Federalising Solid Waste Management In Peninsular Malaysia

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1. Executive Summary
In 2007 the Government of Malaysia passed a new Act on Solid Waste and Public Cleansing Management, transferring executive authority on solid waste management and public cleansing in Peninsular Malaysia from the Local Authorities to the Federal Government. At the present juncture new federal institutions have been established to manage the new tasks. The institutions include the Department of National Solid Waste Management and the Solid Waste Management and Public Cleansing Corporation, the latter being the operational arm with offices being established throughout Peninsular Malaysia. The Act brings solid waste management (SWM) legislation in Malaysia to the world-wide state-of-the-art level, including strong regulation and enforcement tools and at the same time introducing new tools imposing higher responsibilities on the stakeholders. The Act enables privatisation of SWM. At the present moment draft concession agreements have been prepared for collection of household and similar solid waste. The Act also enables federalisation of public cleansing. This subject is not discussed further in this paper.

2. Introduction
SWM in Malaysia, as in most countries world-wide, has traditionally been a task for the Local Authorities (LA).

Under the Federal Constitution, SWM falls under sanitation, which is listed as an item under the concurrent list. For items on the concurrent list, both the state and the federal government have jurisdiction. The distribution of responsibilities for such items then depends on the implementation of law. In this regard, the Local Government Act (Act 171) (LGA) empowers the LAs to establish, maintain and carry out sanitary services with regard to solid waste and public cleansing for areas within their jurisdiction (§72.1). The provision, however, does not impose any duty to establish such systems on the LAs. The LAs are allowed to contract out the implementation of the systems to private contractors (§101.d). In addition the LAs
have the right to make bylaws on SWM, determining the requirement for the generators and contractors (§73.1.a).

Another piece of legislation empowering the LAs in regards to SWM is the Street, Drainage and Building Act 1974 (Act 133), §133, which relates to the provision, maintenance, repair and provision of ash pits, dustbin and the like receptacles.

The Federal Government's engagement in the sector has traditionally been restricted to financing of facilities, equipment and collection vehicles, based on applications from the LAs and establishing policies and awareness. In addition the States play an important role as the authority on land and hence have responsibility for the allocation of land for landfills and other facilities.

The management of solid waste by the LAs gave rise to increasing criticism from the public, due to poor quality in some places. The quality of the service was very unequal among the LAs, to a large degree depending on the financial resources. SWM typically accounts for 40% (City Councils) to 60% (District Councils) of the property assessment, which is the main source of income for the LAs\(^1\). In addition to limited funding resources, lack of human resources also handicapped the LAs in handling the latest technologies for disposal and treatment of solid waste, contributing to the deterioration of the quality of the environment, in particular on land surrounding the landfill sites.

In its effort to ensure a coordinated, effective and efficient SWM, the Federal Government in the mid 90’s embarked on a process of federalisation of SWM for Peninsular Malaysia, using a two prong strategy; federalising the SWM through the enactment of the Solid Waste and Public Cleansing Management Act 2007 and privatising the collection and transportation of the household solid waste so as to reduce the financial pressure on the LAs.

This paper will present the process as progressed until today, and discuss the rationale behind the decisions made. The process of federalisation also includes public cleansing. However the issues related to public cleansing will not be discussed further in this paper.

2 Privatisation Process

2.1 Interim Concessions

In September 1995, the Government decided that the management of solid waste was to be privatised. Later in 1998, the Government again decided that, as an initial step, privatisation is to be carried out on an interim basis based on yearly agreements between the private concessionaire and each LA. At this juncture, signing of a long term agreement with the Federal Government was not possible, as this requires the executive authority over SWM in the country to be transferred to the Federal Government through the enactment of legislation.

Since 1 January 1997, solid waste collection and transportation in 44 LAs from a total of 144 LAs all over Malaysia has been taken over by two concessionaires appointed by the Government; Southern Waste Sdn Bhd and Alam Flora Sdn Bhd. The privatisation exercise in the northern region by Northern Waste Industries as the designated concessionaire; as well as the exercise in Kelantan, Terengganu, Sarawak and Sabah did not materialise and the LAs continue to undertake the responsibility for collection and transportation of solid waste.

**Figure 1 of Concession Regions**

A draft bill to transfer the executive authority from the LAs to the Federal Government was prepared in 1998. However, the bill was not tabled to Parliament and the interim arrangement has continued for nine years resulting in unfavourable conditions for the concessionaires, both in term of securing funding from the financial institutions and in term of long term planning. Such a situation affected the quality of service provided by both concessionaires. In addition, the payment made by the LAs
for services rendered by the companies was based on an “open book” principle. Here the LAs surrendered the amount of funds previously used for SWM to the concessionaires. Such payment has not been revised throughout the ‘long’ interim period resulting in the concessionaires claiming losses. In this regard, there are also instances where the LAs defaulted in their payment for many months due to insufficient funds. To address such a predicament, the Federal Government agreed to pay LAs which have an income of less than RM5 million a year a grant amounting from 3 to 6 months of payment in default.

Then, in 2006 the Government decided to expedite the finalisation of the draft bill, and in 2007 the Cabinet decided that the interim privatisation is to cease and full privatisation at the Southern and Central Zone to take place as soon as the Solid Waste and Public Cleansing Management Act 2007 comes into force. In the Northern Zone, an interim privatisation is to prevail for a year before full privatisation is implemented. This will allow E Idaman Sdn Bhd, the concessionaire now in charge of the Northern Zone, ample time to be ready.

The principles and the content of the Act and the draft concession agreements are discussed further in the following.

2.2 Draft SWM Federalisation Bill
When the draft bill to transfer the authority from the LAs to the Federal Government was prepared in 1998, it was not the main focus to expand the types of solid waste under regulation, or the powers or tools needed to manage solid waste in the future. The draft bill basically focused on household waste. The management of industrial waste, construction waste etc was not thoroughly considered, and powers to manage new issues such as recycling etc were not yet high on the political agenda. In line with the privatisation policy of the time, the private sector was expected to take over the functions of the public sector, including the staff involved in SWM in the LAs, thus involving no extra costs for the government, as the payment to the concessionaires was counterbalanced by the abolishing of the solid waste functions of the LAs.

2.2 Expediting the Process
A unit in charge of SWM had been established in the Department of Local Government, Ministry of Housing and Local Government since the early 80’s. Its size and functions were, however, limited. Project management (treatment and disposal facilities), allocation of funds to the LAs and awareness campaigns were among the main issues managed by the Ministry.

Efforts towards better management of the solid waste gathered momentum with the endorsement of the National Strategic Plan for Waste Management (NSP) by the Government in July 2005. In the same year, a SWM Division was formed in the Ministry to prepare for the implementation of the plan. Less than a year after the adoption of the NSP, the Government approved the National Solid Waste Policy which provides the overall direction on the management of solid waste.
In early 2006 a number of cases of illegal dumping of hazardous waste and pollution of rivers by leachate discharge from landfills further put the issue high on the political agenda.

In March 2006, a National Committee on Solid Waste Management and Environment chaired by the Deputy Prime Minister was formed and in terms of institutional development, the conversion of the new SWM division into a dedicated department for the management of solid waste was developing fast.

The process of finalising the bill was correspondingly intensified from early 2006. However, the political solid waste agenda had changed substantially since the first draft bill was prepared. The attention on solid waste issues had increased tremendously internationally as well as nationally. The issue was no longer restricted to enabling privatisation. The need for the government to firmly determine, monitor and enforce the service and performance level provided by the concessionaires had gained increased attention during the previous years, among others based on experience from other privatisations during the interim period. At the same time, the severe cases of illegal disposal had caused increased focus on the handling of non-domestic waste and construction waste, and waste reduction and recycling had come high on the agenda.

The Solid Waste and Public Cleansing Management Act 2007 (Act 672) (SWMPC Act) was finally passed by the Parliament in July 2007 and gazetted in August 2007. Currently it is expected that the Act may be coming into operation by 2009. The Act will, when it comes into effect, be effective throughout Peninsular Malaysia, Federal Territory of Putrajaya and Labuan. The process of preparing the Act had been long. 10 years had passed since the first draft was prepared. But due to the increased attention on SWM during the recent years, the result was a far more comprehensive Act than originally proposed. The Act still establishes the legal framework for transfer of executive authority for SWM to the Federal Government, and subsequently for privatisation of the services. However, the Act did a lot more. The Act now constitutes a comprehensive and coherent approach to SWM including institutional arrangements.

3.1 Institutions
The Act provides for the formation of the Department of National Solid Waste Management, the establishing of which had already been prepared, as discussed above. The Department was officially established on 1st July 2007. The Department of National Solid Waste Management was entrusted to formulate policies, strategies, action plans and to prepare regulations and agreements as well as to implement the Solid Waste and Public Cleansing Management Act 2007. By October 2008 the Department employed 23 staff. When fully established the Department will have 71 staff.

3 The Act only includes Peninsular Malaysia. Sabah and Sarawak, located on the island of Borneo is not included under the Act.
However, as the overall strategic and regulatory body, the Department will not be able to handle the operational aspects of SWM, neither on the federal nor on the local level. Taking over the responsibilities from more than 100 LAs, and at the same time implementing and managing the vast scope of new regulations and instruments, as described above, is an enormous task. The federalisation implies a full take-over from the LAs. By the coming into operation of the Act, the provisions on solid waste in the LGA will be abolished. The existing bylaws will cease to exist; all existing contracts on waste collection or any other solid waste services will either be abolished or will be novated to concessionaires appointed by the Federal Government. The existing performance monitoring systems and penalty and deduction systems for the contractors will similarly be terminated.

Thus, to undertake the tasks in a professional and competent manner, the Parliament in 2007 passed the *Solid Waste and Public Cleansing Management Corporation Act 2007* (Act 673), establishing the *Solid Waste Management and Public Cleansing Corporation*. The Corporation is established to manage all operational issues at the Federal, State and Local level. By December 2008, the Corporation will have established 58 offices, divided into the Federal office, 12 State offices and 45 District offices and will employ 1400 staff to ensure that the role of enforcing the Act is carried out effectively and efficiently. In fact, the Corporation is assuming the role previously carried by the LAs in providing the necessary support to the Department in the implementation of the Act.

### 3.2 Policy and Planning

The new Department established under the Act, was provided with the task to prepare national policies and strategies on SWM (§6.1.a) and to prepare plans for SWM. The planning includes among others the location, type and size of new treatment facilities and the coverage area of each disposal facilities (§6.1.b). Currently the Department is working on restructuring and streamlining the SWM policy which was approved by the Cabinet in 2006 to achieve three objectives:

1. To establish a SWM system that conserves resources and protects the environment and public health;
2. To establish a comprehensive, integrated and efficient SWM system from generation to final destination; and
3. To establish a cost-effective SWM system.

On the planning side, the Department is currently acquiring and adjusting a model for optimising the number and location of facilities, originally developed for the Danish Environment Protection Agency. At the same time, comprehensive work has been initiated to collect and organise data on waste generators and waste types and amounts, service providers and existing installations and facilities and to establish the corresponding databases and Geographical Information Systems (GIS) to qualify the current and future planning and management of the sector. The data collection has proven very important as the remaining capacity at the existing landfills is critically low in many parts of the country, Refer to Figure 2.

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4. Simulating Waste Handling in Liberalisation (SWAHILI model), COWI Denmark.
Figure 2 of Life expectancy of operating landfills in Malaysia

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<thead>
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<th>Life Expectancy of operating landfills in Malaysia</th>
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<tr>
<td>Critical (&lt;2 years)</td>
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3.2 SWM Schemes

However, plans and strategies only establish the framework. Successful implementation requires that the waste is handled and flows according to the plans. This again requires directions on the manner of waste handling by the generators and service providers. Such requirements are currently set by the municipal bylaws according to the LGA §73.1. However, the solid waste provisions of the LGA will no longer be operative with the coming into force of the SWPCM Act. Therefore, similar provisions have been included in the SWPCM Act. In the Act, the regulations substituting the municipal bylaws are named Schemes (§108.2.c). In the schemes the government may determine "the duties and obligations of licensee and waste generators, the geographical area, the type of controlled solid waste and the services to be provided." Traditionally, bylaws in Peninsular Malaysia have only encompassed household and similar waste (domestic waste). The provision in the SWPCM Act empowers the government to establish schemes for any type of waste or waste generator. The intention is to bring the major non-domestic waste generators and waste types under similar strict control as for household and similar waste. Currently a draft scheme has been prepared for household and similar waste, while preparation of schemes for commercial, industrial and construction waste only recently were initiated. The draft scheme for household and similar waste includes the following sections:

- Duties of occupier for landed properties
- Duties of management for buildings or land subdivided into parcels
- Duties of waste collector
- Duties of licensee for transfer station
- Duties of licensee for treatment and disposal facilities

The current bylaws obviously follow the boundaries of the LAs. A comprehensive survey has now been initiated to assess the feasibility of these boundaries, as the federalisation enables optimising collection areas technically and economically across LA boundaries. The larger LAs may further be divided into a number of
schemes. For each scheme the destination of the waste will be determined unambiguously.

For household waste, the main role of the scheme is to determine the duties of the waste generators and to determine the destination for the waste collected in the scheme area. Such duties may not only be restricted to the location and use of the bins provided, but may also include provisions on source sorting of recyclables and special handling of any specific waste fraction. The functions and performance of the service providers are also stipulated. However, as the collection of household and similar solid waste is going to be privatised to the original concessionaires, the concession agreements constitute an additional avenue for specifying the duties for the service provider, the service level and the performance standards.

Non-domestic waste, including industrial waste, large scale commercial waste and construction waste, is not going to be included under the concessions. A number of service providers will be allowed to operate on this market in free competition. For such waste the scheme regulations becomes even more important, as they constitute the main tool for controlling not only the waste generator, but also the service provider. The scheme regulation will specify the waste sorting requirement, the requirements for vehicles and equipment, the destination of each waste type from each scheme area, and the reporting requirements.

3.3 Licensing

The scheme regulations are supplemented with a requirement for all service providers, whether collectors, storage and trading agents, recyclers, operators of waste transport, transfer, treatment or disposal facilities, to obtain a licence (Section 14). The licence requirement ensures that only entities considered fit and proper for the purpose may venture into the waste business. The requirements for obtaining licences are, however, generally restricted to the provision of the necessary facilities, equipment and systems. The licence will be followed by a set of conditions, including the types of waste to be handled, the generators and scheme areas from which the licensee may collect or receive waste, the type and quality of treatment, the final disposal site for the waste and the reporting requirements.

Any breach of licence conditions may lead to termination of the licence. It is expected that this power to terminate licences will imply a rapid increase in quality of the services provided by the waste management sector to ensure compliance with regulations. Discussions on the licensing have been initiated with the waste collector associations. There seems to be strong interest on both sides to "clean up" the sector, to allow for fair and equal competition among the collection companies.

The Act includes transitional provisions imposing on existing service providers to register with the Department within 6 months after coming into operation of the Act (§110). When registered, the service provider will remain legal until his case has been considered by the Government. The registration shall include documentation of legality prior to coming into operation of the Act. Especially for the grey zone of disposal sites ranging from "informal" to obvious illegal, this provision may have a huge environmental impact. A site that does not register after the 6 months grace period is clearly illegal after the Act, and efforts to close such environmental hazardous site will be greatly facilitated.
For collection of waste included under the concessions, the concessionaires as well as their subcontractors need to be licensed. The concessionaires are hereby prevented from employing contractors in which the government have no confidence. Correspondingly the concessionaire will have to terminate the contract with a subcontractor immediately, if the government withdraws the licence of the subcontractor.

It is the policy of the government to simplify the bureaucracy for environmental friendly activities, such as recycling. The requirement for licensing will therefore be abolished or simplified for a large number of Non Governmental Organisations (NGO), community associations, small recycling vendors etc. Due to the limited impact and the large number, very small SWM activities will further have to be omitted from the licensing requirement. The delineation of activities to be omitted or to adhere to simplified requirements is currently in the pipeline.

Especially for large scale treatment facilities such as sanitary landfills, the licence further requires the licensee to provide deposit for safe closure following completion of operation. The amount of deposit is specified in a regulation.

3.4 Approval of Facilities

As described, the licensing requirements also concerns SWM treatment facilities. However, for the treatment facilities, the Act includes an additional regulatory tool; approval of construction or alteration (§ 8). Licences are to be awarded to the operators of facilities. Operators are, however, not always the same persons as the developer or owner. The approval will be awarded to the developer or owner.

For certain types of treatment facilities, it has been considered expedient that the government can assess the feasibility of a facility before construction commences. For basic facilities such as landfills, incinerators etc., the capacity, location and types of treatment have to be assessed against the national SWM policy and planning. The approval procedure is therefore established to ensure that all such facilities are in agreement with the overall SWM policy and planning.

The Department is required to determine (prescribe) the types of facilities that require approval prior to construction or alteration. At the current juncture a draft regulation including the following types of facilities has been prepared:

- Biogas facility
- Communal or commercial composting facility
- Material recovery facility
- Refuse derived fuel facility
- Thermal treatment plant
- Transfer station
- Sanitary landfill
- Inert landfill
- Other disposal site

3.5 Compliance with Proper Waste Management
The above described sections of the Act deal with the overall planning of the SWM sector and the regulation and control of the service providers to ensure that the comprehensive policy is complied with. Another important component of the Act is the control of behaviour of the waste generators and other persons that at different times may have possession of solid waste. The behaviour and duties of the waste generators are regulated through the respective scheme regulations, whether households, industries, construction sites or other types of generators. The Act however further includes strong powers to ensure that the waste flows according to the rules and thereby to combat the rampant illegal dumping. A survey carried out for an area north of Kuala Lumpur in 2007 revealed that the amount of non-domestic waste disposed illegally in certain areas may exceed the amount of waste disposed legally\(^6\).

Section 71 of the Act emphasises the duty for all persons in possession of any solid waste to dispose of this waste only according to the provisions of the Act. If any waste accidentally or unintentionally is disposed of otherwise, the person is to inform the authorities immediately (§71.6). This requirement renders any such disposal which is not reported to the government as intentional, facilitating the burden of proof in subsequent situations of enforcement and prosecution. The provision is followed by a duty on the owner of any premises to take any reasonable measure to prevent unauthorised disposal on his land and immediately inform the authorities when such disposal is observed (§71.7). It is currently common that landowners allow disposal on their land against a small fee or token. The provision is included to facilitate prosecution towards such landowners. A landowner may not be aware that a load of waste has been disposed of on his land, and in such circumstances he would not be accused of having approved this. However if loads continue coming, and the landowner does not inform the authorities, and he does not fence or otherwise protect his land against such intrusion, he may now be considered guilty in court for illegal disposal.

The management and destiny of waste business is currently basically unknown. A survey carried out for industries in Melaka in 2007 revealed that the businesses generally have no idea of where their waste ends up\(^7\). It is known that waste collection is still offered by waste collectors for very low fees, often lower than the cost for disposal at legal dumpsites and landfills. It is obvious, that businesses accepting such offers are fully aware that the waste is not disposed of legally. The Act therefore also aims to strengthen the responsibility for the waste generators for any illegal disposal. The businesses may firstly be prosecuted for not using a collection company, licensed according to the Act for the purpose. But secondly they may now also face the costs for remediation of the illegal dumping site. The Government may now direct any of the following persons to remove any such waste (§76.1):

- The owner or occupier of the premises
- The person who disposed of the waste
- The waste generator


Alternatively the Government may remedy the site and forward the bill to any of the three parties as it may deem fit (§76.3).

3.6 New Instruments
The above described powers related to scheme regulations, licensing etc. enable the government to impose any type of sorting of waste for recycling or special treatment and to direct the flow of waste to facilities dedicated for such purpose. The Act further includes powers for the Minister to prescribe any type of solid waste to be recyclable solid waste or special solid waste, which at any time should be kept and managed separately (§§108.2.g-h).

The government is, however, aware that instruments other than traditional regulations are required to fully achieve the desired level of recycling and quality in waste management. The Act therefore includes a gamut of instruments to supplement the traditional regulatory tools, including powers to establish take-back and deposit-refund systems and powers to require manufacturers to use recycled materials, to restrict the use of certain materials, to reduce waste generation etc (§§101-102).

4. Privatisation
In addition to the described strengthening of the regulation of the whole SWM sector, it is still a main objective of the Act to enable the concessioning of household and similar solid waste on a national level as initiated in the mid 90’s. This requires that the Federal Government has the executive authority with respect to SWM in the country. The Act therefore states that the Federal Government shall have such executive authority upon coming to operation of the Act (§3). The Act, however, has provision to allow stepwise commencement as indicated by section 1.3. Therefore, taking into consideration the huge scope of federalisation, the government can, and may, put into operation a phased implementation, encompassing the different states under the federalisation at different times.

New concession agreements have been drafted taken into consideration the provisions of the draft interim concession agreements from the mid 90’s. It is expected that the negotiations will be finalised by the end of this year. The agreements will include collection of household and similar waste, but not collection of industrial or business waste, as discussed above. As for waste treatment and disposal, separate concession agreement or contract will be made.

The draft concession agreements have been prepared for continuous improvements and development in service level and performance. The agreements establish structures and procedures that allow for such continuous improvements and development and for determining the financial and other consequences. The agreements are divided into two parts. The generic provision of the agreements, which contain general items, will be in the main body of the Agreement while those specific provisions, which will be continuously amended to take into account of the latest developments in solid waste management, will be in the appendices. General requirements for the service provision and the corresponding overall principles for monitoring the performance will be in the main body, while the specific technical requirements and corresponding specific key performance indicators will be in the
appendix. Non-performance in relation to the indicators will lead to deduction in payment and eventually termination of agreement. However, the draft concession agreement is structured in a manner that makes it possible to terminate an agreement for the affected scheme areas individually in cases of serious non-compliance.

However, the agreement can only be signed by the Federal Government and the concessionaire once the Act comes into force.

5. Consequential Amendments of Existing Acts
With the passing of the Solid Waste and Public Cleansing Management Act 2007, the two existing Acts which provide legal authority to the LAs on solid waste management have to be amended. Hence, the Parliament at the same sitting approved the amendments of the relevant provisions in both, the Local Government Act 1976, and the Street, Drainage and Building Act 1974, deleting any reference on SWM. Such amendments are required to ensure smooth implementation of the new Act as well as to avoid any confusion at the implementation level. Other important legislation that is also amended is the Town and Country Planning Act, 1976 (TCPA). While both of the earlier legislation has the relevant sections deleted, the TCPA has new provision inserted. The inserted provision is to ensure that a local planning authority will take into consideration the provisions of the Solid Waste and Public Cleansing Management Act 2007 when dealing with an application for planning permission. This is a long term measure to ensure a coordinated approach to SWM is taken in consideration of, and in tandem with, the overall sustainable development planning for the country.

6. Conclusion
A great deal of effort has been put into establishing a proper state of the art solid waste management regulation and system for Malaysia in the last 2 years. And much has been achieved. Legislation has been prepared, institutions have been established and goals and objectives have been formulated. However, the Government is aware that the most difficult part, the implementation of the Act, still lies ahead. But with the high level of commitment observed and the fast increasing awareness on the environment, it is our sincere belief that with a focused and efficient effort by all stakeholders in Malaysia they will now face a bright future with regards to SWM.

References

Federal Constitution of Malaysia 1957


