

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

### **Malaysia 2013 Report (Water Pollution Management)**

#### **Outcome Indicators**

<b>IWRM Issue 5 – Water Pollution Management (18 indicators)</b>			
<b>Indicator Types</b>	<b>Indicators</b>	<b>Progress</b>	<b>Description</b>
<b>Outcome Indicators</b>	1. Percentage of monitored water bodies' ambient water quality meeting designated uses (agriculture, water supply, fisheries, industrial, etc.)	58%	<b>See Note 1</b>
	2. Percentage of industrial/domestic effluent discharge complying with the country's effluent discharge standard	See description	<b>See Note 2</b>

#### **Note 1**

In 2013, the quality of river water was also assessed based on a total of 6,057 samples, taken from 891 manual monitoring stations, covering 477 rivers. The stations comprised of 801 ambient and baseline stations, 55 new stations located upstream of selected water intakes, and 35 stations from the River of Life (ROL) project. Water quality was also assessed from 10 continuous water quality monitoring stations.

Out of the 473 rivers monitored, 275 (58.1%) were asserted to be clean, 173 (36.6%) were slightly polluted and another 25 (5.3%) were found to be polluted (Figure 3.1). The rivers monitored and its overall quality status are shown in Tables 3.1, 3.2 and 3.3.

#### **Note 2**

In 2013, the overall compliance performance by the raw natural rubber factories that were subjected to the Environmental Quality (Prescribed Premises) (Raw Natural Rubber) Regulations, 1978 was 100%.

The overall compliance performance by the crude palm oil mills that were subjected under the Environmental Quality (Prescribed Premises) (Crude Palm Oil) Regulations, 1977 was 98%.

The non-prescribed premises that discharge effluents are subjected under the Environmental Quality (Industrial Effluents) Regulations 2009. In 2013, DOE conducted 7,201 inspections on 38 categories of industrial premises and other non-prescribed premises that were subjected to the Environmental Quality (Industrial Effluents) Regulations 2009. The overall compliance achievement by the nonprescribed premises was 99%. There were 24 categories of industries achieved 100% compliance in 2013.

#### **Enabling Environment Indicators**

<b>EE Indicators</b>	1. Any "Policy" on water pollution control	Yes (8)	<b>See Note 1</b>
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	2. Any “Legislation/regulation” for water pollution control (i.e. for the management of water quality and wastewater quality)	Yes (8)	<b>See Note 2</b>
	3. Any “Financial framework and Financing plans” for water pollution control		

### **Note 1**

National Water Resources Policy was approved by the cabinet in 2012. The policy will serve as a comprehensive guide to aid water and water resources governance nationwide.

### **Note 2**

Environmental Quality Act 1974 has been revised in 2013 to strengthen the enforcement mechanism and the implementation of new procedures.

## **Institutional Set-up Indicators**

<b>IS Indicators</b>	1. Any “Agency/Department” responsible for water pollution control	Yes (8)	<b>See Note 1</b>
	2. Any “Steering committee” on river water quality and environmental issues (e.g. inter-agency committee)	Yes (8)	<b>See Note 2</b>
	3. Any “Formal institutional arrangements” among related agencies to manage water pollution	Yes (8)	<b>See Note 3</b>
	4. Any “Private/public partnership and participation” in managing water pollution	NA	NA

### **Note 1**

Department of Environment is one of the agencies involved in water pollution control. There also other agencies involved such as Ministry of Health, Department of Irrigation and Drainage (DID), National Water Services Commission (SPAN), and Mineral and Geoscience Department, and local council. DOE task to enforce point source that subjected to EQA 1974 such as industries.

### **Note 2**

National Water Resources Council (NWRC) was set up in 1998 to pursue a more effective water management, including the implementation of inter-state water transfers. To ensure sustainable water resources and efficient water supply services, the Federal Government is moving towards greater involvement in the management of water resources and water supply services, and the implementation of integrated water resources management. Various ministries are involved.

### **Note 3**

**Source:** ASEAN Working Group for Water Resources Management (AWGWRM) – April 2015  
[weblink - [aseaniwrm.water.gov.my](http://aseaniwrm.water.gov.my)]

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There are various of institutional involved in managing water pollution such as NWRC, various ministries such as Ministry of Natural Resources and Environment, Ministry of Energy, Green Technology and Water, Ministry of Housing, Urban Wellbeing and Local Government, Ministry of Agriculture. There are also federal agencies such as Department of Environment that control pollution from point sources subjected to EQA 1974, National Water Services Commission that focus on sewerage and water services, Department of Mineral and Geoscience focus on mining and quarrying, and National Solid Waste Management and Public Cleansing Department focus in landfill upgrading and safe closure, and local authorities.

### **Management Tools Indicators**

<b>MT Indicators</b>	1. Any river water quality master plan at national and local levels	NA	<b>See Note 1</b>
	2. Any relocation plans for highly polluting industries in a river basin	NA	<b>See Note 2</b>
	3. Any effluent discharge standards	Yes (8)	<b>See Note 3</b>
	4. Any river water quality monitoring program	Yes (8)	<b>See Note 4</b>
	5. Any river water quality information system/database	Yes (8)	<b>See Note 5</b>
	6. Any program to disseminate to the public regular report on river water quality status	Yes (8)	<b>See Note 6</b>
	7. Any groundwater quality monitoring programs and systems	Yes (8)	<b>See Note 7</b>
	8. Any computer simulation models used to predict river water quality	No (7)	<b>See Note 8</b>
	9. Any public awareness program on water pollution prevention	Yes (8)	<b>See Note 6</b>

#### **Note 1**

No specific master plan been developed for river water quality.

#### **Note 2**

Relocation for highly polluting industries is under state jurisdiction.

#### **Note 3**

**Source:** ASEAN Working Group for Water Resources Management (AWGWRM) – April 2015  
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Under Environmental Quality Act 1974 there are several regulations related to effluent standard such as:

- (i) Environmental Quality (Industrial Effluent) Regulation 2009
- (ii) Environmental Quality (Sewage) Regulation 2009
- (iii) ) Environmental Quality (Control of Pollution from Solid Waste Transfer Station and Landfill) Regulation 2009
- (iv) Environmental Quality (Prescribed Premises)(Crude Palm Oil) Regulations 1977
- (v) Environmental Quality (Prescribed Premises)(Raw Natural Rubber) Regulations 1978

### **Note 4**

In 2013, a total of 891 stations were set throughout 477 Malaysia rivers for manual water quality monitoring (MWQM), representing national river water quality monitoring network. Out of these, a total of 55 new stations were established to monitor the water quality at the upstream of raw water supply intakes. Water samples from these stations were analyzed and tested for a range of physical, chemical and biological parameters.

### **Note 5**

The Department of Environment (DOE) has implemented the National River Water Monitoring Program since 1978 to determine the river water quality status and detect changes from time to time.

Water Quality Index (WQI) was used to indicate river water quality status. The WQI were formulated based upon the concentration of six principal parameters listed below :

- Biochemical Oxygen Demand (BOD)
- Chemical Oxygen Demand (COD)
- Ammoniacal Nitrogen (NH<sub>3</sub> N)
- pH
- Dissolved Oxygen (DO)
- Suspended Solids (SS)

Continuous rivers water quality monitoring was also made on-line through 10 continuous monitoring stations (CWQM). These stations are selectively and strategically located. The measured parameters from these automatic stations are limited to pH, Dissolved Oxygen, Temperature, Turbidity and Ammonium.

### **Note 6**

The water quality report is published to the public on yearly basis.

### **Note 7**

In 2013, a total of 380 groundwater samples were taken on a quarterly basis from 105 monitoring wells in Malaysia for analysis. The monitoring wells had been constructed in areas categorize according to land use type such as agriculture, industrial, golf course, solid waste landfill, animal burial, municipal water supply, ex- mining (gold mine) and urban/suburban.

### **Note 8**

The computer simulation program is under last stage of development.