

LEGAL AND INSTITUTIONAL FRAMEWORK FOR POLLUTION PREVENTION IN MALAYSIAN RIVERS

by

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Abstract

The paper examines the legal and institutional framework of powers relating to pollution prevention in rivers. Federalism in Malaysia has resulted in powers over pollution control in rivers being held by several agencies and authorities. The Drainage and Irrigation Department ('DID') have a pivotal role by virtue of the Ministerial Functions Act, 1969 that grants to this department jurisdiction over river conservation. However in the exercise of such functions, there are a host of other functions that do not come within the purview of the DID but directly affect the water quality of rivers. Examples include licensing of industries, sand-mining, pig-rearing, cattle rearing; sewerage services, disposal of effluents and the eviction and resettlement of squatters. These matters come within the jurisdiction of local authorities, Sewerage Services Department, Department of Environment and the District Land Office respectively. Are there overlapping of powers in this scenario? Is there a need to resolve them through an integrated approach? After examining relevant legal provisions, this paper looks at several existing models of river management and points out that other than the existing legal and institutional framework at macro level, effective pollution control of rivers depends very much on local 'on the ground' factors such as the type of river, its functions, the interest of local stakeholders and political will. The paper then proposes several alternatives for a more efficient river management framework towards better pollution control and improved water quality in Malaysian rivers.

INTRODUCTION

Activities done toward pollution prevention and water quality improvement of rivers must be carried out within and supported by a solid legal framework as such activities require legal powers, jurisdiction and sanctions for effective implementation. The

legislative framework encompasses all instruments having a statutory basis, falling into two broad areas:

- (1) those affecting land and water users impacting on rivers and their restoration; and
- (2) those affecting government structures and inter-governmental and inter-agency relations and operations.

The paper looks at the functional and territorial dimension of powers over river management having a direct correlation to pollution control of rivers in Malaysia. Powers relating to pollution prevention come within the functional dimension of legal powers whilst the territorial dimension of these legal powers identifies agencies and authorities having jurisdiction over pollution prevention.

Malaysia has a land area of 329,750 square kilometers and is drained by 150 river systems.¹ Malaysian rivers suffer continuous degradation of water quality through direct and indirect discharge from industries, commercial premises, human settlements, and agricultural plantations.² According to a study conducted by the Department of Environment,³ the main cause of river pollution in Malaysia comes from domestic sewage treatment plants, industries, commercial areas and urban diffuse sources. Land development and urbanisation activities in Malaysia has significantly contributed to pollution of rivers⁴ because adequate enforcement is lacking in controlling sillage and diffuse pollution from various urban sources.⁵

1 Marnit, JD, *Country Report, Malaysia, 13th General Assembly of Asia Pacific Parliamentarians' Conference on Environment and Development (APCED)*, 26 February-3 March 2007 in Islamabad, Pakistan.

2 *Ibid.*

3 Department of Environment, *The Study on Pollution Prevention and Water Quality Improvement of Sungai Melaka*, Ministry of Natural Resources and the Environment, Malaysia, 2004.

4 See *Malaysia's Environmental Quality Report 2006* that describes the water quality of rivers where water quality monitoring stations located downstream recorded more pollution than those located upstream, at p 24.

5 Abdullah-Al-Mamun, Azni Idris, Wan Nor Wan Azmin Sulaiman, Mohd Amin Mohd Som, *Impact of Sillage and Diffuse Pollution Loading on the Health of River System in Malaysia*, paper presented at 9th International Water Symposium organised by International Water Association, 4-7 September 2006, Brisbane, Australia. See <http://www.riversymposium.com/index.php?element=06MAMUNAbdullahAl> accessed on 12 March 2008.

The absence of a single agency at the state and federal level having control over the management of river basins and the key activities affecting water quantity and quality have been identified as one of the shortcomings in the present managing practices relating to Malaysian rivers.⁶

THE LEGAL FRAMEWORK FOR RIVER MANAGEMENT

Constitutional Framework

In order to comprehend the legal framework for river management in Malaysia, it is necessary to first understand the constitutional framework of Malaysia together with the three-tiered system of governance composed of federal, state and local government. The distribution of power to legislate law among the federal and state governments can be found in Part VI of the Federal Constitution. Article 73 provides, as a general principle, that 'Parliament may make laws for the whole or any part of the federation and laws having effect outside as well as within the federation', while 'the legislature of a State may make laws for the whole or any part of the State'. The Ninth Schedule of the Federal Constitution provides for the division of the subject matter of the federal-state legislative power into three lists. These are:

- Federal List (containing matters on which the Parliament may make laws);
- the State List (containing matters on which State Legislatures may make laws); and
- the Concurrent List (containing common subject-matters on which both the Parliament and State Legislatures have competence).

Matters that are significant to river or water pollution which have been classified under each jurisdictional competence are provided in the table below:

6 Low, CP and Syed Muhammad, *Water Resources Policies and Management for Sustainable Development*, in Proceedings of the Workshop on Sustainable Management of Water Resources in Malaysia: A Review of Practical Options, organised by Malaysian Water Association, NAHRIM, Global Environment Centre and ENSEARCH, 1999.

Table 1: Jurisdiction on Matters Relating to River Pollution under the Federal Constitution

FEDERAL LIST	STATE LIST	CONCURRENT LIST
<p>1. External affairs, including: (a) Treaties, agreements and conventions with other countries; (b) Implementation of treaties, agreements and conventions with other countries</p> <p>8. Trade, commerce and industry, including- (a) subject to the State List: development of mineral resources; mines, mining, minerals, and mineral ores; oils and oil fields; (b) factories, boilers and machinery</p> <p>9. Shipping, navigation and fisheries including maritime and estuarine fishing and fisheries, excluding turtles</p> <p>10. Communication and transport, including-</p>	<p>2. Except with respect to the Federal territories of Kuala Lumpur, Putrajaya and Labuan, land including: (a) Land tenure, relation of landlord and tenant; registration of titles and deeds relating to land (b) Permits and licences for prospecting for mines, mining leases and certificate (c) Compulsory acquisition of land</p> <p>3. Except with respect to the Federal Territories of Kuala Lumpur, Putrajaya and Labuan, agriculture and forestry;</p> <p>4. Local government outside the Federal territories of Kuala Lumpur, Putrajaya and Labuan, including- a. local administration, municipal</p>	<p>3. Protection of wild animals and wild birds; National Parks</p> <p>4. Animal husbandry; prevention of cruelty to animals; veterinary services; animal quarantine</p> <p>5. Town and country planning, except in the federal capital</p> <p>7. Public health, sanitation (excluding sanitation in the federal capital) and the prevention of diseases.</p> <p>8. Drainage and irrigation</p> <p>21. Rehabilitation of mining land which has suffered soil erosion</p>

FEDERAL LIST	STATE LIST	CONCURRENT LIST
<p>a. roads, bridges, ferries and other means of communication if declared to be federal by or under federal law;</p> <p>b. regulation of traffic by land, water and air other than on rivers outside harbour areas wholly within one state;</p> <p>c. carriage of passengers and goods by land, water and air.</p> <p>11. Federal works and power, including-</p> <p>a. water supplies, rivers and canals, except those within one state or regulated by an agreement between all the states concerned; production, distribution and supply of water power;</p> <p>b. electricity; gas and gas work</p> <p>16. Welfare of the aborigines;</p> <p>20. Control of agricultural pests;</p> <p>25A. Tourism.</p>	<p>corporations; local town and rural board and other local authorities; local government services; local rates; local government elections;</p> <p>b. obnoxious trades and public nuisances in local authority areas</p> <p>6. State works and water, that is to say:</p> <p>a. public works for state purposes</p> <p>b. roads, bridges and ferries other than those in the Federal List</p> <p>c. subject to the Federal List, water (including water supplies, rivers and canals); control of silt; riparian rights</p> <p>12. Turtles and riverine fishing.</p>	

From the above, it is clear that in Malaysia, the Federal Constitution's distribution of power dictates that matters relating to river and water pollution are not exclusively controlled by the federal government, but are distributed among the federal and state governments. It is thus inevitable that there exist various legislation and agencies dealing with the same natural resources. The outcome of this division is that each government is granted with power to manage and regulate aspects relating to water resources, which are either distinct, or concurrent, with each other.⁷

Legislative Framework

The separation of legislative powers between federal and state has resulted in a number of laws being enacted to deal either directly or indirectly with the various facets of the environment.⁸ Those directly relating to water are the Water Services Industry Act 2006 and the National Water Services Commission Act 2006.⁹

The Water Services Industry Act 2006¹⁰ came into force in January 2008 whereas the National Water Services Commission Act 2006 was in force since February 2007. These two Acts were introduced as a

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- 7 The fact that there is a Concurrent List in which both the federal and state legislatures can exercise their powers shows that there is a possibility of conflict. In such cases, the solution can be found in art 75 of the Federal Constitution that provides that 'if any State law is inconsistent with a Federal law, the Federal law shall prevail and the State Law shall, to the extent of the inconsistency, be void'.
 - 8 In Malaysia, there are at least 40 pieces of legislation concerning, either directly or otherwise, with various aspects of environmental protection including that of water pollution control. Refer to the *Federal Statute Law Referencer* in Sivaswamy, S and S Ramaswary (compilers), *Federal Statute Law Referencer* (Kuala Lumpur, International Law Book Services, 1997), for the list of existing federal and state legislations in Malaysia, including those relating to the environment. See also, Jamaluddin Jahi, *Environmental Policies, Law and Institutional Arrangements: A Critique and Suggestions* (Penang, CAP & SAM, 1996).
 - 9 These are Federal laws introduced to regulated water supply services and sewerage service to Peninsular Malaysia. Specifically, the Water Services Industry Act 2006 is made pursuant to arts 74(1) and 80 (2) of the Federal Constitution and it confers executive authority on the Federation for matters relating to water supply system and water supply services. For the same reason, the Constitution had been amended to include 'water supplies and services' under item 9D of the Concurrent List.
 - 10 Act 664.

means to implement the restructuring of the whole water supply and sewerage services¹¹ and to ensure uniformity of laws and policies for holistic control and regulation of water supply and sewerage services. Specifically, the National Water Services Commission Act 2006 outlines the role, functions and scope of work to be undertaken by the Commission, whereas the Water Services Industry Act 2006 covers economic, technical and social regulations.

There are several provisions under the Water Services Industry Act 2006 relevant to river management and pollution prevention. Specifically this Act defines 'watercourse' to include rivers, streams and creek including any tributary, distributary or artificial deviation thereof, seas, lakes, ground water, dams, reservoirs, ditches, drains and passages, other than pipes, through which water flows for the supply of water to any premises.

There are several sections under this Act that are considered water pollution offences which are different from that of other existing laws on pollution control. For example, s 121 of the Act renders the contamination or causing to be contaminated, any watercourse or the water supply system with the intention to cause death, or with the knowledge that the act would likely to cause death or endanger a person's life, an offence. The punishment for the offence includes death or jail up to 20 years, or whipping. If the act does not result in death, but causes the water supply system to contain radioactive or toxic substances, then the punishment is jail up to 10 years and a fine up to RM500,000 or whipping, or all three.

In s 122, any person may also be held liable for committing certain acts such as negligently damaging any part of the public water supply system; or throwing any rubbish into any part of the public water supply system. The amount of fine imposed for such offence is a fine up to RM50,000 or jail up to six months, or to both. When convicted under s 122, apart from having to pay the fine, the person may also pay compensation to the licensee for the damage caused as provided in s 88. Apart from that, under s 131, the licensee is permitted to institute any suit against any person for damage caused to any water supply system under his control.

Pollution that may arise from sewage and sullage is also addressed by the Act. It is interesting to note that although the term 'sullage' is not used in the Act, it appears that the term 'sewage' has been defined

11 Sewerage services was formerly regulated by the Sewerage Services Act 1993, which has now been repealed by the Water Services Industry Act 2006.

to also include elements that were formerly treated as 'sullage',¹² Sewage is defined as:

Any liquid discharge containing human excreta, animal or vegetable matters in suspension or solution derived from domestic activities and being generated from household, commercial, institutional and industrial premises including discharges from water closets, basins, sinks, bathrooms and other sanitary appliances but excluding rain water and prohibited effluent.

Sewerage services mean the collection, conveyance, treatment and disposal of sewage sludge, including the operation and maintenance of a sewerage system and desludging of septic tanks. The Water Services Industry Act 2006 provides for the licensing of sewerage services by the Minister upon recommendation of the Water Services Industry Commission.¹³ The service licensees are under a statutory duty to operate and maintain a public sewerage system including the duties to repair and improve.¹⁴ Provision is also made to require proper drainage for sewage to be made by any owner, management corporation or occupier of premises that is found not to have proper drainage for sewage. The Commission may give a written notice requiring such owner or occupier to construct or install proper drainage, failing which the Commission will undertake to install such proper drainage and claim the expenses from the owner or occupier.¹⁵ Failure to comply with the notice is also made an offence punishable upon conviction with a fine not exceeding RM50,000 or imprisonment for a term not exceeding six months or both. There is also provision in respect of the responsibility of the owner or occupier abating nuisance arising from any private septic tank which has become so foul or is in a state as to be a nuisance or danger to health.¹⁶

Environmental Quality Act 1974

Another important legislation is the Environmental Quality Act 1974¹⁷ ('EQA'). This Act is a major piece of legislation enacted for the purposes of 'prevention, abatement and control of pollution and

12 'Sullage' is defined in s 3 of the Street, Drainage and Building Act 1974 (Act 133) as including 'any household waste liquids discharged from any bath, shower, lavatory, basin, floor gully, laundries or sink (not being a slop sink) but excludes faecal water and urine'.

13 See ss 8 and 9 of the Act.

14 See s 43 of the Act.

15 Section 59(2) of the Act.

16 Section 66(1) of the Act.

17 Act 127.

enhancement of the environment'. EQA is a federal statute, and s 1(1) of this Act specifies that it shall apply to the whole of Malaysia. In this regard, an issue can be raised with regard to the jurisdictional basis of the enactment of the EQA as this Act may contain subject matters that come under the State List where only the state legislature can enact law on those matters. In order to identify the scope and jurisdiction of the EQA on environmental matters, it is necessary to examine the definition of the word 'environment' as provided in this Act. The word 'environment' for the purpose of the EQA is defined by s 2 of the Act as:

The physical factor of the surroundings of the human beings including land, water, atmosphere, climate, sound, odour, taste, the biological factors of animals and plants and the social factor of aesthetics.

This section further defines the word 'element' in relation to the 'environment' to mean:

Any of the principal constituent parts of the environment including water, atmosphere, soil, vegetation, climate, sound, odour, aesthetics, fish and wildlife.

The word 'pollution' is defined as:

any direct or indirect alteration of the physical, thermal, chemical, or biological properties of any part of the environment by discharge, emitting or depositing environmentally hazardous substances, pollutants or wastes so as to affect any beneficial use adversely, to cause a condition which is hazardous to public health, safety, or welfare, or to animals, birds, wildlife, fish, aquatic life, or to plants or to cause a contravention of any condition, limitation or restriction to which a licence under this Act is subject.

The EQA imposes a general prohibition and restriction on main pollution activities into a specific environmental medium including that of inland water pollution under s 25. This section provides for commissions or omissions that constitute water pollution offences, and for the imposition of a penalty for such offences. The principle of water pollution offences under this section is formulated in terms of actions and intentions. Subsection (1) of s 25 states that:

A person is guilty of an offence if he emits, discharges, or deposits any environmentally hazardous substance, pollutant or wastes into any inland waters in contravention of the acceptable conditions specified in s 21, unless licensed.¹⁸

18 'Licence' for the purpose of this section is that prescribed by the Environmental Quality (Sewage and Industrial Effluent) Regulations 1978 of the EQA.

A person is deemed to discharge wastes into inland waters, according to s 25(2), if he does any of the following:

- (a) places any wastes in or on any waters or in a place where it may gain access to any waters;
- (b) places any waste in a position where it falls, descends, drains, evaporates, is washed, is blown or percolated or is likely to fall, descend, drain, evaporate or be washed, be blown or percolated into any waters, or knowingly or through his negligence, whether directly or indirectly, causes or permits any wastes to be placed in such a position; or
- (c) causes the temperature of the receiving waters to be raised or lowered by more than the prescribed limits.

Types of commission or omission of an act that may constitute water pollution offences can be found from the wordings of s 25 itself. For example, a person may be deemed to cause pollution of water when he directly discharges an effluent into the water.¹⁹ However, an indirect act of causing pollution, that is in a situation where a person lawfully places any waste in a certain position, but that 'position' has eventually caused, or is likely to cause, such wastes to enter the water, may also constitute a pollution offence under this section.²⁰ Under s 25, those who are found guilty of the offence may be subjected to a fine not exceeding RM100,000 or imprisonment for a period not exceeding five years or both. A further fine not exceeding RM1,000 a day may also be imposed for every day that the offence is continued after a notice from the DG requiring him to cease the act has been served upon him.

While the range of acts or omission that may constitute water pollution offences under s 25 are wide and varied, the scope of this s in relation to meaning of the word 'inland water' is also wide. Specifically, 'inland waters' for the purpose of this section has been defined as:²¹

Any reservoir, pond, lake, river, stream, canal, drain, spring or well, or any part of the sea above the low water line along the coast, or any other body of natural or artificial surface or subsurface water.

The above definition indicates that, for the purpose of s 25, 'inland waters' are not confined to rivers only, but include various other water courses in Malaysia that can be potentially polluted, including that of the ground water and water along the coastline. Thus, an act

19 Section 25(2)(a).

20 Section 25(2)(b).

21 See s 2 of the EQA.

of causing pollution to an underground aquifer may also come within the reach of this section.

Despite the wide coverage provided for s 25 in controlling river pollution, there are certain limitations as to the type of pollutants that can be controlled by this section. Generally, 'pollutant' is defined by s 2 of the Act to mean:

Any natural or artificial substances, whether in a solid, semi-solid or liquid form, or in the form of gas or vapour, or in a mixture of at least two of these substances, or any objectionable odour or noise or heat emitted, discharged or deposited or is likely to be emitted, discharged or deposited from any source which can directly or indirectly cause pollution and includes any environmentally hazardous substances.

However, certain types of pollutants are exempted from the control of s 25 as provided in the First Schedule of the Environmental Quality (Sewage and Industrial Effluents) Regulations 1979.²² They include:

- processing of oil-palm fruit or oil-palm fresh-fruit bunches into crude palm oil, whether as an intermediate or final product;
- processing of natural rubber in technically specified form, latex form including prevulcanised or the form of modified and special purpose rubber, conventional sheet, skim, crepe or scrap rubber;
- mining activities;
- processing, manufacturing, washing, or servicing of any other products or goods that produce effluent of less than 60 cubic meters (13,000 imperial gallons) per day;
- processing, manufacturing, washing, or servicing of any other products or goods where the total load of biochemical oxygen demand of the effluent fixed at 20 degrees Centigrade for 5 days or suspended solid or both, shall not exceed 6 kilograms per day (concentration 100 milligrammes per litre); and
- processing, manufacturing, washing, or servicing of any other products or goods in any housing or commercial development or both of less than 30 units.

Arguably, while the Environmental Quality Act 1974 is known to be the main legislation in charge of pollution control, the scope of this Act is not wide enough to deal with all aspects of river pollution. For example, this Act does not apply in cases where the discharge of pollutant is less than six kilogrammes per day. Meaning that, if the

22 PU (A) 12/1979.

amount of load discharged is less than that stipulated by the Act, then such discharge is not covered by s 25.

Nevertheless, this does not mean that the lesser discharge of pollutant, or pollutant in the form of sillage or household liquid waste, is not deemed illegal. In fact, it is still considered as pollutant but within the jurisdiction of other laws and institutions. Similarly, river pollution due to soil erosion or other land clearing activities does not come within the purview of the EQA mainly on the basis of Constitution's division of power rendering matters such as land and river to belong mainly to the state. Thus, in such pollution cases, statutes other than the EQA would be applied. As a whole, where river pollution is concerned, it can therefore be argued that the existence of a number of legislations in Malaysia concerning, either directly or otherwise, with environmental pollution, can be applied to complement the EQA in regulating aspects of river pollution not covered by the Act.

Other Legislation

Apart from the EQA, there are several other legislations in Malaysia pertinent to river management and pollution prevention, one of which is the Land Conservation Act 1960. This is a federal law relating to the conservation of hill land and the protection of soil from erosion and siltation.²³ It is to be noted that siltation and soil erosion are one of the major contributors to inland water pollution. They are considered as non-point type of pollutants and not regulated by the Environmental Quality Act 1974. Thus, this Act is relevant for the purpose of controlling the pollution of river from soil erosion. Specifically, under s 3 of the Act, the ruler of state has the power to declare any area of land in the state as hill land. Once, a declaration has been made, no person is allowed to do certain activities that may cause soil erosion.²⁴ Another relevant provision is s 11 which empowers the Land Administrator to issue a notice to show cause against any person who owns land from which earth, mud etc has caused or likely to cause damage to other land, or to any water course. If such owner failed to show cause to the satisfaction of the Land Administrator, under s 14, he can make the following orders, ie to

23 It is to be noted that this Act only comes into operation in any state once it is adopted by the state as state law pursuant to cl (3) of art 76 of the Constitution.

24 This includes planting any crop on hill land (s 5); or clearing any hill land, or removing any tree from that land (s 6) unless the person has a permit to do so.

prohibit the person from removing any trees etc; to require him to make on the land drains and watercourses; or to do any act that would prevent the passage of earth etc from the land to another land, river, canal or drain. Under this Act, any person who fails to comply with the order without any reasonable excuse is liable to a fine for up to RM5,000, or jail up to six months as provided in s 283 of the Criminal Procedure Code.

Another legislation relevant to river management and pollution prevention is the Waters Act 1920. This is a federal law that is applicable to several states in Malaysia that provides for the control of rivers and streams. There are several sections under this Act that deal with the conservation of rivers through the prohibition of the commission of certain acts that may affect rivers. For example, under s 5(1), it is an offence to fell a tree that may fall into a river; to obstruct or interfere with any river; or to build a bridge over a river where the river's width exceeds 20 feet. Exception here is when the person applies for a licence from the District Officer, with the approval from the state authority. Diversion of water from rivers is also an offence under s 7 unless licenced. Licence to divert water from the state river may be granted by the District Officer for certain purposes as provided in s 7(4), with the approval of the state authority.

Under the Waters Act 1920, there is a new section, ie, s 7A, which prohibits any person from polluting a river unless licenced. The prohibited acts include to discharge any polluting matter into the river that may be harmful to the public health, safety or welfare. For the purpose of this section, 'river' is deemed to further include any inland waters whether or not it falls under the definition above. Licence to discharge the prescribed matters into the river is granted by the State Secretary of the state as stated in s 7A(4). The State Secretary, under s 7A(6) has the power to grant, revoke and alter the licence.

At the local authority levels, relevant provisions can also be found such as within the Local Government Act 1976.²⁵ This Act was enacted for the purpose of revising and consolidating the pre-independence laws relating to the local government of the states of West Malaysia. There are several provisions under this Act that give local authorities power that can be used in preventing the pollution of rivers such as through the control of nuisances. Here, 'nuisance' is defined as:

Any act, omission or thing occasioning or likely to occasion injury, annoyance, offence, harm, danger or damage to the sense of sight, smell or hearing or which is or is likely to be injurious or dangerous

25 Act 171.

to health or property or which affects the safety or the rights of the inhabitants at large.

For the purpose of the control of nuisance in rivers, local authorities are empowered by the Act to take action against any person who causes such nuisance. Under this Act, the control of nuisances here includes the pollution of streams within the local authority area. Section 69 states that any person who commits nuisance or deposits any filth in or on the banks of a watercourse commits an offence and is liable to a fine up to RM2,000 or jail up to one year.

The prohibition of polluting streams by trade refuse is covered by s 70. This section prescribes actions that may constitute the pollution of a river within or without the limits of a local authority area, and prescribes a penalty of up to RM5,000 and jail up to two years. Apart from that, the local authority's power with regard to nuisance and the pollution of river is also extended to include that on food, markets and sanitation as provided in Part IX of the Act. Specific sections on the matters are ss 72 and 73. Through these sections, the local authority is given the power to curb public nuisance to ensure that the sources of drinking water supplies are not polluted as provided in s 81. A new development in the law came about with the passing of the Solid Waste and Public Cleansing Management Act 2007 by Parliament in August 2007. Although this law has removed the powers of local authorities over solid waste, it has to a certain extent strengthened the powers of local authorities in controlling and regulating liquid waste and effluents in their area. This is done through amendments to ss 72 and 73 of the Local Government Act 1976.²⁶ Section 72(a) now states that a local authority shall have power to 'establish, maintain and carry out such sanitary services for dealing with effluent'. Section 73 now allows the local authority to make by laws 'to establish, maintain and compel the use of any service for dealing with effluent ...' as well as 'to keep public places clean and free from liquid waste and to prohibit the throwing, dropping or depositing, or discharging of flushing water or other liquid waste into any stream, channel or other water course and prevent such liquid from flowing into any such place, and to regulate or prohibit the bathing or washing of persons, animals or things in any such place'. These provisions clearly grant direct powers to the local authority to allow them to play a stronger role in respect of pollution prevention in rivers and water courses in their area.

26 See Local Government (Amendment) Act 2007 (Act A1311).

The Street, Drainage and Building Act 1974²⁷ is another local authority law containing provisions relevant to pollution control. Under s 53(1), the local authority is to maintain and keep in repair all surface and storm water drains, culverts, gutters and *water courses*, under the control of the local authority. The local authority is further empowered under s 54(1) of the Act to 'cause the surface and storm water drains, culverts, gutters and water courses under the control of the local authority to be so constructed, maintained and kept as not to be a nuisance or injurious to health ...'. If in the course of doing so, there is a need to enter private land, the local authority is to give notice in writing to the landowner and is to ensure that any work done will cause as little damage as possible.²⁸ If damage is caused, the local authority is obligated to make full compensation.²⁹ An issue has arisen in court as to whether the term 'water courses' includes a river naturally flowing on land. In *Azizab bt Zainal Abidin & Ors v Dato' Bandar Kuala Lumpur*,³⁰ the plaintiffs, the registered owners of land, alleged that the defendant, being the local authority in Kuala Lumpur, had trespassed into the plaintiffs land and thereby caused damage thereon when the defendant's contractors undertook works to channelise a river ('Sungai Belongkong') that partly flowed in the plaintiffs' land. The defendant claimed that the works were done to alleviate floods and came under ss 53 and 54 of the Street, Drainage and Building Act 1974. The plaintiff contended that the river was not 'water courses' and thus the work done was therefore a trespass. It was held in this case that the word 'water courses' includes rivers and not only man-made structures. James Foong J was of the view that to adopt a restrictive view on the interpretation of the word 'water-courses' would create havoc in the management and maintenance of the water system under the jurisdiction of any local authority.³¹

There are also provisions in the Act which prohibit waste water from 'water-closets and privy' as well as trade effluent to be discharged into 'any river, canal, stream, pond, lake, sea or with any public surface or storm water drain' without the prior written permission of the local authority, or consent of the state authority as

27 Act 133.

28 Street, Drainage and Building Act 1974, provisos to ss 53(1) and 54(1).

29 *Ibid.*

30 [1999] 5 MLJ 405.

31 The reason is because the flow of water passes through both natural and man-made water courses, and in many instances, they are interconnected at intervals. See p 408 of the case.

the case may be.³² This means that such acts can be permissible if permitted by the local authority or state authority, as the case may be.

There are several provisions in the Street, Drainage and Building Act 1974 pertaining to 'nuisance' which can be applied to river cleanliness and the discharge of non-point type of pollutant for the purpose of river. Section 68 explains what constitutes nuisance which include a foul watercourse, injurious or dangerous to health. When this situation happens, the state authority is empowered by s 87 to serve a notice to the person who causes the nuisance to require him to abate such nuisance. Apart from that, under s 55, it is the responsibility of the local authority to build and maintain drainage. If anyone makes or causes any drain into any of the drains or canal or stream under the control of the local authority; or closes, stops or deviates any drains without prior permission, he commits an offence.³³ Another provision under this Act relevant to river pollution is relating to earthworks³⁴ under s 70A. Under this section, any person intending to carry out any earthworks, must first submit relevant plans and specifications to the local authority before carrying out any earthwork. If the earthworks are a danger to the public or property, work can be forced to stop. While this section is not directly related to water pollution, it can however be applied by the local authority to ensure the protection of water resources from pollution due to earthworks (non-point source).

Another local government law that can be applied in an indirect way to control river pollution is the Town and Country Planning Act 1976 (Act 172). In general, this Act provides a statutory obligation on the local planning authority to ensure that effective planning controls are introduced within its locality. Under this Act, the local authority, which is also the local planning authority, is responsible to prepare the development plans. For this purpose, under s 7, the authority needs to make a survey of its area to examine matters that may affect the development of the area, ie, the physical, economic, social and environmental characteristics. Subsequently, the local planning authority would provide a report and a draft structure plan for the area of the local authority identifying the site of land uses, for example, where the commercial areas, residential areas, and

32 Street, Drainage and Building Act 1974, s 55(2) and (3).

33 Punishable to a fine not exceeding RM1,000, see s 55(1).

34 Defined as including any act of excavation, leveling, filling with any material, piling, the construction of foundations, or felling of trees, on any land, or any other act of dealing with or disturbing any land, see Street, Drainage and Building Act 1974, s 70A(18).

industrial areas are to be located. If the structure plan is accepted, the local authority can make local plans on the development and use of the land in the area, including measures for the improvement of the physical environment.

The Solid Waste and Public Cleansing Management Act 2007³⁵ passed by Parliament in August 2007, will see the creation of a Solid Waste and Public Cleansing Management Corporation at federal level. This corporation will have the power to grant licences to concessionaires to undertake solid waste and public cleansing management services in local authority areas. It is expected that the Urban Services Department in all local authorities will be privatised and be given such license under the new law.

'Public cleansing management services' is defined under the Solid Waste and Public Cleansing Management Act 2007 as the following services:

- (a) the cleansing of public roads, public places, public toilets and public drains;
- (b) the cleansing of —
 - (i) hawker centres excluding privately owned and maintained food courts; and
 - (ii) markets excluding privately owned and maintained markets;
- (c) the clearing of illegally dumped controlled solid waste on public roads and in public places;
- (d) beach cleansing;
- (e) kerbside grass cutting on public roads;
- (f) grass cutting in public places; and
- (g) removal of carcasses,
- (h) but excludes landscaping and the maintenance of public roads and public places.

From the above, although local authorities may have been relieved of their powers over solid waste management, they still retain their powers and duties in respect of the discharge of effluents into drains and water courses within their area under the Local Government Act 1976 and the Street, Drainage and Building Act 1974 as discussed above.

35 Act 672.

The Institutional Framework for River Management

Federalism and the legislative framework thereunder have resulted in powers over pollution control in rivers in Malaysia being held by several agencies and authorities. The Drainage and Irrigation Department has a pivotal role by virtue of the Ministerial Functions Act 1969 that grants to this department jurisdiction over river conservation. However in the exercise of such jurisdiction, there are several other functions that do not come within the purview of the DID but directly affect the water quality of rivers. Examples are licensing of industries, sand-mining, pig-rearing, cattle rearing; sewerage services, disposal of effluents and the eviction and resettlement of squatters. These matters come within the jurisdiction of the local authorities, Sewerage Services Department, Department of Environment and the District Land Office respectively. Are there overlapping of powers in this scenario? How to resolve them? Is there a need for an integrated approach? These are matters that will be dealt with under a study of the institutional framework.

Malaysia is a federation and the Federal Constitution provides for three levels of government, namely, the federal government, the state government and the local government. Although broad policies are laid down at the federal level, the implementation of these policies are executed by the relevant state department agencies and for the most part, by the local government agencies according to laws, be they federal laws and regulations made thereunder, state enactments as well as existing departmental guidelines and manuals.

The main government agencies with powers affecting pollution in Malaysian rivers in are indicated in the table below:

Table 2: Agencies with Powers Affecting Pollution Prevention in Malaysian Rivers

	Agency	Power over Pollution Prevention in Rivers
1.	Drainage and Irrigation Department (DID)	River engineering and maintenance.
2.	Department of Environment (DOE)	Regulation and control of scheduled waste.
3.	District Land Office	Regulation and control of squatters and illegal land use activities.

	Agency	Power over Pollution Prevention in Rivers
4.	Sewerage Services Department acting under the general supervision of the Water Services Industry Commission	Regulation and control of sewerage discharge.
6.	Local Authorities	Regulation and control of sullage, abattoir and other effluents, illegal and non-compliant earthworks.
7	River Management Committee (if any, within an area)	Materialising collaborative efforts by various agencies.

- (1) Department of Drainage and Irrigation;
- (2) Department of Environment;
- (3) Sewerage Services Department;
- (4) District Land Office;
- (5) Local Authority.

Except for the District Land Office (which is created by the state government under the National Land Code), at the federal level, the above agencies were either established or emanate from powers given under the Ministerial Functions Act, 1969 (Act 2)³⁶ to the following federal ministries:

- (1) Ministry of Natural Resources and the Environment; and
- (2) Ministry of Housing and Local Government.

Another federal ministry having jurisdiction over water resources (with particular emphasis on water supply services) is the Ministry of Energy, Water and Telecommunications.

(1) *Ministry of Natural Resources and the Environment*

This ministry houses two important departments involved in issues relating to the water quality of rivers, namely:

³⁶ See *Ministers of the Federal Government (No 2) Order 2004* made under s 2 of the Ministerial Functions Act 1969 vide PU(A) 206.

- (i) Department of Drainage and Irrigation; and
- (ii) Department of Environment.

(i) *Department of Drainage and Irrigation ('DID')*

Other than matters relating to flood mitigation programs and the development of water management infrastructure for agricultural needs, this department is also tasked with the overall 'planning and management of rivers' and 'development and management of coastal zones to reduce coastal erosion and sedimentation problems at rivermouths'.³⁷

(ii) *Department of Environment ('DOE')*

The DOE performs functions and exercises powers under the Environmental Quality Act 1974 ('EQA') and regulations and orders made thereunder. Rivers are included under the term 'inland waters' under the EQA. Further elaboration on the laws touching on powers over river pollution and licensing of discharge and effluents are found under the section 'legal' in the first progress report.

The department is also generally tasked with 'prevention and control of environmental pollution' as well as 'protection and enhancement of environmental quality'.

(2) *Ministry of Housing and Local Government*

This ministry is tasked with planning, coordination and implementation of policies and programmes relating to human settlements and townships through housing development, local government services, town and country planning, landscape development and fire services activities.

Four of its departments may play roles and have an impact on policies relating to water quality improvement in rivers, namely:

- (a) National Housing Department;
- (b) Local Government Department;
- (c) Town and Country Planning Department;
- (d) National Landscape Department.

The National Housing Department is tasked with, amongst others, coordinating the relocation of squatters.

37 Ministers of the Federal Government (No 2) Order 2004 made under s 2 of the Ministerial Functions Act 1969 vide PU(A) 206.

The Local Government Department supervises the capabilities of local authorities in line with the Local Government Act 1976 by issuing guidelines and circulars. It manages solid waste and recycling programmes and is also in charge of implementing 'cleanliness and beautification programmes'. It acts as secretariat for the National Council for Local Government.

The Town and Country Planning Department implements the Town and Country Planning Act 1976 by preparing guidelines for implementation by the state departments and the local planning authorities. It also supervises and coordinates the preparation of development plans for the physical, social, economic and environmental aspects of land use. It also acts as secretariat to the National Physical Planning Council.

The National Landscape Department implements the National Landscaping Programme. It provides advice to the government on the planning, development and management of landscapes. It is in charge of preparing the Master Landscape Plan.

(3) *Ministry of Energy, Water and Telecommunications*

Two departments relating to water quality that are housed in this Ministry are the Water Supply Department and the Sewerage Services Department. The latter department is in charge of implementing provisions relating to sewerage services under the Water Services Industry Act 2006. There is also a Water Services Division under the Ministry's Deputy Secretary General II under which a Water Unit and a Sewerage Unit are placed.

(4) *District Land Office*

The District Land Office has jurisdiction relating to several activities near or on the river. The National Land Code defines 'land' to include 'land covered by water'³⁸ and thus rivers would also be covered by the definition of 'land' that comes within the jurisdiction of the district land office. 'River' is defined under the National Land Code as 'any river, stream, creek or other natural water course, and any tributary, distributary or artificial deviation thereof'.

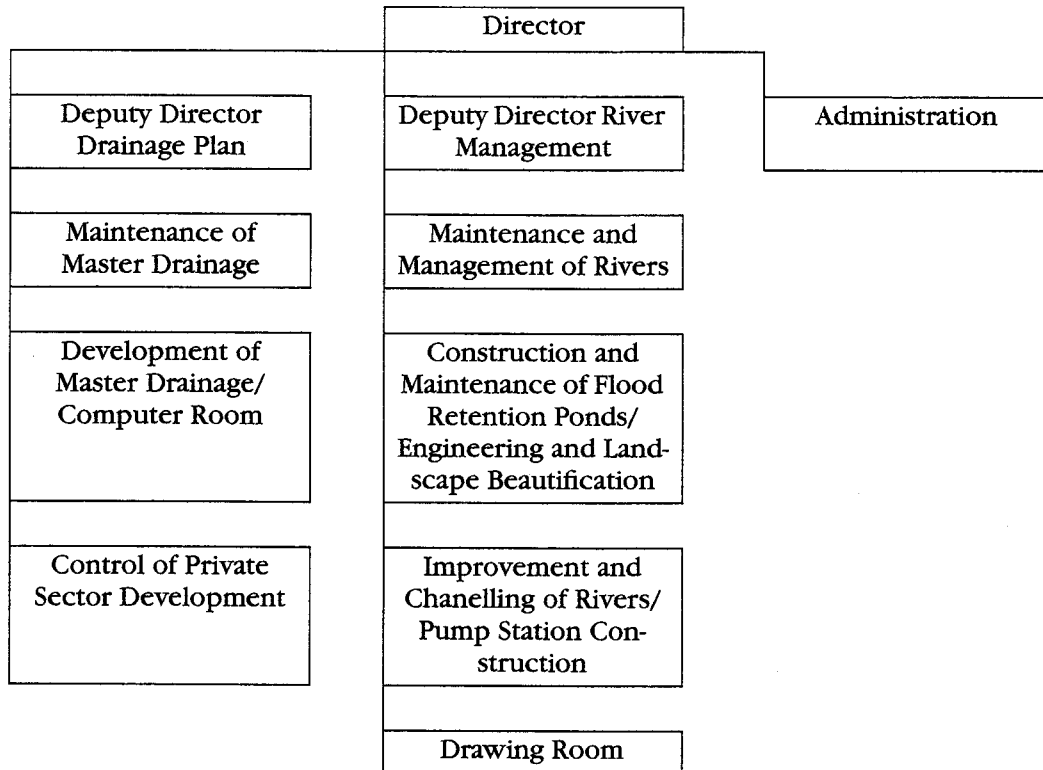
The District Officer has power under the Waters Act 1920 (Act 418) with regard to the licensing of diversion of waters from rivers for private, domestic and industrial purposes. This power however is exercised with the approval of the state authority.³⁹ The District

38 See s 5 of the National Land Code (Act No 56 of 1965).

39 See s 7 of the Waters Act 1920.

face the same budgetary constraints as that faced by MPPP in Penang. Any suggestion to adopt the institutional model for river management by DBKL in MPPP must therefore take into account the aforementioned factors.

Diagram 1: Organisational Structure of DBKL's Drainage and River Management Department



(ii) *Putrajaya*

Perbadanan Putrajaya exercises the functions and powers of the local authority in the federal administrative capital, Wilayah Persekutuan Putrajaya.⁴³ Unlike other local authorities in Malaysia where pollution prevention measures are undertaken by the Urban Services Department, in Putrajaya, river management comes under the purview of the Town Planning Department which has a section for 'Environment, Lakes and Wetland'. There are 19 officers in this section headed by a deputy director. There are five units in this section, namely:

- (1) Planning and Supervision Unit;

⁴³ See ss 4(1)(a) and 4(2)(a) of the Perbadanan Putrajaya Act 1995 (Act 536).

- (2) Enforcement Unit 1 (Projects by Perbadanan Putrajaya and Public Amenities);
- (3) Enforcement Unit 2 (Putrajaya Holdings Sdn. Bhd. projects);
- (4) Hidrology Management Unit; and
- (5) Irrigation Management Unit.

River management is undertaken by the Hydrology Management Unit. The type of pollution prevention measures undertaken by this unit are the fixing of Gross Pollutant Traps according to the 2001 DID manual and building retention ponds to mitigate flooding. The several wetlands in Putrajaya also help in pollution prevention as they act like kidneys by trapping all pollutants upstream before water from River Chuau flows into the lake.⁴⁴ River management is carried out together with Urban Services Department that has appointed a contractor to design a drainage system for the rivers. Perbadanan Putrajaya also cooperates with other bodies such as the SWMA, DID and neighbouring local authorities (Sepang and Subang Jaya) in respect of river management.

(iii) *Selangor Waters Management Authority ('SWMA')*

The first state in Peninsular Malaysia to establish a river management authority through statute is Selangor. This was done through a state enactment passed in 1991 called the Selangor Waters Management Authority Enactment 1999 (Enactment No 2 of 1999) ('SWMA Enactment'). This comprehensive enactment was introduced to provide for the management of not only rivers, but all water sources including river basins, water bodies, ground water, coastal waters and wetlands within the state of Selangor. The enactment formed the Selangor Waters Management Authority ('SWMA'), a body corporate with powers akin to a private company including to enter into contracts and various transactions involving various types of properties. It is responsible for the regulation and control of all water sources including but not limited to the sustainable development, management, use and conservation of the water source in Selangor.⁴⁵

The SWMA is headed by the Menteri Besar as Chairman and the State Secretary as Deputy Chairman. Other members are:

- (a) the State Legal Advisor or his representative;

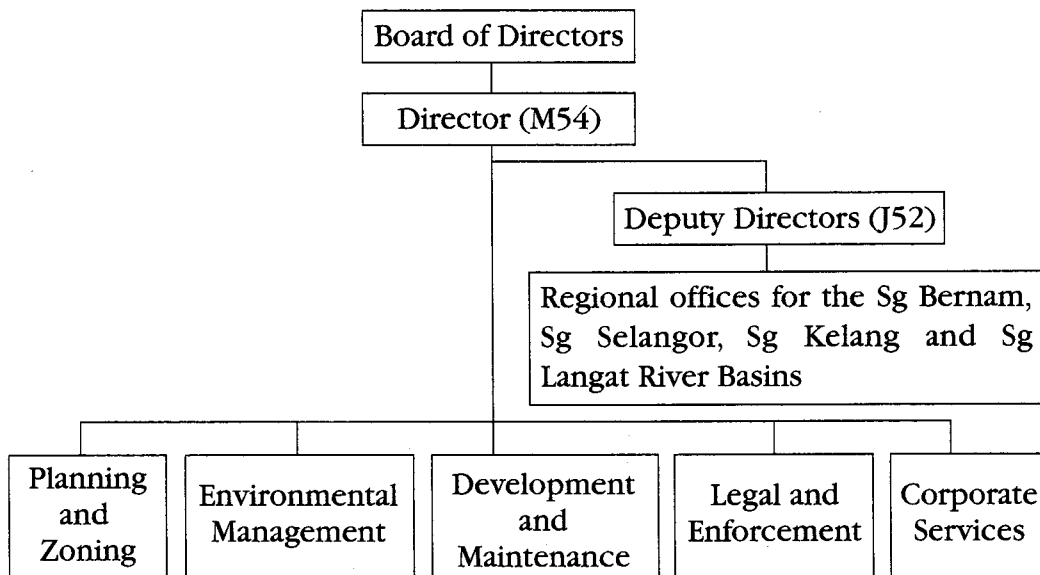
⁴⁴ Water quality in the lake is Class 2B. Source: En Roslan bin Sahat (Chief Director (Hydrology)) and Puan Maisarah bt Ibrahim (Hydrology Engineer, Hydrology Unit) in an interview conducted on 8 May 2007.

⁴⁵ See s 40(1) of the SWMA Enactment.

- (b) the State Financial Officer;
- (c) two members of the State Executive Council appointed by the Menteri Besar;⁴⁶
- (d) the Director General of the Federal Drainage and Irrigation Department;
- (e) not more than five other members appointed by the state authority who are experts in the management and conservation of river basins and other water sources,⁴⁷ and
- (f) the Director of SWMA who will act as secretary of the authority.

From the above, it is clear that the SWMA is very much a state controlled body although a federal representative in the person of the Director-General of the Federal Drainage and Irrigation Department sits as a member. On the operations side, SWMA itself will appoint a Director who is the Chief Executive Officer of SWMA to be responsible for the proper administration and management of SWMA. The present organisational structure of SWMA is as follows:

Diagram 2: Organisational Structure of SWMA



⁴⁶ These are the Chairmen of the Permanent Committee for Infrastructure and Public Amenities and the Chairman of the Permanent Committee for Multimedia, Environment and New Village Development.

⁴⁷ As of 2007, these are the chairman of the National Water Industry Services Commission, President of the Malaysia Waters Association, Vice-Chancellor of UNISEL and the State Director of the Department of Environment.

Being a semi-governmental organisation, SWMA determines the conditions of service of its staff with the Approval of the state authority. At present, the SWMA only has 12 staff members, two of which are Environmental Control Officers (C41).

The SWMA Enactment provides SWMA with wide ranging functions relating to river management which includes (but are not limited to) the following:⁴⁸

- (a) advising the state authority on policies and measures to be adopted to promote, nurture and facilitate the sustainable development, efficient use and conservation of water resources;
- (b) developing implementing and promoting infrastructure projects for multifunctional purposes;
- (c) developing and implementing guidelines, performance standards, methods and procedures relating to management, utilisation and conservation of water resources;
- (d) coordinating multi-agency relationships in the state and promoting cooperation and coordination for multi-functional uses of water sources;⁴⁹
- (e) adopting and implementing policies, plans or projects by the federal government as directed by the state authority;
- (f) advising the state authority on the declaration of designated and protected areas and formulating and implementing development and management plans for the areas.
- (g) protecting the interest of the state relating to development, management, use and conservation of water sources;
- (h) protecting the interest of consumers of water in relation to quantity, quality and the prices to be charged for water supply.
- (i) encourage the formation of stakeholder organisations to assist the SWMA in the sustainable development and conservation of water sources.
- (j) granting licences and regulating the licencees on conducting any activity relating to water sources; and
- (k) privatising any of its undertakings, with the approval of the state authority.

48 See s 6(1) of the Selangor Waters Management Authority Enactment 1999 (SWMA Enactment).

49 These may include and are not limited to irrigation, recreation, flood control, preservation of bio-diversity, navigation, fisheries, drainage and water supply intake.

The functions above are accompanied by a variety of powers including powers that are presently undertaken by the Department of Irrigation and Drainage relating to river maintenance, for example, the construction, maintenance, repairing, restoring, rehabilitating and using of any structures, buildings or works within and without the limits of any water source. Other than this, most importantly in the context that would be useful for pollution prevention measures, SWMA shall have the power to coordinate the activities of public authorities, stakeholder organisations and any persons on any matters pertaining to the efficient management, sustainable use and conservation of water sources. SWMA also has the power to appoint and employ agents, technical advisors, consultants, or other persons to transact any business or enter into contracts for the carrying out of any works, for sharing of profits or joint venture with any person or body.

Another interesting feature of the SWMA legislation is that SWMA may delegate its functions and powers to other bodies like a committee, subcommittee, public authority, its Chairman, Deputy Chairman or Director.⁵⁰ It may also, with the approval of the state authority, form a company to manage a river and execute the duties and powers of SWMA in respect thereof.⁵¹

In respect of pollution prevention, SWMA exercises supervision and control over the use and flow of water in any water source and may take measures for the protection of water from pollution and the improvement of its quality.⁵² Non-compliance with the measures prescribed by SWMA in this regard is declared an offence punishable with a fine not exceeding RM50,000 or imprisonment not exceeding two years or both.⁵³

A most interesting feature of the SWMA Enactment (that would be useful in resolving pollution issues) is the power given to the Director to direct (in writing), a person undertaking any activity that causes degradation in the quality of the water or has an adverse impact on the environment, owner or occupier of the structure or building to modify or cease the activity or to modify, relocate or remove the structure or building. Contravention of the directions of the Director is an offence punishable with a fine not exceeding RM50,000 or imprisonment for a term not exceeding two years or both.⁵⁴

50 See s 8(1) of the SWMA Enactment.

51 See s 7 of the SWMA Enactment.

52 See s 41(1) and 41(3)(d) of the SWMA Enactment.

53 See s 41(4) of the SWMA Enactment.

54 See s 43(2) and (4) of the SWMA Enactment.

Although the institutional model under the SWMA legislation is exemplary in theory, its effective implementation in Selangor has yet to be felt. Such model would require strong state support and the fact that SWMA has less than 20 staff members⁵⁵ to carry out the many duties and responsibilities provided under the SWMA Enactment, reflects the fact that such support may be lacking. It is hoped that the change in the state government in March 2008 may see better prospects for LUAS.

(vi) *Sarawak Rivers Board*

Sarawak passed the Sarawak Rivers Ordinance 1993 (Chapter 4) to create the Sarawak Rivers Board to provide for the control and regulation of traffic by water in ports and harbours or on rivers wholly within Sarawak. The Sarawak Rivers Board consists of the following members:⁵⁶

- (a) Chairman;
- (b) Deputy Chairman;
- (c) State Attorney-General or his nominee;
- (d) State Financial Secretary or his nominee;
- (e) Commissioner of Police or his nominee; and
- (f) Director of Marine or his nominee;

The Board may employ and appoint a chief executive officer to be known as the Controller of Rivers and the Controller is responsible for the day to day administration and management of the affairs of the Board and performs all duties and powers conferred on the Board by the Ordinance.⁵⁷ One of the functions of the Board is to 'take all lawful, necessary and reasonable practicable measures to keep the river or port clean and free from filth, rubbish and refuse'.⁵⁸ It is also the duty of the Board 'to collect, remove and dispose of or otherwise to deal with any object, wreck, refuse, pollutant, tree, timber, log, weed, long grass or any other things or materials in the river'.⁵⁹ It is clear that the Board, through the Controller of Rivers, has wide powers in respect of pollution prevention for rivers in Sarawak.

'Pollutant' is defined under this Ordinance as 'crude oil, diesel oil, fuel oil, lubrication oil or any substance whether liquid, solid or gaseous which is hazardous or potentially hazardous to public health,

55 As of September 2007, source: LUAS website.

56 See s 3(1) of the Sarawak Rivers Ordinance 1993.

57 See s 10(1) and (2) of the Sarawak Rivers Ordinance 1993.

58 See s 5(c) of the Sarawak Rivers Ordinance 1993.

59 See s 12 of the Sarawak Rivers Ordinance 1993.

or to fish or aquatic life, or to plants, and includes minerals or radioactive chemicals or properties'. The definition above is fitting for purposes of rivers in Sarawak as they are primarily used for navigation and transport purposes.

The institutional framework provided under the Sarawak Rivers Ordinance, despite being a useful one for a state like Sarawak that has many rivers used for navigation and transport, may not be suitable for other types of non-navigable rivers in Malaysia.

INTERNATIONAL BEST PRACTICE

In developed countries such as the United States and Canada, the term 'urban watershed management' is applied when referring to the institutional framework for managing metropolitan rivers and streams. The thinking in the United States is best summed up by William Goldfarb, professor of environmental law at Rutgers University, 'many commentators have agreed that ... watershed management should stress negotiation and consent rather than command and control regulation'.⁶⁰ The importance to be placed on local factors such as history and geography as well as local stakeholder interest and present institutional framework would make it impervious to adopt, whether wholesale or in modified form, an institutional framework of river management in a particular area into another area, even within the same state or country. This is compounded by the fact that 'particular watersheds are significant to people because of distinct human activities that take place within them. Also within particular watersheds often there are deep symbolic and spiritual attachments to places, landscapes, and regions'.⁶¹ A recent study conducted by the University of Massachusetts Amherst,⁶² after reviewing experiences in several urban watersheds in the United States like Boston's Charles River, Houston's Buffalo Bayou and Portland's Johnson Creek identified certain common characteristics to leading towards better management of watersheds, as follows:⁶³

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- 60 Goldfarb, W, *Watershed Management: Slogan or Solution*, Boston College Environmental Affairs Law Review 21, No 3 (1994): 487.
- 61 McGinnis, MV, *Making the Watershed Connection*, Policy Studies Journal 27, No 3 (1999): 497.
- 62 Urban Stream Corridor Management in the United States: The Interaction of Ecology and Policy: (National Science Foundation Grant No CMS-0201409).
- 63 Summarised in Platt, *Urban Watershed Management: Sustainability, One Stream At A Time*, Environment, Vol 48, No 4, at pp 26-42, Heldref Publications, 2006.

- (i) the presence of one or more forcing issues that stimulate local concern. (eg flooding, offensive odors, health concerns, tourist complaints, etc);
- (ii) the role of community catalysts such as local residents, teachers, scientists, public officials and non-governmental organisations;
- (iii) the formation of pragmatic alliances or watershed partnerships that seek to bridge conflicting stakeholder interests;
- (iv) cultivation of a sense of ownership on the part of watershed and community residents;
- (v) development of creative funding strategies involving different blends of federal, state, special district, foundation, and individual contributions; and
- (vi) a focus on discrete sites or stream segments due to organisational complexity, limited funds and human resources, and the desire to produce 'showcase' models to be emulated elsewhere in the watershed or the region and to attract additional funding.

International best practice is moving away from the 'top-down' approach, with powers heavy at the top and enforcement relying on local officials, with varying levels of oversight from the federal and state departments in charge. The general ineffectiveness of the 'top-down' approach can be seen in regard to various matters in Malaysia today, such as the Department of Environment that lacks district level officers and the Sewerage Services Department that has several weaknesses in the privatisation of sewerage services.

PROPOSALS FOR REFORM

In line with international best practice, Malaysia is in the early stages of moving towards Integrated River Basin Management ('IRBM')⁶⁴ in respect of the management of its rivers. IRBM is geared towards integrating and coordinating policies, programs and practices.⁶⁵ The

64 An approach to water resource management that approaches river management in terms of the whole river basin area that includes the river and all its tributaries and land mass that makes up the whole river catchment area. The approach takes into account all factors relating to rivers, including economic and social activities, environmental aspects including issues relating to land use and pollution, biodiversity conservation and development pressures.

65 See Dato' Ir Hj Keizrul bin Abdullah, *Towards Realising IRBM in Malaysia*, accessed at http://www.water.gov.my/index.php?option=com_content&task=view&id=20&Itemid=1 on 3 April 2008.

Drainage and Irrigation Department spearheaded a project in Selangor and Kedah to come up with recommendations and guidelines for the implementation of IRBM for the whole of Peninsular Malaysia. Future prospects in implementing IRBM may only work with full political will and cooperation from the federal government and state governments. Planning for Malaysian rivers should be undertaken at the federal and regional levels whilst implementation must actively involve all stakeholders at local levels. The need to put in place an enabling legal and institutional environment in order to facilitate the process of implementing IRBM in Malaysia has been recognised but no in depth study has been undertaken by the federal level agencies on this particular aspect.

Several preliminary proposals can be made to put in place a workable legal and institutional framework in order to implement IRBM in Malaysia. First, The Environmental Quality Council set up under the Environmental Quality Act 1974 should be strengthened. This can be done by including the Director General of Town and Country Planning as a member of the Council as well as by clearly specifying the functions of this Council clearly in the Act. The present provision does not state clearly the functions of this Council, thus making it a Council with no mission. The reason for the inclusion of the Director-General of Town and Country Planning is because he is also the secretary to the National Physical Planning Council under the Town and Country Planning Act 1976⁶⁶ that has been set up to ensure sustainable development through town and country planning.

Secondly, the federal government can look at the National Physical Planning Council as a model to oversee the implementation of the IRBM concept in all rivers in Peninsular Malaysia. This council is a federal level council created by s 2A of the Town and Country Planning Act 1976.⁶⁷ It is a consultative forum for the federal and state governments to discuss and coordinate cross-border issues in planning the development for water catchments, dams, national parks, airports, ports, transportation, utilities and infrastructure.⁶⁸ A stated statutory function of this Council is 'to promote in the country, within the framework of the national policy, town and country

66 Town and Country Planning Act 1976, s 2B(2).

67 Act 172.

68 For more on this council vis-a vis Malaysian federalism, see Ainul Jaria Maidin and Khairil Azmin Mokhtar, *Usurpation of State Autonomy or Coordinative Federalism: Constitutional Implications of the Establishment of the National Physical Planning Council on Malaysian Federalism* [2007] LR 446.

planning as an effective and efficient instrument for the improvement of the physical environment and towards the achievement of sustainable development in the country'.⁶⁹ A matter of contention would be whether the word 'physical environment' includes rivers? Does 'physical environment' refer only to 'built environment'? It is submitted that 'physical environment' must also include the natural environment that forms part of the environment that can be physically seen, thus, including rivers. This is supported by the fact that the word 'environment' generally is defined under the Environmental Quality Act 1974 by reference to 'physical factors'.⁷⁰ In light of this, both, the Environmental Quality Act 1974 as well as the Town and Country Planning Act 1976 should be reviewed to see the feasibility of making both legislations compatible and complimentary in respect of pollution prevention of rivers. The word 'physical environment' should be defined under the Town and Country Planning Act 1976 to include rivers. If this is done, an IRBM Master Plan can be included as well in the National Physical Plan made by the National Physical Planning Council under s 6B of the Town and Country Planning Act 1976. The Director-General of the Department of Environment and the Director-General of the Drainage and Irrigation Department should also be made members of the National Physical Planning Council in this respect.

Thirdly, the Malaysian government should consider fusing the Ministry of Housing and Local Government with the Ministry of Natural Resources and the Environment, as both ministries have a similar aim to work towards sustainable development for Malaysia. This can be better facilitated if the relevant departments, namely, the Department of Environment, Department of Irrigation and Drainage, the Local Government Department and the Town and Country Planning Department are put under one Ministry.

CONCLUSION

Having regard to the existing legal and institutional framework in respect of the powers of the various agencies, it is believed that efforts towards pollution prevention of Malaysian rivers and water quality improvement largely depend on three main agencies, namely the DID, the DOE and the local authorities. Local authorities now have a stronger role to play with amendments to the Local Government Act 1976 introduced in 2007. Nevertheless, integrated effort and

69 Town and Country Planning Act 1976, s 2A(2)(a).

70 See the definition of 'environment' under s 2 of the Environment Quality Act 1974, *ibid*.

commitment from the other agencies are essential to ensure the successful implementation of any proposed reforms in river management.

DID's role is to put in place a technology to treat effluents flowing into rivers at strategic points along the rivers. The DOE controls pollution from industrial areas and wastewater treatment plants. The local authorities' role is to strengthen its capacity to enforce existing regulations in respect of control of effluents discharged into rivers, particularly from sillage and diffuse pollution, as well as monitoring earthworks that may pollute rivers.

A study presented in 2006 has indicated that the annual pollution load in Malaysian rivers especially those located in urban and peri-urban as is largely due to sillage and not sewage.⁷¹ This reflects an urgent need to strengthen the laws and institutional framework relating to the powers of the local authorities in respect of effluent discharge in their area. The institutional framework can be improved through focused capacity building of the Urban Services Departments in local authorities. Even after the privatisation of the Urban Services Department due to implementation of the Solid Waste and Public Cleansing Management Act 2007, the Licensing Department in local authorities could still be further restructured and improved by setting up an environmental unit with officers trained in regulating the type of effluents within the control of the local authorities under the law.

In line with international best practice, River Management Committees should be set up in all areas with rivers to actively contribute towards 'on the ground' efforts to see the successful implementation of this project. Through the creation of social awareness especially amongst the polluters, source and non-point source alike, residents and other interest groups, a sense of belonging should be created over rivers that would be instrumental to ensure that clean and living rivers in Malaysia would be a reachable goal in the near future.⁷²

71 Abdullah-Al-Mamun, Azni Idris, Wan Nor Wan Azmin Sulaiman, Mohd Amin Mohd Som, *ibid*, at n5.

72 For a good discussion on the importance of public participation in the management of rivers in Malaysia, see Chan Ngai Weng, *Sustainable Management of Rivers in Malaysia: Involving All Stakeholders*, paper presented at the 1st International Conference on Managing Rivers in the 21st Century: Issues and Challenges, 21-23 September 2004, USM, Penang.