

## **ASEAN IWRM PERFORMANCE REPORTS & MONITORING INDICATORS**

### **Myanmar 2013 IWRM Reports (Based on 2009 report framework for the six issues)**

#### **ISSUE 1 - WATER SUPPLY**

<b>Monitoring Indicators</b>	<b>Value</b>
1. Percentage of population having access to piped drinking water	35 %
<u>Description</u> There are three major cities in Myanmar. Among these cities, Yangon is the pronounced one. The figure is only for the Yangon City Area. The percentage is for all kinds of water supply including drinking water.	
2. Percentage of water deliver (cu.m) to customer meeting WHO guidelines for drinking water quality	Cannot be determined
<u>Description</u> Only bottle water meets the WHO drinking water quality guidelines.	
3. Average hour of water supplied per day	Depending upon demand and capacity
<u>Description</u> Planned target is to achieve the 24 hours piped water supply for Yangon City Development Area.	
4. Per capita domestic water consumption	0.35 m <sup>3</sup> / day
<u>Description</u> For Yangon City (2010) Service Popular 1933689 Piped Water Demand 149 MGD	
5. Percentage of water supply metered	Not Yet
<u>Description</u> Yankin Township in Yangon City Development Area is being chosen as pilot area for this issue.	
6. Percentage of UFW/NRW	6 %
<u>Description</u> For the whole country, current percentage of annual usage of water for cultivation.	

## **ASEAN IWRM PERFORMANCE REPORTS & MONITORING INDICATORS**

### **ISSUE 2 - IRRIGATION**

<b>Monitoring Indicators</b>	<b>Value</b>
1. Percentage of irrigated area versus the total potential irrigable area	27.7%
<u>Description</u> The total irrigated area, including multiple irrigation, in 2011-12 stood at 2.12 million hectares. Since areas suitable for irrigation in Myanmar, approximate to about 13.58 million hectares, it amount to about only 27.7%.	
2. Percentage of irrigated area damaged by flood and drought	-
<u>Description</u>	
3. Percentage of irrigated area with water quantity measuring devices	-
<u>Description</u>	

### **ISSUE 3 – STORMWATER MANAGEMENT**

<b>Monitoring Indicators</b>	<b>Value</b>
1. Any policy on managing stormwater (Yes/No)	Not yet
<u>Description</u> Stormwater Management is one of the important issues of IWRM. Expert Group of National Water Resources Committee is developing the Myanmar Water Framework Directive. Stormwater Management will be an additional key issues to be addressed in the Directive. At this moment, several agencies and NGOs are involving with IWRM of Myanmar. All agencies are implementing their objectives. At the same time, partially involve with the stormwater management. Most responsible agencies with respect to the stormwater management are, expert groups of National Water Resources Committee, City Development Committee, Forest Department and township authorities.	
2. Any legislation on managing stormwater (Yes/No)	Not yet
<u>Description</u> Stormwater Management is one of the important issues of IWRM. Expert Group of National Water Resources Committee is developing the Myanmar Water Framework Directive. Stormwater Management will be an additional key issues to be addressed in the Directive. At this moment, several agencies and NGOs are involving with IWRM of Myanmar. All agencies are implementing their objectives. At the same	

## ASEAN IWRM PERFORMANCE REPORTS & MONITORING INDICATORS

<p>time, partially involve with the stormwater management. Most responsible agencies with respect to the stormwater management are, expert groups of National Water Resources Committee, City Development Committee, Forest Department and township authorities.</p>	
3. Any regulatory agencies to control stormwater (Yes/No)	Not yet
<p><u>Description</u>  Stormwater Management is one of the important issues of IWRM. Expert Group of National Water Resources Committee is developing the Myanmar Water Framework Directive. Stormwater Management will be an additional key issues to be addressed in the Directive. At this moment, several agencies and NGOs are involving with IWRM of Myanmar. All agencies are implementing their objectives. At the same time, partially involve with the stormwater management. Most responsible agencies with respect to the stormwater management are, expert groups of National Water Resources Committee, City Development Committee, Forest Department and township authorities.</p>	
4. Any formal institutional arrangements among related agencies to manage stormwater (Yes/No)	Not yet
<p><u>Description</u>  Stormwater Management is one of the important issues of IWRM. Expert Group of National Water Resources Committee is developing the Myanmar Water Framework Directive. Stormwater Management will be an additional key issues to be addressed in the Directive. At this moment, several agencies and NGOs are involving with IWRM of Myanmar. All agencies are implementing their objectives. At the same time, partially involve with the stormwater management. Most responsible agencies with respect to the stormwater management are, expert groups of National Water Resources Committee, City Development Committee, Forest Department and township authorities.</p>	
5. Use of computer modelling tools to model stormwater quality and quantity (Yes/No)	No
<p><u>Description</u></p>	
6. Availability of design manual/code of practices for stormwater management (Yes/No)	Not yet
<p><u>Description</u>  Stormwater Management is one of the important issues of IWRM. Expert Group of National Water Resources Committee is developing the Myanmar Water Framework Directive. Stormwater Management will be an additional key issues to be addressed in the Directive. At this moment, several agencies and NGOs are involving with IWRM of Myanmar. All agencies are implementing their objectives. At the same</p>	

## **ASEAN IWRM PERFORMANCE REPORTS & MONITORING INDICATORS**

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### **ISSUE 4 – FLOOD MANAGEMENT**

<b>Monitoring Indicators</b>	<b>Value</b>
1. Any steps taken to implement Integrated Flood Management (IFM) approaches in the country (Yes/No)	Yes
<p><u>Description</u></p> <p>Myanmar Action Plan on Disaster Risk Reduction was developed in 2012 with the leadership of Department of Relief and Resettlement. It contains seven sectors and includes flood management and capacity building concerned 65 projects. For the implementation, Leading Agencies, Supporting Agencies and Potential Partners are allocated for Particular project.</p>	
2. Percentage of high risk flood-prone areas in the country covered by early flood warning and response systems	Cannot determine
<p><u>Description</u></p> <p>In Myanmar, at the national level, the Department of Meteorology and Hydrology (DMH) is largely responsible for flood monitoring, weather forecasting and issuance of early warning. The Hydrology Division of the Department of Meteorology and Hydrology has river water monitoring stations located along the major rivers of Myanmar: Ayeyarwady, Chindwin, Duhtawady, Sittaung, Bago, Thanlwin and Shwe Kyin. A river flood warning is issued when the river waters reach about 1 meter below the danger level. River flood warnings give at least 24 to 72 hours of advance notice. The warnings are also disseminated through different channels of communication such as radio, television, newspaper, telegraph and telephone to the administrative authorities of the flood prone areas. If the expected flood is a serve one, the warnings are broadcast very frequently (every 3 hours) through the Myanmar Broadcasting Service. In case of flash floods, warnings for timely evacuation is not possible.</p>	
3. Percentage of high risk flood-prone areas in the country covered by a real time flood monitoring information system	Cannot determine
<p><u>Description</u></p> <p>In Myanmar, at the national level, the Department of Meteorology and Hydrology (DMH) is largely responsible for flood monitoring, weather forecasting and issuance of early warning. The Hydrology Division of the Department of Meteorology and Hydrology has river water monitoring stations located along the major rivers of Myanmar: Ayeyarwady, Chindwin, Duhtawady, Sittaung, Bago, Thanlwin and Shwe Kyin. A river flood warning is issued when the river waters reach about 1 meter</p>	

**Source:** ASEAN Working Group for Water Resources Management (AWGWRM) – April 2015  
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## **ASEAN IWRM PERFORMANCE REPORTS & MONITORING INDICATORS**

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4. Percentage of annual national budget allocated to flood management	Cannot determine
<p><u>Description</u></p>	
5. Any legislation on river conservation (Yes/No)	Yes
<p><u>Description</u>            The conservation of water resources and rivers law was enacted on 2<sup>nd</sup> October, 2006. The aims of this law are:</p> <ul style="list-style-type: none"> <li>(a) to conserve and protect the water resources and rivers system for beneficial utilization by the public;</li> <li>(b) to smooth and safety waterways navigation along rivers and creeks;</li> <li>(c) to contribute to the development of State economy through improving water resources and river system;</li> <li>(d) to protect environmental impact.</li> </ul>	
6. Any formal institutional arrangements among related agencies to manage floods (Yes/No)	Yes
<p><u>Description</u>            Aiming at carrying out preparedness and safety measures for possible danger of natural disaster in the country and response in time of emergency, National Natural Disaster Preparedness Central Committee was formed under the Chairmanship of the Vice-President(2) of the State.            To undertake preparedness measure for natural disasters, to carry out reliefs and aids and to implement policies and directives by National Natural Disaster Preparedness Central Committee, was formed under the Chairmanship of the Union Minister (Ministry of Welfare, Relief and Resettlement).</p>	

## ASEAN IWRM PERFORMANCE REPORTS & MONITORING INDICATORS

### ISSUE 5 – WATER POLLUTION MANAGEMENT

Monitoring Indicators	Value
1. Any policy on water pollution control (Yes/No)	Yes. But not yet
<u>Description</u> Main Myanmar Water Policy is processing to develop by Expert Group which already formed to assist the implementation of National Water Resources Committee.	
2. Any specific legislation for the management of water quality and wastewater (Yes/No)	Not yet
<u>Description</u> Main Myanmar Water Policy is processing to develop by Expert Group which already formed to assist the implementation of National Water Resources Committee.	
3. Any specific financial support programme for controlling water pollutions (Yes/No)	No
<u>Description</u>	
4. Any formal institutional arrangements among related agencies to manage water pollution (Yes/No)	Yes
<u>Description</u> Environmental conservation Department is established under the Ministry of Environmental Conservation and Forestry. The Environmental Conservation Law was enacted on 30 <sup>th</sup> March 2012.	
5. Any public/private sector partnership and participation in managing water pollution (Yes/No)	Yes
<u>Description</u> Some NGOs are involving.	
6. Any river water quality monitoring information system/database (Yes/No)	Not yet. Introductory stage.
<u>Description</u> Directorate of Water Resources and Improvement of River Systems under the Ministry of Transport is most responsible agency for Government sector. Initial implementation activities are undertaking.	

## **ASEAN IWRM PERFORMANCE REPORTS & MONITORING INDICATORS**

7. Any river water quality master plan at national and local levels (Yes/No)	Not yet
<u>Description</u> DWIR will develop the master plan in accordance with the upcoming Myanmar Water Policy.	
8. Any river basin master plan for relocating the highly polluting industries in a river basin (Yes/No)	Not yet
<u>Description</u> Expert Group of Myanmar Water Resources Committee will develop this master plan.	

### **ISSUE 6 – SANITATION MANAGEMENT**

<b>Monitoring Indicators</b>	<b>Value</b>
1. Any policy on urban/rural sanitation and sewerage systems (Yes/No)	Not yet
<u>Description</u> There are three City Development Committees in Myanmar. These committees process their objectives with the existing relevant legal instruments which direct or indirect concern with urban sanitation sewerage systems. For the rural area it cannot be specify due to the present institutional reforming. Town planning law under preparation has not been enacted. Developing the Strategic Urban Development Plan of Greater Yangon is under processing. Community engagement is depending upon the management of states and regions level and township level. Involvement of NGOs also takes the important role.	
2. Any specific legislation on urban/rural sanitation and sewerage systems (Yes/No)	Not yet
<u>Description</u> There are three City Development Committees in Myanmar. These committees process their objectives with the existing relevant legal instruments which direct or indirect concern with urban sanitation sewerage systems. For the rural area it cannot be specify due to the present institutional reforming. Town planning law under preparation has not been enacted. Developing the Strategic Urban Development Plan of Greater Yangon is under processing. Community engagement is depending upon the management of states and regions level and township level. Involvement of NGOs also takes the important role.	

## ASEAN IWRM PERFORMANCE REPORTS & MONITORING INDICATORS

3. Percentage of annual budget for sanitation and sewerage programme/projects	Cannot determine
<u>Description</u>	
4. Any integrated national and provincial institutions to implement sanitation policies (Yes/No)	Yes
<u>Description</u> Ministry of Health is most responsible from Government sector.	
5. Any private sector participation in providing sanitation services for the people (Yes/No)	Yes
<u>Description</u> NGOs, especially UN organization backed NGOs.	
6. Any national sanitation/sewerage information system/database (Yes/No)	Not yet
<u>Description</u>	
7. Any comprehensive sewerage/sanitation master plan at national, regional and local levels (Yes/No)	Not yet
<u>Description</u> There are three City Development Committees in Myanmar. These committees process their objectives with the existing relevant legal instruments which direct or indirect concern with urban sanitation sewerage systems. For the rural area it cannot be specify due to the present institutional reforming. Town planning law under preparation has not been enacted. Developing the Strategic Urban Development Plan of Greater Yangon is under processing. Community engagement is depending upon the management of states and regions level and township level. Involvement of NGOs also takes the important role.	
8. Any effective regulatory framework to control the quality of wastewater discharges to water courses (Yes/No)	Yes
<u>Description</u> For instance, The conservation of water resources and rivers law and following rules and procedures are effective for river water.	
9. Any land use master plan for relocating the highly polluting industries in a river basin (Yes/No)	Not yet

**Source:** ASEAN Working Group for Water Resources Management (AWGWRM) – April 2015  
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## **ASEAN IWRM PERFORMANCE REPORTS & MONITORING INDICATORS**

<u>Description</u> National land use Master Plan is formulating with the leadership of Ministry of Environmental Conservation and Forestry.	
10. Any awareness/advocacy programme for stakeholders on the importance of proper sanitation and sewerage systems (Yes/No)	Yes
<u>Description</u> Ministry of Health is the main player for these activities.	