

1. INTRODUCTION

A. BACKGROUND

Freshwater is an essential environmental resource for sustaining human life, ecosystems and socio-economic development in ASEAN Member States. In 2014, the region had a total capacity of 4,985 billion cubic metres of internal renewable water resources¹. At present, the total annual water withdrawal for the ASEAN region is almost 385 billion cubic metres, which is around 20 per cent of water withdrawals in Asia. Cambodia, Indonesia, Lao PDR, Myanmar, the Philippines, Thailand and Viet Nam use more than 80 per cent of their total annual water withdrawal for agriculture, while Brunei Darussalam, Malaysia and Singapore mainly use water for domestic and industry uses.

All ASEAN Member States have continued to improve water for safe drinking and sanitation in line with levels indicated in the Millennium Development Goals. According to the ASEAN Statistical Year Book 2014², approximately 89 per cent of the population in ASEAN had access to safe drinking water and 71 per cent had access to safe sanitation in 2012. However, only 41 per cent of the population of Indonesia had access to safe drinking water and about half of the population of Cambodia still lack access to improved sanitation facilities.

Data from countries that have long-term water quality monitoring programmes, such as Thailand, Malaysia, Indonesia, the Philippines, Singapore and Viet Nam, shows that the number of rivers and lakes that are classified as having good water quality is decreasing annually, while the number of those classified as having fair and deteriorated water quality is increasing. The deteriorating water quality and increasing water pollution in the region is causing negative impacts on ecosystem services, public health and economic development.

The main challenges in water resources management in the region are linked to (i) increasing water demands and uncertainty in availability of freshwater resources, (ii) degradation of water quality, (iii) dealing with severe floods, droughts and sea level rise due to climate change and (iv) strengthening coordination and cooperation among ASEAN Member States and relevant agencies at national level in implementing Integrated Water Resources Management (IWRM).

Water demand is expected to increase by about one-third in 2025 and double during the latter half of the 21st century³ to serve population growth, urbanisation and economic development. The increased water demands have led to massive abstractions of water resources and increased competition between users and usages. Increasing pollution of water bodies due to inadequate provision of sanitation facilities, sewerage and wastewater treatment, as well as agriculture expansion and intensification, is threatening water quality in ASEAN, even though many countries have placed emphasis on the management of water quality.

Climate change is expected to increase uncertainty of availability of freshwater through changes in rainfall distribution, soil moisture, snow melt, and river and groundwater flows over space and time across the region⁴. Extreme flood and drought will increase vulnerability to freshwater resources across the region. Sea level rise due to climate change will also affect salinity intrusion and freshwater in many cities in coastal areas.

¹ FAO (2017) AQUASTAT. Food and Agriculture Organization of the United Nation.

² ASEAN Secretariat (2015) ASEAN Statistical Year Book 2014. ASEAN Secretariat,

³ ASEAN Secretariat (2005) ASEAN Strategic Plan of Action on Water Resources Management. ASEAN Secretariat, Jakarta, Indonesia.

⁴ ADB (2009) The Economics of Climate Change in Southeast Asia. The Asian Development Bank.

ASEAN Member States have different government agencies responsible for water resources management. Fragmentation of the management of water resources between several agencies within and across countries is a major concern, impacting the effectiveness of implementing IWRM at national and regional levels, and greater attention needs to be focused on developing appropriate institutional structures, and supporting capacity building, legislation and enforcement to ensure successful outcomes in water resources management.

It is important for ASEAN Member States to discuss, coordinate and overcome the above key challenges on water resources management in the region, in order to sustain freshwater resources and ensure sufficient water quantity of acceptable quality to meet the needs of the people in terms of health, food security, economy, and environment, as guided by ASEAN Strategic Plan of Action on Water Resources Management in 2005. Managing water resources efficiently and effectively, as well as promoting good water governance, will also support conservation and sustainable management of biodiversity and natural resources, disaster resilience and a reduction of risks from water-related disasters due to climate change in the region, as stated in the key results areas of the ASCC Blueprint 2025. The achievement in implementing IWRM in ASEAN Member States at national, sub-regional (such as Mekong River Basin), and regional levels will also contribute to the successes of the United Nations Sustainable Development Goals, particularly of Goal 6 (Clean Water and Sanitation), Goal 11 (Sustainable Cities and Communities), Goal 13 (Climate Action), Goal 15 (Life on Land) and Goal 17 (Partnerships for the Goals).

It is almost two decades since ASEAN started to provide support and facilitation to ASEAN Member States to address common issues on water resources and improve water resources management in the region through capacity building, knowledge exchange, data management and reporting, and sharing best practices of IWRM. ASPEN provides a forward-looking plan for the next 10 years to promote cooperation and joint actions across ASEAN Member States that would allow for addressing key challenges on water resources issues at national, sub-regional and regional levels. Efforts under this strategic priority will focus on five programmatic areas: (i) IWRM Country Strategy Guideline and Indicator Framework implementation, (ii) public awareness and cross-sectoral coordination, (iii) water conservation, (iv) water quality and sanitation, and (v) water-related disasters.

B. ACCOMPLISHMENTS

In 2005, ASEAN developed the ASEAN Strategic Plan of Action on Water Resources Management that supports action at the national level to address key common challenges in water resources in the region. The Action Plan focuses on improving access to safe drinking water and sanitation, managing water resources efficiently and effectively, supporting integrated river basin management, translating awareness to political will and improved capacities, and supporting adequate and affordable water services. Many countries are now working towards improving institutional arrangements to increase interconnectivity and synergies in water resources management.

The AWGWRM developed and adopted a set of IWRM performance indicators in 2009 to monitor and assess the progress and achievements of IWRM in ASEAN Member States for six water management issues: water supply management, irrigation management, storm water management, flood management, water pollution management and sanitation management. The IWRM Performance Indicators Framework was revised in 2015 to include four types of indicators: outcome indicators, enabling environment indicators, institutional set-up indicators and management tools indicators. The ASEAN IWRM website is established and serves as a platform to share Annual Reports on the IWRM performance indicators⁵.

All ASEAN Member States are investing in increasing and improving water quality and quality monitoring systems to increase efficiency in water resources management and disaster risk management. ASEAN has established Water Data Management and Reporting System to provide a platform for ASEAN regional river

⁵ ASEAN Integrated Water Resources Management website (<http://aseaniwrm.water.gov.my>).

monitoring system that would allow ASEAN to assess the status and broad trends of river conditions and water quality across the region⁶.

Several learning forums, workshops, trainings and field visits have been organised in the last decade to identify issues and challenges, share examples of best practices and experience and possible solutions for urban and irrigation water demand management in ASEAN Member States.

A regional Workshop on Risks and Impacts from Extreme Events of Floods and Droughts in ASEAN was held in 2010 to assess the management of floods and droughts in ASEAN Member States and learn how well each country could cope with different flood and drought situations. It shared information on best practices and identified the required tools and actions to improve the current situation of flood and drought management in ASEAN Member States, both individually and collectively.

C. OBJECTIVES:

Over the next 10 years, the main objectives of the AWGWRM Action Plan are:

- 1) To promote Integrated Water Resource Management (IWRM) for sustainability of water resources, equitable accessibility, and sufficient water quantity of acceptable quality to meet the needs of the people, economy and environment.
- 2) To manage water resources efficiently and effectively in order to provide adequate and affordable water services.
- 3) To reduce the number of people without sustainable access to safe drinking water and improved sanitation.
- 4) To reduce risks and impacts of water-related disasters (flood, drought, storm, etc.) and strengthen resilience of social and ecosystem.

D. MEANS OF IMPLEMENTATION

ASEAN Working Group on Water Resources Management (AWGWRM) will be the main responsible body for the implementation of the programmes and activities of this Strategic Priority Area. Activities related to strengthening cross-sectoral coordination on water-related issues will be implemented in coordination with other ASEAN Working Groups such as AWGNCB, AWGCME and AWGEE. Activities related to addressing water-related disasters will be implemented in coordination with AWGCC and ASEAN Committee on Disaster Management (ACDM), as necessary. There is also a potential need for coordination and joint implementation with AWGESC on improving water quality and sanitation, particularly in urban cities. Other relevant sectoral bodies and/or partners will be consulted for cross-sectoral and cross-pillar activities.

The AWGWRM will oversee the planning, technical and implementation issues under this Strategic Priority Area, while the ASEAN Environment Ministers and the ASEAN Senior Officials on Environment will provide policy and strategic guidance for its work. Lead countries of each programme/activity under the strategic priority are expected to develop proposal of detailed implementation workplan, implement the activity in coordination with AMS and ASEC, and provide regular progress updates to AWGWRM.

E. POTENTIAL PARTNERS & STAKEHOLDERS

The activities under this Strategic Priority could be implemented through partnerships and regional collaborations with organisations working on water resources management. Potential partners or platforms include Mekong River Commission (MRC), Global Water Partnership - Southeast Asia (GWP-SEA), ASEAN Plus Three Countries (China, Japan and ROK), Network of Asian River Basin Organizations (NARBO), and International Commission on Irrigation and Drainage (ICID).

⁶ ASEAN Water Data Management and Reporting System (<http://rh.n.water.gov.my/awgwrm/>)

Several United Nations agencies can also be further engaged, such as United Nations Environment Programme (UN Environment) and United Nations Development Programme (UNDP). Activities could also be implemented in partnership with Dialogue/Development partners or through ASEAN-Dialogue Partners cooperation framework or trust funds, such as Japan-ASEAN Integration Fund (JAIF) and ASEAN-ROK Centre.

Other organisations that could support public awareness and knowledge exchange activities on water resources management, as well as cross-sectoral coordination, include International Union for the Conservation of Nature (IUCN) and National Institute for Environmental Studies (NIES).

2. PROGRAMMES AND ACTIVITIES⁷

Outputs and Indicators	Activities	Lead Country
Programme 1: IWRM Country Strategy Guideline and Indicator Framework Implementation		
Improved IWRM Country Strategy Guideline and Indicators Framework Improved Water Data Management and Reporting System Design Indicator: - Workshops/Training - Evaluation results	1. Identify, compile, publish and disseminate information on good practices from national IWRM activities.	Malaysia
	2. Disseminate ASEAN IWRM Indicators Framework to other sectors.	
	3. Promote peer-to-peer exchanges.	
	4. Promote capacity building.	
	5. Maintain the ASEAN Integrated Water Resources Management website (http://aseaniwrm.water.gov.my/)	
	6. Update and maintain ASEAN Water Data Management and Reporting System Design (http://rhn.water.gov.my/awgwrn/form).	
	7. Evaluate and assess implementation by ASEAN Member States on the indicators.	
Programme 2: Public Awareness and Cross-sectoral Coordination		
Enhanced public awareness and partnership for integrated water resources management Indicator: - Dialogues/ Workshops - List of data sharing	1. Conduct partnership dialogue on integrated water resources management (e.g. ASEAN water conference).	Lao PDR
	2. Implement Communication, Education and Public Awareness (CEPA) programmes.	
	3. Conduct capacity building and information sharing activities.	
Improved cross-sectoral coordination and interlinkages between other sectors	4. Conduct information sharing activities.	TBC
	5. Implement joint activities related to water and energy (such as: hydropower); water and food; IRBM and ICM.	
	6. Conduct capacity building activities.	
Programme 3: Water Conservation		
	1. Identify and compile information on good practices.	Singapore

⁷ The outputs and proposed activities here will be further confirmed by the AWGWRM to accommodate future changes and are provided in detail in ANNEX 2c.

<p>ASEAN Guidelines on water demand management</p> <p>Indicator:</p> <ul style="list-style-type: none"> - A set of water demand management guidelines; - 1-2 workshops on water demand management between 2020-2025; - 1-2 training courses related to water demand management. 	<p>2. Implement workshop or seminar on developing guidelines on water demand management plan.</p> <p>3. Conduct capacity building activities.</p>	
<p>ASEAN Guidelines on water supply management</p>	<p>4. Identify and compile information on good practices.</p> <p>5. Implement workshop or seminar on developing guidelines on water supply management.</p> <p>6. Conduct capacity building activities.</p>	<i>TBC</i>
<p>ASEAN Guidelines on water resources conservation</p>	<p>7. Identify and compile information on good practices.</p> <p>8. Implement workshop or seminar on developing guidelines on water conservation.</p> <p>9. Conduct capacity building activities.</p>	<i>Thailand</i>
Programme 4: Improving Water Quality and Sanitation		
<p>% of improved water quality</p>	<p>1. Develop ASEAN water quality indicators and water quality standard monitoring standard.</p> <p>2. Provide education and capacity building support to communities on water pollution management.</p> <p>3. Share information and experience on water quality management.</p>	<i>Indonesia (TBC)</i>
<p>% of improved sanitation</p>	<p>4. Provide education and capacity building support to communities on sanitation.</p> <p>5. Share information and experiences on water service and sanitation.</p>	
<p>Strengthened participation of local communities, the private sector, and other stakeholders in improving water quality and sanitation management</p> <p>Indicator:</p> <ul style="list-style-type: none"> - Number and coverage of Public-Private Partnerships (PPPs) in 	<p>6. Develop and implement CEPA programmes.</p> <p>7. Engage local communities, the private sector, and other stakeholders in capacity building programmes and related projects.</p>	

<p>water provision and sanitation management</p> <ul style="list-style-type: none"> - Cross reference to AWGWRM indicators - Number of training participants and gender equity 		
Programme 5: Water-related Disasters		
<p>Implementation of good practices on adaptation and mitigation strategies of water-related disasters</p>	1. Conduct regional scoping study on the causes, severity and impacts of potential flood and drought hazards in ASEAN countries.	<i>TBC</i>
	2. Develop forecasting and information exchange system.	
	3. Document and disseminate information on the good practices, and lessons learnt in addressing water-related disasters.	
	4. Conduct Pilot studies or sites.	
	5. Build capacity and raise public awareness on adaptation and mitigation strategies of water-related disasters.	
<p>Improved social and ecological resilience to negative effects on water-related disasters</p>	6. Develop and implement CEPA programme.	<i>TBC</i>
	7. Conduct capacity building activities.	
	8. Conduct pilot projects or sites.	
<p>Enhanced coordination with ASEAN Committee on Disaster Management</p>	9. Conduct information sharing and consultation.	<i>TBC</i>
	10. Implement Joint capacity building activities.	
	11. Develop joint Initiatives (policies, strategies, forums, networking and social media, etc.).	

