developed to share information on water issues. Only a few, however, deal in a unified manner with laws and regulations, how they have been evolving, and cases of policy response as governments strive to cope with water issues. In practice, in order to strengthen governance of the water environment, governmental officers and other stakeholders need to integrate past experiences into new approaches to effectively address water problems. A database including such background information would be an important tool for decision-makers. To this end the objective of the Water Environment Partnership in Asia project (WEPA), proposed by Japan's Ministry of the Environment at the Third World Water Forum in 2003, is to provide a platform to share knowledge and experiences related to the water environment in the Asian monsoon region and to promote good governance in this area by providing important information and past experiences.¹

Keywords: Water Environment Partnership in Asia (WEPA), Information platform, Water conservation, Water environment, Asian monsoon region.

1. Introduction

Water has become the center of attention in the international arena concerned with poverty reduction and human health. According to the Global Water Supply and Sanitation Assessment 2000 Report,² as of 2000, one in six people worldwide—1.1 billion in total—have no access to clean water, and about 400 million of these are children. Therefore, over the last five years many statements and commitments have been made about water problems by various UN organizations. At the Millennium Summit (September 2000), one of the UN Millennium Development Goals set 2015 as the target year to halve the population that have no access to or are not able to afford safe drinking water.³ In line with this, at the thirteenth session of the UN Commission on Sustainable Development (April 2005), further policy options were pursued for implementation on the issues of water and sanitation. The United Nations

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1. The content of this paper is based on the author's opinion and may not be the official view of the WEPA project itself.

2. This report presents the findings of the fourth assessment by the WHO and UNICEF Joint Monitoring Programme. Web site: http://www.who.int/water_sanitation_health/monitoring/globalassess/en/

3. <http://www.un.org/millenniumgoals/>

General Assembly in 2003 proclaimed the years 2005 to 2015 as the International Decade for Action “Water for Life” to promote efforts on water and water-related issues.

The Asian monsoon and African regions face the most serious water- and environment-related problems globally, where the crisis in these regions has been rapidly getting worse for decades. Increasing population and rapid development have increased stresses on the *water environment* both in quality and quantity.⁴ As a result, both humans and ecosystems have been forced to endure increasingly unhealthy conditions. Despite the many measures that have been taken at various levels to conserve the water environment, most have failed so far, mainly because of weak governance, ineffective regulations, and inappropriate actions taken in tackling water and environmental issues—representing a major setback for economic development by failing to ensure safe water quality and sufficient quantity in the region.

The importance of adequate information has been long recognized in water resources management, and a number of databases have already been developed for various purposes to share information dealing with water issues such as regulations on water quality, conflict resolution, and water treatment technologies. For example, the ECOLEX database—jointly developed by the United Nations Food and Agriculture Organization (FAO), the United Nations Environment Programme (UNEP), and the International Union for the Conservation of Nature and Natural Resources (IUCN)—provides information on environmental laws and treaties enacted around the world.⁵ The ToolBox database developed by the Global Water Partnership (GWP) provides information on policies, economics, laws, and capacity building to assist in implementation of the concept of *integrated water resources management* (IWRM).⁶ None of these databases, however, focuses on the Asian monsoon region.

In addition, only a few provide information on laws and regulations in a unified manner, particularly with background information on how these have been evolving to cope with water problems and cases of policy response. To strengthen water environment governance, governmental officers and other stakeholders related to water issues need to learn from past experiences in order to develop new approaches to solving water problems, and a database including such background information would therefore be an important tool.

2. Project outline

The Water Environment Partnership in Asia project (WEPA)⁷ was proposed by the Japanese Ministry of the Environment at the 3rd World Water Forum in 2003 to provide a platform to share knowledge and experiences related to water environment issues in the Asian monsoon region. The project is aimed at promoting good governance in water environment management by providing information and

4. The term *water environment* is used broadly in this context, encompassing not only water resources for use by humans, but also water in entire natural ecosystems, thus covering the topics such as watersheds, rivers, groundwater, water storage, sanitation, wastewater, treatment, irrigation, and so on.

5. <http://www.ecolex.org/index.php>

6. ToolBox: <http://gwpforum.netmasters05.netmasters.nl/en/>

7. www.wepa-db.net

knowledge and developing the capacity of relevant stakeholders by working together on the construction of a database (figure 1).

The WEPA project is to be implemented over a five-year period (April 2004–March 2009). During this time, it will be implemented through the cooperative actions of participating governments.⁸ There are eleven countries from the Asia-Pacific region involved in the project, namely, Cambodia, China, Indonesia, Republic of Korea, Lao (PDR), Malaysia, Myanmar, Philippines, Thailand, Vietnam, and Japan.

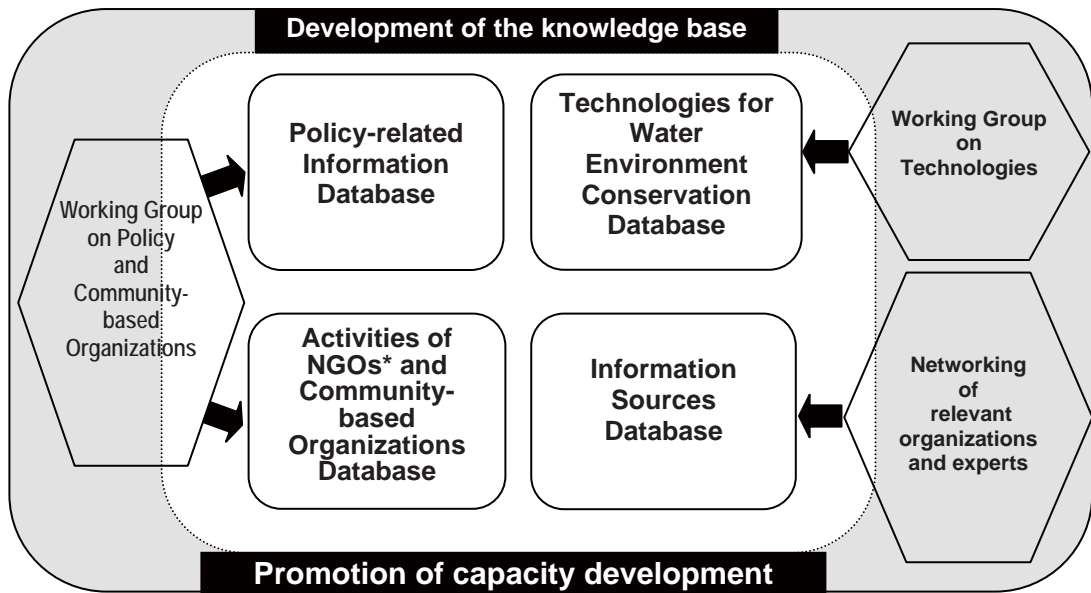


Figure 1. WEPA activities and outcomes

*NGO = non-governmental organization.

One of the unique features of the WEPA project is that all activities are being conducted under a partnership “umbrella” of participating countries, and they are all contributing to efforts in collecting information for the databases. (The overall project framework is shown in figure 2.) The Institute for Global Environmental Strategies (IGES) has taken the lead role as the project secretariat to coordinate with partner countries based on the suggestions from the Advisory Committee, which consists of Japanese experts specialized in the field of water resource management.

8. Kingdom of Cambodia, People’s Republic of China, Republic of Indonesia, Republic of Korea, Lao People’s Democratic Republic, Malaysia, Union of Myanmar, Republic of Philippines, Kingdom of Thailand, Socialist Republic of Vietnam, and Japan.

Before its official launch, an inception workshop was held in Jakarta, Indonesia, in March 2004, where all the participating countries welcomed the WEPA project as a new regional collaborative initiative towards enhanced governance and capacity building for a better water environment.



Figure 2. Framework of the WEPA project

The contents for the various databases are being collected by the focal point of each country (table 2). When the WEPA project was launched in April 2004, the secretariat requested each participating country to nominate their focal point that would be responsible for data collection and participating in discussions and WEPA activities. The role of the focal point is not only to collect information but also to get relevant ministries and institutions involved in the WEPA Database project.

One working group was established for the Policy-related Information Database and the NGOs and Community-based Organizations Database and another for the Technologies for Water and Environmental Conservation Database. These two working groups consist of experts nominated from each country, and they meet for discussion once or twice a year. The purpose of the working meetings of the Policy-related Information Database is mainly to enhance data collection and share information on the difficulties in data collection faced in each country. In addition, the meetings provide an opportunity to share information on water environment management such as water quality standards, water environment regulations, monitoring schemes, and other issues among participating countries. The meeting of the Working Group on Technologies is also an event for participants to update the group on the progress of data collection and to discuss technology information such as wastewater treatment, which is a relevant technology for conserving the water environment in the Asian monsoon region.

Besides these functional events of the working groups, an international workshop is held annually to share information on the development of the databases (the first was held in January 2005).

Table 2. List of focal points

	Country	Focal point (organization)
1	Kingdom of Cambodia	Ministry of Environment
2	People's Republic of China	State Environment Protection Administration of China (SEPA)
3	Republic of Indonesia	Ministry of Environment
4	Republic of Korea	National Institute of Environmental Research and Ministry of Environment
5	Lao People's Democratic Republic	Water Resources Coordination Committee
6	Malaysia	National Hydraulic Research Institute of Malaysia (NAHRIM)
7	Union of Myanmar	Ministry of Agriculture and Irrigation
8	Republic of the Philippines	Department of Environment and Natural Resources
9	Kingdom of Thailand	Ministry of Natural Resources and Environment
10	Socialist Republic of Vietnam	Institute of Environmental Technology, Vietnamese Academy of Science and Technology (VAST)

2.1. Principles used in the development of the WEPA Database

Sharing information and knowledge for better water management is the primary objective of establishing the WEPA information platform. Therefore, the target users of the WEPA Database are government officials and the aid agency staff who work with them. The databases are also targeted at other relevant stakeholders such as administrative officers, water specialists, relevant research organizations, and NGO officers in the field.

Various databases already exist that provide information related to the management of water resources and the environment. Therefore, in construction of the WEPA Database, such existing information will be effectively utilized, for instance, by providing links to other databases. Furthermore, existing databases may be more useful if current information is integrated. In this regard, such information has been identified and integrated into the WEPA Database.

In addition, the WEPA project aims to include capacity building as part of the development of data collection, so the process of information collection in each country is an important part of the project to understand the current status of each country's water environment. Through sharing and gathering information, focal points and their staff involved in the WEPA project in each country are better able to comprehend their administrative difficulties and issues that they face in pursuing better water management. This is considered to be an essential part of the WEPA project, which is to provide capacity building for decision-makers involved in water resource management in the region. Such activities differentiate the WEPA project from the capacity-building efforts of other organizations.

2.2. Structure of the WEPA information platform

The WEPA information platform consists of the following four databases: the Policy-related Information Database, Technologies for Water Environment Conservation Database, Activities by NGOs and Community-based Organizations Database, and the Information Sources Database (figure 1). These four databases are inter-linked in order to support a better approach to manage the water environment in the region. From the top page of the WEPA Database Web site, users can access each database using an access window.

2.3 Contents of the WEPA Database

Information not provided by existing databases but likely to be useful has been collected and analyzed in the preparation of the WEPA Database framework. After intensive discussions with experts, the contents of the databases have been carefully selected to include information on issues and responses on primary policies, regulations, and systems currently in place for water conservation in the Asian monsoon region, and will include practical problems that need to be addressed and suggestions on future challenges. The range of information that will be included in the databases is described in table 3.

Table 3. Contents of the WEPA Database

Name of database	Contents
Policy-related Information Database	<ul style="list-style-type: none"> • The present state of the water environment in participating countries • The administrative structure of water environment responsibility and management (e.g., organization chart, duties of each department) • Current policies and laws on the water environment • Policy responses and underlying causes of water and environmental problems • Cases of local-level activities • Frameworks and mechanisms to ensure effectiveness of laws and regulations • Law enforcement (e.g., environmental protection costs, water quality monitoring systems, capacity building)
Technologies for Water Environment Conservation Database	<ul style="list-style-type: none"> • Identification of waste treatment facilities • Facility overviews (e.g., operating period, treatment process, process flow diagram, specification of reactors/equipment) • Facility operation status (daily amount of wastewater treated, annual electricity consumption, annual amount of sludge generation) • Water quality (inlet and effluent quality) • Operation and maintenance (chemical consumption, number of persons) • Others (capital cost, facility management body)
Activities by NGOs and Community-based Organizations Database	<ul style="list-style-type: none"> • Cases of activities • Cases of policies for dissemination and education
Information Sources Database	<ul style="list-style-type: none"> • Information is provided by various international/national organizations, NGOs, and stakeholders (this includes policies and technologies for effectively managing the water environment)

One especially unique feature of the Policy-related Information Database is the section on policy responses and underlying causes, which is concerned with past policy responses to water and environmental problems and the factors and phenomena involved, all provided in chronological order. This background information is important in that it gives users the opportunity to evaluate why a law or regulation was enacted in respect to pollution problems. Another section provides an overall picture of current water and environmental laws and policies, along with a summary of each one. This will be useful for users who want to quickly understand the details of laws and systems. For example, when governmental officers are faced with illegal discharges from a factory, a search of the database will quickly provide them with the basic understanding needed to ensure compliance with regulations and laws.

The objective of the second database, the Technology Information for Water Environment Conservation Database, is to help policy officials and organizations implementing projects in partner countries by providing information on wastewater treatment technologies and systems currently operating well. When policymakers are planning or introducing wastewater treatment technologies or systems, they can select and apply appropriate technologies in a particular setting of problem, location, cost, sustainable operation, and other parameters. The database will include information on cost recovery, treatment performance, response from local residents, and a long-term perspective, including financial planning. In addition, many other databases currently dealing with technologies for water environment conservation are provided on the latest technologies. The latest technologies can be applied anywhere if sufficient funds are available for construction, but most countries in the Asia monsoon region cannot afford to construct such costly treatment systems. In this regard, the WEPA Database will also include information on traditional practices and appropriate technologies to treat wastewater in the region.

The third, the Activities by NGOs and Community-based Organizations Database, will provide information on the activities of civil organizations related to the water environment and cases of governmental activities on education and awareness raising. The information on NGOs and community-based organizations (CBOs) will include the inside stories on various CBO and NGO activities and the keys to their success, which will be useful for policymakers and other NGOs. The content on raising awareness will provide practical information on governmental activities in water management and environmental monitoring. This will promote the public-oriented activities conducted by various governments and NGOs as well as increase public awareness about water environment problems.

Finally, the fourth, the Information Sources Database, will provide links to other sites where various information is available on water environment programs and activities conducted by government, international organizations, and NGOs.

In order to have these databases used most effectively, the database framework and contents will be continually updated to reflect feedback from target users and various stakeholders.

3. Future implementation

The WEPA Database was opened to the public just before the 4th World Water Forum (WWF4) in March 2006. During the event, Japan's Ministry of the Environment, IGES, and the Comisión Nacional del Agua and Instituto Nacional de Estadística Geografía e Informática (INEGI) from Mexico held a session, titled, Water Accounting and Information Platforms, under the theme of "Water Management for Food and the Environment." The aim of the session was to promote the role of information platforms in improving the water environment. A number of examples of information platforms were presented, not just the WEPA Database on the Asian monsoon region but also the Sistema Unificado de Información Básica del Agua (SUIBA) and other cases from Mexico. The main message from this session was meant to encourage further efforts to conserve the water environment globally through sharing the status and exchanging views on development of information platforms among WWF4 participants.

The WEPA project will continue until March 2009. The first phase of the project, Japanese fiscal years (FY) 2004–2005, focused on the establishment of the database framework and collecting information. During this phase, the WEPA project made a commitment to understand the conditions and schemes of water environment management in each country, in order to meet its objectives. These efforts will continue, with closer partnership among members, into the second phase, FY2006–2008, when the project will implement further modification of the database contents as well as capacity building through activities with respect to the databases. It will also hold several workshops in partner countries, in which the database will be introduced to a broader audience and the experiences of the Japanese experts will be shared.

Along with various types of support and communication among people concerned with water issues, the intent of the WEPA project is to contribute to improving the global water environment by providing a information platform for the Asian monsoon region.

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