Malaysia 2010 Report (Water Pollution Management)
Outcome Indicators

IWRM Issue 5 – Water Pollution Management (18 indicators)			
Indicator Types	**Indicators**	**Progress**	**Description**
Outcome Indicators	1. Percentage of monitored water bodies' ambient water quality meeting designated uses (agriculture, water supply, fisheries, industrial, etc.)	51.4%	**See Note 1**
	2. Percentage of industrial/domestic effluent discharge complying with the country's effluent discharge standard	Refer description	**See Note 2**

Note 1
In 2010, a total of 1,055 stations located within 570 rivers in Malaysia were monitored. The numbers of clean rivers were 293(51.4%), slightly polluted were 203(35.6%) and polluted were 74 rivers(13%).

Note 2
In 2010, 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 99%.

The overall compliance of the palm oil processing mills that were subjected to the Environmental Quality Prescribed Premises) (Crude Palm Oil) Regulations, 1977 was 87%.

Non-prescribed premises that discharged effluents are subjected to the Environmental Quality (Industrial Effluent) Regulations, 2009. In 2010, DOE conducted 9,247 inspections on 27 categories of industrial premises and other non-prescribed premises that were subjected to the Environmental Quality (Industrial Effluent) Regulations, 2009. The overall compliance achievement by the nonprescribed premises was 97% and the other 3% of the premises inspected were found not complying the effluent discharge standards (Regulation 18).

Enabling Environment Indicators

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

Source: ASEAN Working Group for Water Resources Management (AWGWRM) – April 2015
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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
One of legislation in Malaysia that focuses on water pollution control is Environmental Quality Act, 1974 enforced by Department of Environment.

Institutional Set-up Indicators

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

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Management Tools Indicators

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

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
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
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.

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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 (NH3 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 5

All water quality data is stored in a server under DOE administration. The data is stored and utilized using an electronic system name Sistem Elektronik Kawalan Alam Sekitar (E-KAS).

Note 6

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

Note 7

Ground water quality monitoring was established in 1997 for Peninsular Malaysia and extended to cover Sabah and Sarawak in 2003. In-situ measurements were taken to determine the temperature, pH, conductivity, turbidity, salinity and dissolved oxygen. Laboratory analysis were carried out to determine the total volatile organic compounds (VOCs), hydrocarbons, pesticides, heavy metals, anions, total coliform, phenolic compounds, radioactivity, total hardness and total dissolved solids.

In 2010, 201 water samples were taken from these monitoring wells and the results were then compared with the National Guidelines For Raw Drinking Water Quality established by the Ministry of Health (Revised December 2000) to determine the status of its quality.

Note 8

The computer simulation to predict the water quality is still under development. DOE has implement one project using this simulation on Sungai Jinjang, Selangor to predict the point source effluent contribution to the degradation of the river water quality.

Note 9

Promotion of environmental education and awareness through implementation of seminars, workshops, competencies program, promotion of Green Industry, Rakan Alam Sekitar and 3Ps program. The 'Rakan Alam Sekitar' (RAS) program was launched on the 4th of June 2009, and until December 2012, a total of 100,420 members have been registered. This program intends to increase environmental awareness and to also mobilize community members in a "hands-on" environment, as well as to act as the 'eyes' and 'ears' of government agencies that are responsible for combating environmental pollution.

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