Chapter 2
Water Quality Legislation and Regulation

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ABSTRACT

The legal and institutional framework, as well as the challenges and issues in water resources management, serves as the basis for the formulation of a policy framework that seeks to improve water resources management practices in the future. Recently, water resources has become a global concern, especially for urban environments such as Malaysia, whose economy could potentially be adversely affected. To address these issues, the authors have reviewed several laws, including the Environmental Quality (Prescribed Premises) (Crude Palm Oil) Regulations 1977, Environmental Quality (Prescribed Premises) (Raw Natural Rubber) Regulations 1978, and Environment Quality (Sewage and Industrial Effluent) Regulation 1979. Legal issues under the constitutional framework water management have also been reviewed. Exploring this topic generates an overview water management implementation in the context of Malaysia.

INTRODUCTION

Environmental pollution is a major concern for a developed country (Arshad et al, 2015). Water is a natural resource that needs to be preserved for future generation to be used without having any problem to get the pure water such as water pollution, higher cost in making water treatment, lack of water preservation and others. The findings indicate that the major problem associated with water pollution is that human heart and kidneys can be adversely affected if polluted water is consumed regularly. Other health problems associated with polluted water are poor blood circulation, skin lesions, vomiting, cholera, gastroenteritis and damage to the nervous system. It also highlighted that residential, agricultural and industrial wastes are three main sources of river pollution in Malaysia (Rafia et al, 2014). All of these problems occurred due to unorganized and badly planning in regards to the discharge of the waste

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water from their premise that will lead to cause the source of natural water to be disturbed. Therefore, the government has taken consideration in the issues and taken out some of the regulation in order to minimize pollution and try to make our natural water free from being polluted.

Wastewater

Waste water includes domestic waste water, consisting of black-water excreta, urine and associated sludge and grey water-kitchen and bathroom waste water or the mixture of domestic waste water from commercial establishments and institutions including hospitals with industrial waste water and run-off rain water (Van et al., 2004).

Appropriate policy decisions and technical interventions are likely to depend on the nature and characteristics of the waste water and the way in which it is being used. Wastewater could be harmful to human beings since it contains a lot of impurities from the previous users and needs to be treated before being safely discharged back to the river or oceans. EPA regulates the discharge and treatment of wastewater under the Clean Water Act (CWA). The National Pollutant Discharge Elimination System (NPDES) issues permits to all wastewater dischargers and treatment facilities. These permits establish specific discharge limits, monitoring and reporting requirements and may also require these facilities to undertake special measures to protect the environment from harmful pollutants.

- Laws and Regulations
  - NPDES Program Basics
  - NPDES Topics: regulatory information by program area, such as animal feeding operations, combined sewer overflows, pesticides and more.
  - Clean Water Act Section 319: the Nonpoint Source Management Program.
- Compliance
  - NPDES Compliance Monitoring
  - NPDES Training Courses and Workshops: for permit writers, dischargers and others.
  - View NPDES Individual and General Permits

The effluent should be pretreated before disposing into the environment. In addition, there is an urgent need to improve their efficiency rate by advanced tertiary treatment processes such as rapid sand filtration, UV disinfection, chlorination, effluent polishing, construction of artificial wetlands etc. That's why further treatment are necessary for using the studied water as a drinking and aquaculture purposes by implication of modern method and technology (Hassan et al., 2017).

Water Quality

Water quality criteria are developed by aggregating the results of single-species toxicity bioassays. The fundamental premise is that protecting the supposedly most sensitive species from toxicity would enable ecosystems to maintain biological integrity (David et al., 2017). Water quality is referring to the physical, chemical and biological characteristic of water. PH value, colour, dissolved oxygen and turbidity are the tests that be used in measuring water quality. Water quality standard is a provision of state, territorial or federal law approved by Environmental Protection Agency (EPA) to describe the desired condition of a water body or the level of protection on how the desired condition will be expressed or established in