



**National Stakeholder
Consultations on Water:
Supporting the Post-2015
Development Agenda**

**Thailand
2013**



**Global Water
Partnership
Southeast Asia**

National Consultation Report on water in the post-2015 development agenda

Thai Water Partnership

The Country Consultation Report, provides an assessment of country priorities on water resources and issues on the WRM monitoring and reporting. Information is organized as the following

1. Importance of water in national development
2. Key national priorities for the sustainable development of water
3. WRM monitoring and reporting issues

1. Importance of water in national development

Thailand is agricultural based country. Water has been the main resource to support the expansion of agricultural activities and its increase in productivity. However, in the recent years, population increase and accelerated economic growth have caused a huge water demand. Thus, the country has faced serious water problems such as pollution, shortages, droughts and floods. Therefore, water resources development and management has become very crucial and the emphasis cannot be put for agriculture alone.

The importance of water in national development can be identified in the national development goals and development programs. National development vision focuses on the poverty alleviation and the upgrading of Thai people's quality of life, so that "sustainable development and well-being for all can be achieved". Nationwide, natural resources strategies emphasize on the preservation of bio-diversity, efficient use of water resources, and the restoration of soil fertility to support increased agricultural productivity, as well as to support conservation, and improved the effective use of energy. Go for green economy policy in near future, the government will launch more plans and programs on water management which focus on water quality control in industrial sector and also in urbanized expansion and efficient use of water in agricultural sector.

Water sector

In Thailand, four main Ministries: Interior, Industry, Agriculture and Cooperatives, and Natural Resource and Environment, have been assigned to cover work in relation to water resources management. The major department of the Ministry of Agriculture and Cooperatives is the Royal Irrigation Department (RID), responsible for the provision of irrigated water for agriculture, while the Department of Water Resources (DWR) of the Ministry of Natural Resource and Environment is the core agency in the formulation of policy and integrated water resources management plan in the river basin system. In dealing with floods and droughts, many government agencies have settled up centers or taskforces to specifically address these issues. DWR has established a Water Crisis Prevention Center and installed a number of gauges in priority river basins, including an early-warning system in some of the most

vulnerable areas, notably 398 villages identified at high risk of flooding and mudslide. RID has also improved its capacity to predict the water flow and improved efficiency of its reservoir operations, while Bangkok Metropolitan Authority has strengthened its capacity to deal with flooding in Bangkok.

The overall IWRM policy statement

Implementation of an integrated water resources management (IWRM)

Though the thorough IWRM implementation plan has not been fully developed, it is widely accepted that the river basins management should be practiced accordingly. The setting up of the National Water Resources Committee (NWRC) and the River Basin Committee (RBCs) as institutions responsible for IWRM at the national and river basin levels has been recognized as positive elements in protecting watershed ecosystem.

During the economic downturn in 1999, Thailand adopted the condition set by the Asian Development Bank (ADB) under the loan project. The major condition was that Thailand needs to adjust the agricultural sector and water resources system, structured by the following actions; legislate water-related laws, formulate water policies, establish watershed management organizations, allow private sector to involve in irrigation system operation, collect water fee, reduce subsidies for farm inputs, and manage Upper River and recover coastal areas.

Within the same year, with the coordination between the Office of National Water Resources Committee (ONWRC) and the Global Water Partnership (GWP), an organization supported by the World Bank, the national vision was put forward as; 'By the end of 2025, Thailand will have enough water supplies with high quality through management systems, organizations and law systems that promote the just and sustainable use of water concerning quality of life and people's participation at all levels' (Water Privatization in Thailand, 2002, Foundation for Ecological Recovery).

The management plan for each river basin has been developed within the framework of local users 'participation through RBC mechanism. In 2005 the integrated plan for water resources management for each river basin was accomplished. New approach in integrating different strategies to manage upstream locations to downstream areas has been proposed and implemented. In the upper watershed area, land and water conservation is the crucial strategy while in low land and floodplain areas the plan focuses on ensuring fair allocation of water for various uses. These management plans also involve ecological functions of watershed such as maintaining good quality of water, ensuring services for users and mitigating disaster related to water.

2. Key national priorities for the sustainable development of water:

2.1 Key WRM priorities (management, environment and productive uses of water)

Key challenges and issues are identified during the group discussions and the consultation among key stakeholders.

- Stakeholders' participation: Though stakeholders' participation is identified in the working approach of the government agencies, it seems challenging to have stakeholders' participation at the planning and implementation level. The existing policy framework was well designed to conform with the new constitution and principle of people participation. However, in practice, it failed to response adequately to problems people are facing.
- Strengthening the capacities: of the people and agencies involved can be done through providing and sharing of information, knowledge, and funds in order that they can tackle the problems, and can effectively manage the conflicts. Examples on concrete practical IWRM in watershed are still little, too little to extend to upscale to the changes in structures and broader policy level. Thus it is very crucial and important to support the practices at various watersheds.
- The structured measures: constructions of dike, flood ways, water diversion scheme, have been the effort of the line agencies, while local initiatives and economic measures are not integrated.
- Introducing long term planning of the efficient resources (water and land) use: The legal aspect as comprehensive plan of Town and Country Planning for sustainable land use planning has not yet been fully implemented, though the enforcement has been put forth by the Senate Committee on Natural Resources and Environment.

2.2 Key WASH priorities

In Thailand, water required for domestic use is classified as for rural or urban. The water use in rural areas is estimated at 50 liters per person per day, while in urban area, 250 liters is calculated for person per day. Water conservation at the household level in urban areas could contribute significantly in reducing the pressures on water demand. If nothing has been undertaken, water demand is expected to increase by 35 percent over the 20 years. While agriculture uses water the most, industrial activities are estimated to increase the water use enormously. If water management is not improved, total water demand, not including that necessary to maintain the ecological balance, is expected to increase from 57,000 Mm³ in 2004 to 77,000 Mm³ in 2024.

Currently about 80 percent of urban population have access to treated pipe drinking water and it is planned to increase to 91 percent by the year 2017. For rural population, about 70 percent are served with piped water systems, rainwater jars and tube wells for drinking water, but household consumption still has to rely on other water sources.

Due to rapid economic development, water demand continues to grow. The water resources development budget has been increasing and represents a large portion of the national budget for development. The agricultural sector remains the main user of available water and accounts for 71

percent of total water demand; the industrial sector accounts for two percent, the domestic sector for five percent and the remaining 22 percent are for ecological balance. The trend, however, is for a reduction in the share of agriculture with a corresponding increase in both industrial and domestic water usage.

2.3 Key waste water and water quality priorities.

For water quality the results water quality monitoring program showed that most receiving waters were still complied with the water quality standards and guidelines. However, rivers in populated areas were polluted due to the discharges of wastewater from various point sources. Thus, mitigation measures such as construction of wastewater treatment plants, hazardous waste treatment, agricultural waste management, industrial waste control, and management of other pollution sources are required.

Like many countries in Asia, increasing population, economical, agricultural and industrial expansion in Thailand are the major causes of water quality in various water sources, including surface water, ground water and sea water to be deteriorated. High loading of pollutants from human activities beyond the water resource carrying capacity can contribute to degradation of water quality in the country.

Water quality is determined by the dissolved oxygen, or DO, the ability of microorganisms to digest oxygen (BOD), ammonia (NH₃) concentration, and the prevalence of *coliform* bacteria. Low DO and/or high BOD, NH₃, and *coliform* indicate poor water quality.

On the average water quality is acceptable, the official data suggests that more than half of the rivers have acceptable water quality, while about one-third are degraded or polluted. Serious problems are experienced in the following areas: the lower *Thajeen River* (low DO and high NH₃), *Lam Thakong of Moon River* (high BOD), and *Songkla Lake* (high bacteria and NH₃). *Maeklong* and the middle and lower parts of the *Chao Phraya*, *Bang Pakong*, *Nakornnayok*, and *Rayong Rivers* are experiencing rapid degradation in water quality. In *Maeklong*, this year, polluted water has destroyed the sea shell plantations for the cost of more than ten thousand million Thai Baht. Small and medium fishery folk are now suffering for the loss and in the process of negotiation for compensation, as the polluted water was proved to be drained from the flooding in Bangkok and nearby areas. This experience is not yet fully studied for the real cause and concluded as lesson learned.

Land use, land conversion, and soil quality can affect water quality and water uses. In the West (especially *Maeklong*), about half of the 1986's rice paddy area has been converted. Small water ways which connected to the river and sea through the areas are now neglected, unused and filled. *Nan*, *Kong (N)*, and *Kok* have experienced high land conversion in Class 1 watershed areas, while *Pattani*, *Southeaster Coast*, *Songkla Lake*, *Kong (NE)*, and *Pasak* have more problems with land conversion in watershed Class 2 and Class 3 areas. Changes in land use could seriously affect water quality and the ability to use water especially in the downstream.

Maintaining acceptable river water quality also requires effective control of waste and polluted water. Increasing water pollution will in turn reduce water available for high-valued water uses. The Pollution

Control Department (PCD) is responsible for the management of overall water quality, while the sector agencies are responsible for the control of wastewater discharge at the source. Wastes from industries are controlled by the Department of Industrial Works (DIW) and the Industrial Estate Authority (IEA) of the Ministry of Industry. Wastes from agriculture are controlled by agencies under the Ministry of Agriculture and Cooperatives (i.e. the Royal Fishery Department, the Department of Livestock, and the Department of Agriculture). The local governments control domestic waste. Public disclosure of the monitoring and enforcement results will help ensure good water governance and the effectiveness of water pollution control.

Though the government plan for polluted water treatment in 2025 is for 16.1 Mm³ per day, current treatment is only for 1.2 Mm³ per day. From the monitoring and evaluation, planning guidelines for government offices in solving the problems of polluted water and improving water quality in the rivers are proposed as follows. There should be categorized into two levels: area and watershed level. Two measures are brought in: non-construction, and construction measures. The management of polluted water treatment and improving water quality in the rivers should be divided into three stages: short term management that polluted water should be treated at the rate of 1.6 Mm³ per day. This should be completed within 5 years. Medium term is that polluted water should be treated at the rate of 5.5 Mm³ per day. This should be undertaken and finished within 15 years. Long term management is the ability to treat the polluted water at the rate of 9.0 Mm³ per day. This stage should be achieved within the scope of 25 years in total.

2.4 Suggested areas for future sustainable development targets for water.

A water resource management in Thailand is now coming to the crucial point, that it needs to be efficiently used and allocated in a fair and just manner. Legislative, like water laws and policy instrument can be tools in supporting the change. They are now in the debating process in the Lower House.

The practice of IWRM still has different limitations. Solutions or alternatives for many challenges are still pending. Followings are the key questions frequently asked, during the performance evaluation of the River Basin Committees.

- How to allocate water in a just manner to local residents, industrial, and agricultural sectors, and response to the concern in environmental conservation?
- How to make the integrated irrigation at the field level, project level, and watershed level, including the partnering between water users and the irrigation officers?
- How to set up the impact assessment system of water allocation to the environment and people's health?
- How to set up the legal framework in supporting of the integrated institutional development, including the high level officers and politicians with commitment for this development?

3 WRM monitoring and reporting issues

In the challenging condition of the climate change, adaptation to deal with the limitation to access to water resources have to be considered in many aspects as follows:

3.1 Collective decision making in Public Policy Process

- *Water allocation.* Strategic planning for water allocation is needed in order to allocate water fairly to all sectors. Though the allocation should be flexible to suit the local condition, the guidelines and regulation should be clearly settled and followed up for the sustainable water resources management.
- *Access to clean and safe water.* There should be the planning for the distribution of tap water to all communities. Irrigated water should be managed to reach the farm plots, concerning the vulnerable groups or people at the tail ends.
- *Multi-stakeholders engagement.* Implementations at local level have been the problems solving at the basin level, then it is very difficult to synthesize and upscale issues to the policy brief proposed to line agencies and public sectors. Facilitating the common understandings of diverse-stakeholders is also challenging.

3.2 Coping with Risks in WRM

- *Set up the guidelines* to reduce the flood-drought prone areas. It is very necessary to have a careful planning for the floodway and floodplains to take the exceeded water to the nearby areas with the fair and mutual benefits
- *Improve and have quality control* over the natural water resources for the piped water in the central, north, and northeast regions. Special attentions must be paid for the contaminated water during the flooding. Have the quality control over the underground water for the piped water as well as the control the overuse of the underground water resources.
- *Standardization of underground water use:* Control the standards of shallow wells and underground water in the industry areas, especially where there is no service of piped water. This is to prevent the contamination from the residue released from the factories.

3.3 Promoting Water governance

- Water resources management should be flexible, and responsive to the needs of the stakeholders and the local context.
- *Capacity building and institutional development* to find the solutions in water related problems
- It's also important that, legislative framework incorporates indigenous customary law and traditional environmental management procedures so that the needs of local people are not ignored and the resources management will serve the real needs of the ones live with it.

- Technical assistance for people working on environmental law should be provided so that the legal instruments, processes, and institutional approaches are adjusted to suit the changing situation of the country.
- Technical assistance in the creation of a more adequate environmental law infrastructure is an immediate priority. This includes assistance in drafting of legislation rules, regulations and guidelines. Training programs for staff of government or any administrative organizations dealing with environmental issues to establish an adequate legal foundation for environmental management, is highly recommended.
- The existence of mechanisms to facilitate the continuing review and amendment of environmental legislation in response to rapidly changing circumstances would be most helpful.

Appendix:

In the process of the National Consultation on water in the post-2015 development agenda, the national consultant and representatives from Thai Water Partnership have undertaken the following activities: Two Stakeholders' forums were organized in Nakornpattom, and Samutsongkram. This is to get perspectives from direct users and local stakeholders from different sectors, including local authorities, government officers, and civic groups. National Consultation was organized on April 26, 2013, at the Auditorium of Chulalongkorn University in Bangkok. The consultation was chaired by the Senator who is also the President of the Senate Sub-Commission on Water Resources, Sea, and Coastal Areas. 50 participants, composed of representatives from line agencies, leaders, academics, shared their views and commented on the summary of perspectives gained from previous stakeholders' forums.