

Sustainable water

resources of sufficient

quantity and quality to

Our Vision for Water in the **21st Century**

meet the needs of people

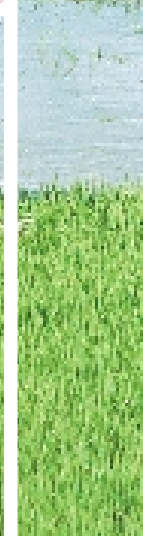
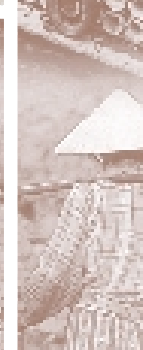
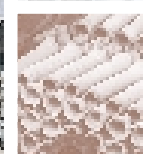
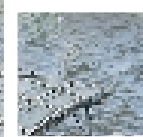
in terms of health, food

security, economy and

environment.



SOUTHEAST ASIA



Water for the 21st Century: Vision to Action

SUMMARY

Water is a fundamental natural resource and there has been growing recognition that its use and management must be improved if a water crisis is to be avoided. The role of water in contributing to alleviating poverty, underpinning secure livelihoods, strengthening economies and sustaining environmental and ecological systems is central to all development goals.

To help define the actions needed to improve the management of water in Southeast Asia, the document, *Water for the 21st Century: Vision to Action — Southeast Asia*, was prepared for presentation at the Second World Water Forum and Ministerial Conference at The Hague, the Netherlands March 17-22, 2000.

Southeast Asia's Vision for Water for the 21st Century

The Vision of Southeast Asia for water in the new century is: *the attainment of sustainability of water resources to ensure sufficient water quantity of acceptable quality to meet the needs of the people of Southeast Asia in terms of health, food security, economy, and environment.* This vision means:

- › Access to safe, adequate and affordable water supply, hygiene, and sanitation.
- › Provision of sufficient water that will ensure food security for the region.
- › Provision of sufficient water to spur and sustain the economies of the region.
- › Protection of the water environment to preserve flow regimes, biodiversity and cultural heritage as well as the mitigation of water related hazards.

BACKGROUND

Water resources and uses in Southeast Asia

Compared to previous eras, the last half of the 20th Century was characterised by unprecedented changes and irreversible trends in natural, technological, social, economic, and political factors that have affected human life in radical ways. Combined with population growth, urbanisation, industrialisation and economic development, this has exerted high pressure and demand on natural resources, most notably on water resources.

Increasing conflicts among competing uses for water such as drinking water supply, irrigation, hydropower, and industry are a result of the pressing needs for social and economic welfare and development. Industrialisation and the growing population have resulted in increasing the undesirable levels of water quality and quantity. Unless society

is able to develop and apply solutions to these problems then human life, health and well-being are in peril.

Land and water resources availability

The total land area of the Southeast Asia exceeds 435 million hectares or 4,350,000 square kilometres. The geography of the region includes small compact states, the archipelagos, the peninsular nations to the mainland nations with shared inland borders and coastal boundaries. The climate is generally humid tropical, the region being blessed with abundant rainfall which ranges from 1600 to 3000 millimetres per year. The humid climate yields an average total water resources availability for the region that exceeds 5500 cubic kilometres per year, present in both surface water and groundwater reserves.

Population factors and water uses and services

By the end of the 20th Century the total population of the region exceeded 550 million. This is expected to rise by around 50%, or by an additional 250 million, by 2025. This translates to around 50% rise in the population density per country, and the average population density of the region will rise from 1.3 persons per hectare to 2.0 persons per hectare. By 2025, per capita natural water availability will drop from 10 to 6.7 thousand cubic meters per year. In daily per capita values, fresh-water availability will decrease from 27 to 18 cubic meters per person per day.

More than 70% of water use in the region is devoted to agricultural purposes or irrigation of staple crops, mainly rice. Domestic and municipal water use ranges from 10-20% of total water use, while water for industrial use is about 10% or less of total use. The extent of the population with access to safe water is generally below 50% for rural populations but above 50% for urban populations. The present total installed hydropower capacity is less than 5% of potential capacity while less than 50% of the total flood-prone area of the lowland areas is provided with flood control protection measures.

Objectives of the Vision and Framework for Action

The long-term vision for the region that clearly depicts the a desirable water world in the year 2025, and a strategy and framework for action to achieve this vision, was coordinated by the Southeast Asia Technical Advisory Committee (SEATAC) of the Global Water Partnership (GWP). Consultations included stakeholders from Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam.

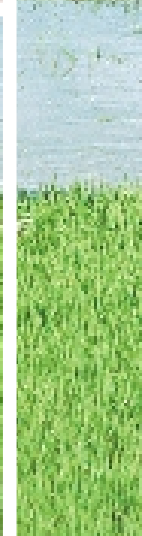
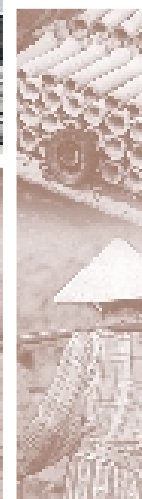
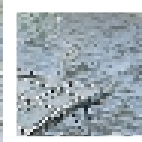
The regional vision aims to spur all regional water stakeholders to form and build a consensus on the state of water resources in the region for the year 2025. The framework presented below includes the challenges, the implementation strategies and the actions required to achieve the vision.

SOUTHEAST ASIA'S FRAMEWORK FOR ACTION

Southeast Asia's framework for action for a better water future is formulated to meet the foremost challenges facing the region which are:

- › managing our water resources efficiently and effectively





- > moving towards integrated river basin management
- > translating awareness to political will and capacities
- > moving towards adequate and affordable water services.

Managing our water resources efficiently and effectively

Like the rest of the world, Southeast Asia is faced with a growing population that is expected to increase by a further 50% by 2025. Rural to urban migration is evident with a relatively large proportion of the population concentrated in cities where high economic activities exist. With the growth in population, increasing economic development and improvements in the standards of living, demands for water has increased. Rising pollution due to a lack of wastewater disposal, sanitation and proper solid waste management is further reducing the availability of our water supplies. To reverse this degradation of our land and water resources we need to have more efficient and effective management of our water resources. To achieve this, we have to undertake the following actions:

Review of policy and legislation

Fragmentation of responsibilities for water resources management within governments is common resulting in overlapping of functions and fragmented as well as conflicting policies. Too many government agencies are involved in the different aspects of water management: irrigation, domestic and industrial supply, flood control, and infrastructure development among others. Clearly, the traditional approach of developing water resources by sectors is no longer appropriate. The inter-relationship between land and water should be included in the planning process. The adoption of integrated water resources management (IWRM) is therefore critical.

Furthermore, the common perception that water being a basic human need should be provided “free” has resulted in very low tariffs which cannot support maintenance and expansion requirements. Competition among users is also common. The introduction of cost recovery policies, economic valuation of water, and the “polluter pays” principle is necessary to ensure the availability of good quality water for all.

Institute demand and supply management techniques

The use of demand management techniques should be encouraged. Already, a number of water-saving technologies exist in the market today i.e. slow-flow showers, two-piped systems, half-flush toilets, among others. Governments should provide incentives for its use through lower taxes or ‘tax holidays’ to reduce costs.

Given that Southeast Asia is primarily a rice-producing region, the agricultural sector commands the highest demand for water resources, over 70%. As such, there is a potential for significant water “savings” by employing water-conservation technologies such as farm level water management — drip-gravity irrigation — soil moisture conservation measures and cropping management techniques. Where appropriate

and affordable, water-saving technologies that already exist for either irrigation and domestic supply should be encouraged.

Moreover, the introduction of intra-country and more importantly regional cooperation in shared river basins will result in a more efficient management of water supply.

Undertake research and development programmes

Research and development activities on a range of activities — water conservation, water quality management, pollution control, water recovery, re-use and recycling, watershed, flood-plain and coastal management, and water-data network design and implementation — must be undertaken to ensure a more effective management of our water resources system.

Moving towards integrated river basin management

A river basin is a geographical unit with a well-defined boundary that encompasses the totality of the hydrological process which transcends political and administrative limits. It is the ideal management unit therefore, to address water-related problems so it is necessary to:

- › Establish river basin management organisations
- › An integrated river basin management organisation should be established in each selected local and international basin in our region.

Develop decision support systems

The collection, management, and dissemination of basin-wide data on land and water resources, their allocation and multiple uses, are important basic functions of the integrated river basin management. In addition to providing vital public information on natural resources, the data will serve as quantitative inputs to decision support systems that management utilises for decision-making on planning, design, implementation, and operations of water-resources and other basin-development programmes and projects.

Promote equitable sharing among water users and environment

The river basin is also the ideal venue to promote equitable sharing among conflicting water users and the environment, because the various users — water supply, irrigation, flood control, hydropower, environment — must share water within the same river basin.

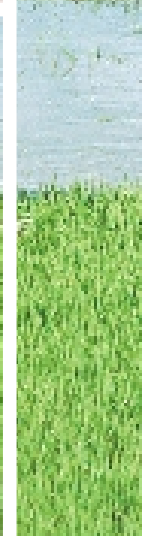
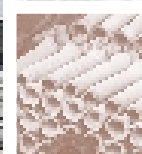
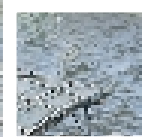
Mitigate water-related hazards and maintain ecological balance

In addition to water utilisation, the river basin management organisation should lead in the mitigation of water-related hazards such as floods, droughts, and erosion, while maintaining the ecological balance.

Translating awareness to political will and capacities

Southeast Asia is blessed with one of the highest renewable freshwater resource. Consequently, the water problems besetting our region pertain more to issues of delivery than to supply. To a large extent, the





issue is exacerbated by the existence of weak sector leadership and the absence of political will to implement the much needed reforms in the water sector. There is therefore, a need to instill awareness on the economic, social and environmental value of water among politicians, decision-makers and other stakeholders in the water sector. Achievement of political will and building of capacities play a vital role in the attainment of sustainable water resources development and management. In our region we must:

Improve governance

Government should take the lead in ensuring sustainable water management with the active participation of all stakeholders. Good governance requires an institution where committed leadership and empowered constituency exist. Government, the private sector and the community should work together to ensure that all water-related concerns and interests are addressed.

Encourage multiple stakeholder participation in water resources development and management

The development of a well-informed and motivated society equipped with the understanding and appreciation of the complex nature of water resources management is an important element towards achieving efficient and effective water management. Accordingly, the core issue today evolves around people's participation, with special focus on the poor, women and children who are most affected by the problems of water shortages, pollution and floods. Thus, it has become necessary to create social awareness and promote public participation through mass-based information, education and communication campaigns, and water-related curricula should be incorporated at all levels in both formal and non-formal education.

Develop, enhance and strengthen institutions on a decentralised and participatory manner

The integrated water resources management paradigm requires the development and/or strengthening of water-related institutions on a decentralised basis with support from well-informed stakeholders. Sustainable water management from a decentralised local perspective is expected to result in improved water access and delivery of services for all concerned. Such decentralisation will mean improving the capacity of local institutions in the field of integrated water resources development and management.

Build individual capacities

Empowerment and capacity building are essential elements in pursuing effective water sector governance. The empowerment of water sector stakeholders requires the building of individual capacities through the conduct of broad-based training programmes on integrated water resources development and management. Human resources development efforts must be undertaken to create a pool of sufficiently trained and skilled persons.

Moving towards adequate and affordable water services

Inadequate infrastructure, the absence of clear policies for public-pri-

vate partnerships, and the practice of government subsidies have impacted negatively on the water sector in a number of countries in the region. In general, existing water distribution systems for domestic use and irrigation are largely inefficient and fast deteriorating as a result of low tariffs. Given the capital requirements for expansion and maintenance of these systems, governments are finding it more and more difficult to meet the water requirements of a growing population for domestic and industrial use, and for food security. Public-private partnerships are therefore encouraged to fill this gap.

Enhance public-private partnerships

There is a need for clear and consistent policies to encourage private sector participation in the water sector. Often, changing rules erodes investor confidence. The implementation of a clear and transparent process in the bidding of projects will attract private investments.

Moreover, there is a limited understanding of public-private partnerships. The options are varied and choices will depend on the individual circumstances of each case. The first step is knowing what the available options are.

Recognise that water is an economic good

In most parts of the region, water is still regarded as “free”, with governments subsidising the delivery of the services. This has resulted in the deterioration of the system and the eventual breakdown in the delivery of the services. In such cases, the poor actually pay more for water than the rich since the former have no choice but to buy water from water vendors. The imposition of tariffs that reflect cost recovery principles and the recognition that water is an economic good will, in the long-run, result in a more efficient system.

Vision to Action

Water is widely mismanaged and unless we change our ways of managing this resource, we will face a serious crisis in the near future. The actions detailed above to redress this situation in Southeast Asia are derived from the document, Water for the 21st Century: Vision to Action – Southeast Asia, which was prepared for presentation at the Second World Water Forum and Ministerial Conference at The Hague, the Netherlands, March 17-22, 2000. The consultations resulting in this document were coordinated by the Southeast Asia Technical Advisory Committee of the Global Water Partnership.





The Global Water Partnership (GWP) facilitates the exchange of knowledge and experience, and the practice of integrated water resources management. Through a worldwide network of partners, GWP identifies critical knowledge needs at both global and regional levels, helps design programmes for meeting these needs, and serves as a marketplace for providers and financiers of the required knowledge services.

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