

Summary of Innovative Practices in JAPAN for UNEP Global Ministerial Environmental Forum

1. Overview of countermeasures on water related issues in Japan

In the 1960's, the increasing water pollution of the public water body caused by high pollution density and industrial activities led to frequent red tides and damage on human health. In order to prevent water pollution, various measures were taken. Above that, the consideration of environmental affect in water resource development has been promoted. In this paper, major initiatives related to i) ecosystem approaches in integrated water resource management, ii) water and sanitation, iii) water, health and poverty are introduced.

2. Description of major initiatives

(I) Ecosystem approaches in Integrated Water Resource Management

i) Prevention of Water Pollution; Effluent Limit, Total Pollutant Load Control, Water Recycling

In order to cope with the water pollution, Water Quality Standard (WQS) for the conservation of living environment and Effluent Limits are settled. In 2003, the WQS for the conservation of aquatic life is settled. The countermeasures are reinforcing for the conservation of water quality from the view point of ecosystem conservation.

The regular system of effluent limits being not stringent enough to meet water quality objectives, since 1980, total pollutant load control programmes, applying to all point sources within designated catchments areas, have set targets for the total daily COD (Mn) load permissible from all point sources combined. Nitrogen and phosphorus were added as the targets in 2001.

Groundwater pumping regulations and effluent regulations were enacted and in addition to seeking to improve industrial water supply networks in order to achieve a stable supply of industrial water, and reducing industrial wastewater discharge volumes, wastewater recycling measures were also promoted.

ii) Ecosystem approach on River basins management

In order to cope with deterioration of water quality and water ecosystem in river basins, many programmes or projects are proactively implemented mainly in urban area e.g. establishment of the organization to discuss the sound water circulation with stakeholders, project implementation for river environment restoration.

iii) Water Resources Conservation Function through Appropriate Forest Improvement and Conservation, Agricultural activities

Japan has been conducting measures to improve the stable supply of water resources in good quality through exertion of public function of forests by facilitating sustainable forest management in accordance with forest planning system. This system contributes to forest improvement and conservation, resulting in demonstration of water and soil conservation function of forests, in more advance and sustainable manner.

About agricultural activities, in line with the Long-term Plan of Agricultural Land Improvement Projects currently reformed to harmonizing with environment, the projects for irrigation/drainage

systems and communities in rural area have been implemented for sustaining the sound water circulation systems, improving water quality and ecosystem, and restoring environmentally sound rural area.

iv) Ecosystem Approach in the Development of Water Resources

In the development of water resources, environmental consideration has been promoted in the construction of large facilities. In tackling with the security of environment, the government implemented the measures for the safety of water, measurement of its effect and monitoring of its impact to the environment in order to protect endangering bird of preys, channels for fishes.

(2) Water and sanitation:

(i) Mechanism for Sustainable Development of Water Resource

In the beginning of the 1960s, in order to cope with the rapid increase of demand for water, the Japanese government has framed a new financial measures and organisation to conduct efficient development of water resources.

(ii) Wastewater treatment

Through construction of sewerage systems, the percentage of sewered population achieved 65.2% in fiscal 2002, and water environment is improved in many rivers, lakes and marshes, and oceans. The Ministry of Land, Infrastructure and Transport promoted advanced wastewater treatment on the basis of basin-wide programmes. Moreover, in FY.2001, 190 million m³ of treated wastewater were used for flush toilets and environmental use as a precious water resource in urban areas.

In order to aim at the spread of on-site treatment systems of domestic wastewater ("Johkasou systems") which are capable of treating gray water and flush toilet wastewater, and have the superior feature, the national subsidy program was inaugurated in 1987 and promotion of domestic wastewater treatment by "Johkasou systems" is tackled positively.

In order to improve water quality in agricultural use and contribute to the improvement of rural environment by promoting the treatment of domestic sewerage in rural communities, including recycling of resources and waste in agriculture, the national subsidy program for Rural Community Sewerage Improvement Projects was inaugurated in 1983.

(iii) Establishment of Sound Water Circulation System in River Basins

In river basins, concentration of population and industry activities in urban areas and change of social mechanism has largely taken place since high economic growth term. Consequently, the changes explicitly cause the bad effects such as flood disaster, increasing potential of drought, deterioration of water quality and water ecosystem. So as to make conservation, creation and restoration of sound water circulation system in river basins, the many programs or projects are proactively implemented.

(a) Water, health and poverty : A method of developing small scale rural water supply systems for drinking water

In establishing rural water supply systems, a series of campaigns started to promote the collaboration between the local governments and communities, especially at an early stage. As a result, water supply systems have rapidly spread in rural area and consequently they ensured safe drinking water for people in rural villages. The systems significantly reduced the number of patients of waterborne infectious diseases and made women and children free from tasks of drawing and carrying

water. To cover the cost of water supply systems, the government encouraged people voluntarily participate in the development of water supply systems with the ownership spirit.

(4) Others - Research and Development

Energy-efficient reverse osmosis seawater desalination technology has now been developed and as a result of efforts to reduce the overall costs involved this technology is now being commercialized as an effective way of dealing with water shortages.

Various Earth observations are performed throughout the world including our country, and important data is offered. Establishment of the international Earth observation system(s) that gaze at 10 years onwards is aimed by making these existing systems coordinate and expand with mutual cooperation, on the grounds of decision of the implementation plan in the Earth Observation Summit.

The Council for Science and Technology Policy promotes research cooperation among ministries and agencies by advocating research initiatives related to water issues e.g. Eco-Harmonics River Basin and Urban Area Regeneration Research Initiative and Global Water Cycle Research Initiative.

3. Mainstreaming/Sustainability

These initiatives are stated in the Environment Basic Plan, Japanese NSDS, and other related strategies or national plans.

4. Replicating the Initiatives

The experience for the water environment management in Japan are applicable to other countries, so that Japanese government has taken the effort to disseminate the experiences through various programmes e.g. joint research, exchange of specialists, acceptance of trainees, loan and grant assistance.

The Portfolio of Water Actions (PWA) was announced at the Ministerial Conference on 3rd World Water Forum and Japan has been encouraging to make use of the PWA website network with international organizations. Japan intends to introduce its 91 concrete actions to other countries through the network.

As one of the PWA, the Ministry of the Environment of Japan proposed "Water Environment Partnership in Asia (WEPA)" at the Third World Water Forum as a new initiative in developing a platform for strengthening water governance and capacity building to solve water environmental problems in the region. The main activities of WEPA are development of databases that will serve as a common information platform on water environment. The databases will be made public through Internet among the relevant stakeholders including government officials and NGOs as a common asset.

Network of Asian River Basin Organizations (NARBO) was established February 2004 to share respective countries' experiences and information among river basin organizations and related organizations.

"The International Network for Water and Ecosystem in Paddy Fields (INWEPP)" will be inaugurated in November 2004 to enhance international partnership for capacity building and information exchange, etc on water and ecosystem in rice-based systems.