A Study of Privatization in Malaysia

Volume I

A Report Submitted to
Japan International Cooperation Agency
(JICA)

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Abbreviations

5MP	Fifth Malaysia Plan
6MP	Sixth Malaysia Plan
BOT	Built-Operate-Transfer
CIMA	Cement Industries of Malaysia
DOE	Department of Environment
EIA	Environmental Impact Assessment
EPU	Economic Planning Unit
ESOP	Employee-share-ownership plan
FELDA	Federal Land and Development Authority
GDP	Gross Domestic Product
GOEs	Government owned enterprises/entities
HMOs	Health Medical Organizations
ICP	Inter-department Committee on Privatized
IJN	Institut Jantung Negara (National Heart Institute)
IPOs	Initial public offering
JICA	Japan International Cooperation Agency
KA	Kualiti Alam
KCT	Kelang Container Terminal
MAS	Malaysia Airline System
MBO	Management -buy-out
MICCI	Malaysia International Chamber of Commerce & Industry
MIDA	Malaysia Industrial Development Authority
MITI	Ministry of Trade & Industry
MPPJ	Majlis Perbandaran Petaling Jaya (Petaling Jaya Municipal Council)
NEP	National Economic Policy
PLUS	Projek Lebuhraya Utara Selantan
PWD	Public Water Department
RESP	Rural Environmental Sanitation Program
RM	Ringgit Malaysia
SIA	Singapore Airline System
TMB	Telekom Malaysia Berhad
TNB	Tenaga Nasional Berhad
TSD	Treatment, storage, disposal
UEM	United Engineering Malaysia
UNDP	United Nation Development Program
UNEP	United Nation Environmental Program
WMI	Waste Management Inc.

Chapter 1 A Study Of Privatization In Malaysia: Introduction

1. Introduction

Malaysia is a middle income country. Its per capita GDP was estimated to be RM10,000 in 1995 or about US$4,000 (Economic Report 1995/96: 7). Over the past 8 years, Malaysia's economic growth exceeded 8 per cent per annum; for 1994, Malaysia's GDP was expected to grow at about 9.6 per cent. On the basis of such indicators, Malaysia would be classified as a very successful developing country. Indeed, in 1991, the government announced the policy known as Vision 2020 The most visible desire of that policy is that Malaysia aims to be a developed country by the year 2020.

Adopting radically different policies in the 1980s, the government has gone from very heavy regulation of the economy to one in which the private sector has been singled out as the main engine of growth. In that framework, the privatization policy has taken on a very significant role in the development of Malaysia, especially in the past 8 years, with a booming economy.

What then is so special about the privatization that is taking place in Malaysia? Has it been successful? And if so, in what ways. What were the problems associated with the privatization effort. Is the so-called privatization success peculiar only to Malaysia, i.e. the institutional, economic, social and political context. Can one learn something useful out of this experience?

These are some of the questions that this report would seek to address. To obtain a better understanding of this experience, JICA Malaysia has asked for the study to focus areas that have environmental implications. In that regard, five sectors were identified, viz

- hospital services
- toxic waste
- solid wastes
- water supply
- sewerage

PE Research also understands that more and more environmental areas would be coming up for privatization considerations. For instance, there is the air surveillance of the Melaka Straits for oil tankers and special ships to desludge their wastes. The air quality monitoring of the country is being considered for privatization. Indeed, even in areas such as environmental enforcement, there has been some thoughts on its viability. While there are merits to the privatization of certain services and infrastructures, there are certain basics with respect to privatization. It is not a panacea for development nor a cure for all ills in the country. A closer understanding of its benefits, costs, and more importantly its limits will help in formulating better policies for development.

1.1 Objectives and scope of work of the study

The overall objective of this study is to provide an understanding of the privatization experience in Malaysia. What is privatization in the Malaysian context? Here, a description of the policies, concepts and implementation mechanisms will be provided in the following chapters.

Another important objective of the study is to examine in detail the privatization experience of several sectors. Here, we will provide a closer description of the five sectors, viz. water supply, sewerage, solid wastes, toxic wastes and the hospital/ medical sector. To better appreciate the privatization experience, it is important to have a good understanding of the individual sectors. Each sector has its own characteristics and issues, and privatization takes place in a very specific context. Hence, the institutional arrangements are all important aspects of the study.

These sectors are basically unique in the sense that these public utilities have critical impacts on the environment and social welfare. Given the resources available, it is proposed that the main thrust of the research work be focused on secondary sources of information. Background materials for the industrial sectors will be reviewed and studied so as to provide a perspective for examining the privatization experience and process.

Discussion with relevant government departments and private sector firms and beneficiaries were undertaken.

Here it is important to indicate that this evaluation is reported in two volumes. The first volume will report on the concept, policy and implementation of the privatization exercises. A discussion of the environmental sectors is also undertaken, and the privatization effort is situated in that context. This report takes up the discussion of this volume, and will provide a clear understanding of the overall privatization experience that has taken place in Malaysia. The approach is to understand the privatization at the national and industry level.

The second volume is a report on the privatization case studies in each of the sectors. In that volume, we will go into depth with regards to the firm level.

1.2 Methodology Adopted

A literature review was carried out at the start of the study. This work yielded a number of evaluations that have been conducted on the privatization experience in Malaysia. More discussion of the results of those evaluations is available in the next section.

Interviews were arranged with key respondents to obtain sectoral information, with regards to the industrial sector, as well as the privatization that were undertaken in those sectors.

From the interviews, we were able to obtain annual reports, papers from conferences, and other documents which enabled us to focus on the issues at hand.

The government documents were also consulted. The various Malaysia plans, documents published by the EPU privatization taskforce, newspaper articles, features, and Environmental Impact Assessment reports provided useful information for the study.

Finally, the study team worked out a format for analyzing the privatization experience, especially for the second volume.

It is our view that the privatization experience is at a very early stage. Hence, a comprehensive review may or may not give the best results. A typical case where a review is only meaningful after a certain period has lapsed is national sewerage privatization. In this BOT, results of the privatization effort will be better after the privatized agency has had time to implement the project. On the other hand, for an institution such as the National Heart Institute the results can be fairly immediate, and an early assessment can point some useful lessons. Hence, at best, this evaluation can only yield mixed results. Where the review is better carried out at a later stage, we will still highlight the key issues involved, and leave the assessment of those indicators to other studies.

1.3 Literature Review

The World Bank, the United Nations, the Malaysian government, and a collective effort led by a local university professor have reviewed the privatization experience in Malaysia. This section will provide a summary of the main findings of these evaluations.

(a) The Government's findings[1]

The Malaysian government published a short box story on the privatization experience in the 1993/94 Economic Report. The main theme of this article is to highlight the benefits of privatization for Malaysia since its launch 10 years earlier. The government has managed to obtain proceeds from the sale of equity in government agencies and institutions. In that period, the government earned a total of RM2 billion. Other objectives that were achieved include increased efficiency, e.g. in the case of Kelang Container Terminal (KCT), and the national airlines, Malaysian Airline System. The government also reported that its civil service staff has been reduced by 50,000 to 60,000. Additionally, the report claimed that the economy has been stimulated by the privatization effort, and national economic and social engineering objectives have been fulfilled.

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[1] Abstracted largely from the Ministry of Finance, Economic Report 1993/94, Kuala Lumpur

(b) The World Bank's findings[2]

This report was actually based on several case studies initiated by the World Bank in 1991-2. These studies were focused more at the firm level. The case studies are Malaysian Airline System (MAS), Kelang Container Terminal (KCT), and Sports Toto. The main findings indicate that the Malaysian privatization are likely to be partial equity sales rather than complete sale. The government still holds shares in the privatized firms, and even though they hold only one share, the rights of that "golden" share entitle the government to veto any major decision of the firm. At the same time, there are other social and national development objectives such as the redistribution of economic power to the bumiputeras (Jones, 1994).

In all three cases, privatization has made overall gains, but these gains have been rather uneven to different stakeholders. For instance, in the KCT, the main gain has been reaped by the government. The government sold 51% of the equity in KCT to a consortium of firms, principally controlled still by Malaysian interests for RM56 million. The World Bank study concluded that the government (including the KCT) was the principal beneficiary of this privatization effort. The total gains was of the order of about 50% of sales.

The story is different for MAS. In that privatization, the main gainers were foreign competition. The MAS management and the staffing did not change after the equity sale and public offer. The government sold 20% of the equity and earned RM350 million from that. However, the joint flight arrangements with Singapore International Airlines (SIA) is expected to favor the latter since they are more efficiently run, and would be able to reap greater benefits in any approved route sharing. Total gains for MAS was about 15-20% of previous years' sales.

For Sports Toto, the overall gains were slightly more modest, at only about 10%. Competitors lost considerably in the privatization while the gainers were both government as well as Toto's clients. The government sold 70% of the equity and earned RM30 million from this divestitute. As such, there was much more competition in this sector which had been controlled by state agencies.

The overall assessment of the World Bank is that there have been gains in productivity, where there has been a change in the management; in MAS where there was no management change, the productivity indicators did not show up. However, on the question of efficiency, there is much less information. Indeed, the main issue in the privatization appeared to be the concern of transferring shares, at below market prices, to bumiputeras. Hence, if the management is improved and the ownership is principally changed to bumiputeras, then this is a formula for successful Malaysian privatization.

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[2] Abstracted largely from Ahmad Galal and Mary Shirley (1994, eds) Does Privatization Deliver? Highlights from a World Bank Conference, Washington, EDI Development Studies, and "The Malaysian Country Overview", a case study report to the Conference

(c) The UNDP's findings[3]

The UNDP conducted an assessment of the privatization experience in four different sectors and companies in Malaysia in 1994-95: Cement Industries of Malaysia (CIMA), Projek Lebuhraya Utara Selatan (PLUS), Telekom Malaysia Berhad (TMB), and Tenaga Nasional Berhad (TNB).

Their overall conclusion appears to be that the privatization experience has been favorable for these four sectors, with the point that professional management has been critical in making that successful privatization possible.

CIMA was a case of reverse privatization, as it was first a private company, which was then bought into by a state government, and then subsequently privatized. After selling to stake to a bumiputera firm which was owned by UMNO, its market credibility improved, and the firm was able to record better market performance.

As for PLUS, its management was able to deliver the project 15 months ahead of schedule, principally a result of their assessment of the improved economy translating into demand for road transport. Their foresight, and commencement of work during a recession helped to generate economic growths in the construction industry. The completion of the North-South Highway changed the competition of the transport sector in Peninsular Malaysia.

Telecommunications has been liberalized in Malaysia since the beginning of the 1990s, with the licensing of firms to provide services in this highly regulated sector. It was fortunate that though TMB had a large enough stake to fend off the competition, and to be able to make productivity and efficiency gains in the process. Although the government still owns 75% of the stock, its management has been the exception, and that has made a difference in this privatization experience.

The privatization of the power sector has taken a toll on TNB. With a rise in the competition, TNB has had to buy power from the national grid, same as the other IPPs. But energy sales are based on efficiency, and TNB, having the oldest power equipments in the country, ends up having to come in last. Besides this, TNB has also fallen from its pedestal when the country plunged into a series of power crisis in 1991 and 1992, just before the major privatization were announced. The IPPs are now expected to eat into TNB's profits as the power agreements are loaded in terms of efficiency rather than capacity or age.

In all the sectors studied, the nature of competition has remained very limited. Government regulation has been tight, despite the privatization, and this runs counter to the privatization

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[3] Extracted from UNDP EPU (1995). "A Study on Privatization in Malaysia Impact on Competition, Productivity and Efficiency" by Anthony Bennett, Chang Yii Tan and Pun Kai Loon, 15 February 1995

policy of "promoting competition". A counter example was to be found in the case of telecommunications, where many opined that there has actually been over-liberalization; too many operators have been licensed in a domestic market that is too small for them to operate. As such, many expect a shakeout of the licensed players in this sector.

(d) "Privatizing Malaysia. Rents, Rhetoric, Realities"[4]

This book contains edited articles examining the entire privatization experience in Malaysia. The articles range from examining the background of privatization, to the historical origins of government owned enterprises (GOEs), to policy perspectives, case studies, as well as examining issues in the developmental process, such as efficiency and consumer welfare, employee welfare. Three case studies were examined: infrastructure, telecommunications and television programming.

Unlike the other reports, this book takes exception to the reported though qualified success of Malaysia's privatization experience. Situating Malaysia's privatization as part of a world wide movement towards privatization, starting with the Thatcher government's efforts in the late 1970s. It argues that the privatization is part of the "changed ideological climate of the eighties" favoring the private sector over the public to deliver on development promises.

The interesting parts of the book deal with the historical background of Malaysia, and the manner in which the state agencies have taken control of the development agenda. This was partly to do with the colonial history, the response of the political leaders to an export based commodity economy, and the racially charged environment in the 1970s and 1980s. These background information provide the reader with insights into the complex politico-economic environment in Malaysia.

A variety of hypotheses emerged with the different chapters in the book. However, one of the main themes is the myriad well connected management of the privatized firms with the main political groupings. One of the main arguments in the book is the undervaluation of firms' value in the privatization exercise. Thus "friendly" companies buy state owned entities for cheap in a one-off deal, and in the instances quoted, these are often on a "first come first served" basis, rather than competitively bidded. The claim in the book is that competition is a key component that determines efficiency. However, in the many cases examined, an increase in competition had not taken place. For the cases there has been a rise in productivity, this has been questioned, and the manner in which this "gain" has been generalized, i.e. in the cases selected for study. Nonetheless, the efficiency argument is also challenged, as the authors feel that it was associated more with management change and labor motivation rather than to a change in the firm's equity. The authors dispute these gains as superficial.

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[4] Summarised from Jomo K.S (1995, ed) Privatizing Malaysia: Rents, Rhetoric and Realities, Boulder Westview Press

In any case, the problem with the equity change is principally due to the partial divestiture Here, the authors argue that the privatization has not liberalized on the monopoly status especially in certain cases. The partial divestiture is something closer to the Japanese model, e.g. the telecommunications sector, tobacco industry, and Japan National Railway (Jomo, 1995: 51). This is quite unlike the British experience, which has tended to be full divestitures, rather than partial ones.

Having provided some insights of the criticisms made in the book regarding privatization in Malaysia, it is important to bear in mind that the book does contain many relevant arguments, and tries to evaluate the claims of privatization. The basis for making some of the arguments are rather weak, with many of the authors appearing to rely on secondary materials. Nonetheless, it does not mean that their arguments are any weaker. As the government is in possession of the data, it could address the main issues by publishing a reply to these allegations with facts and figures. The government, in responding to these points, would have cleared doubts from its doubtors.

Apart from these four major works, there has been a plethora of papers and articles in the press about privatization. And people have worked on a number of cases, as wide as to range from railway and port to television programming, telecommunications, etc.

However, to date, there has been no evaluation of the sectors that are associated with the environment. In that regard, this study will make a definite contribution to an assessment of privatization in Malaysia, a rapidly growing country.

1.4 Schedule of Work and Tasks

This study was started in November 1994 and was completed by March 1995. Volume 1 of the report will contain the nature of the privatization, especially where they deal with the policy, concept and implementation. The following are chapters in the remaining sections of this report. Chapter 2 is a discussion of the main themes of privatization mechanisms in Malaysia. Chapter 3 is a discussion of hospital and medical services. Toxic wastes is the discussion in the following chapter, while in Chapter 5, the issue discussed is solid wastes, with water following and then sewerage taking up the contents of Chapter 7.

The format for the different sectors in this volume is roughly as follows. It begins with a background and pre-privatization scenario. Next, it discusses the approach and mode of privatization and then this is followed by a discussion of the main issues. An assessment of the costs and benefits of the privatization is then made, and then an examination of the future prospects of this occurring, as well as potential investment possibilities.

Interviewing the respondents has proved to be a difficult task, and this is especially difficult for government agencies. The reception to this study has been rather mixed. In about half of the cases, we were unable to fix interviews with the heads of departments. But for the other half, many key respondents have taken the effort to help the study team understand the issues, concepts and manner of implementation better than was expected. We are grateful to the various key respondents. A list of the key persons providing information for this study can be found in Appendix 1.

An executive summary of this report is contained in Chapter 8.

Chapter 2 The Concept of Privatization in Malaysia

2.1 Introduction

The Malaysian privatization policy was announced by Dr Mahathir Mohamed, Malaysia's prime minister, in March 1983. It was influenced and encouraged by the privatization efforts taking place particularly in the United Kingdom (Adam & Cavendish, 1995). Indeed, Euromoney, the business magazine claimed that "outside the UK, Malaysia's program of selling off huge chunks of the public estate is probably the most extensive of its kind in the world" (quoted in Adam & Cavendish, 1995 "Early Privatization")

Malaysia's privatization policy marks a new approach to development and was intended to complement other national economic policies. The Malaysian Incorporated Policy was one such policy which was concomitantly promulgated to increase the role of the private sector in the Malaysian economy. This development occurred at a time when there was increasing dissatisfaction over the performance of the public enterprises. In that policy framework, the private sector would take on a greater role in Malaysia's development, and become its engine of growth. This emphasis was further strengthened as the Malaysian economy recovered from the impact of the mid-1980s recession. With a corporate businessman as Finance Minister, the role of the private sector was further enhanced since the mid-1980s.

This approach is based on the belief of the superiority of market forces over administrative fiat in achieving economic efficiency. Privatization essentially entails the liberalization of the economy i.e. allowing the entry of the private sector into areas where the state had carved out its own market niche[1]. It is therefore a strategy which involves the rolling back of government involvement with the aim of encouraging greater freedom, competition, efficiency and productivity.

The privatization program hopes to arrive at the optimum public-private mix in the economy, that would enable the government to fully concentrate on its role as a facilitator and regulator of economic activities rather than the provider of goods and services.

2.2 The Concept

The centerpiece of Malaysia's privatization is the Economic Planning Unit's `Guidelines on Privatization' published in 1985, which details the objectives, identifies the sectors for privatization, and outlines the administrative structures to be employed.

In the Malaysian context, privatization is defined by the government as 'the transfer to the private sector of activities and functions which have traditionally rested with the public sector'.

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[1] For a more detailed discussion of the involvement of the public enterprises in the economy, see Adam & Cavendish, 1995 "Background"

This definition includes enterprises owned by the government and to new projects normally implemented by the public sector.

Privatization involves the transfer of a public enterprise through sale of 100% or less of its assets or shares (equities) to private shareholders as well as the transfer of a departmental entity or statutory body. Each method will involve three organizational-related aspects. They are: i) Management responsibility; ii) Assets (with or without liabilities) or the rights to use assets; and iii) Personnel. Privatization encompass those methods which involves the transfer of at least components (ii) and (iii) and those methods which involve 'the transfer of management responsibilities only if they have an impact on the economy'. Contracting-in of private sector management expertise may or may not involve transfer of personnel. Minor-contracting-out of services by municipalities and other government departments are excluded from this definition.

2.3 The Rationale

Privatization in Malaysia is formulated to achieve five specific objectives such as:

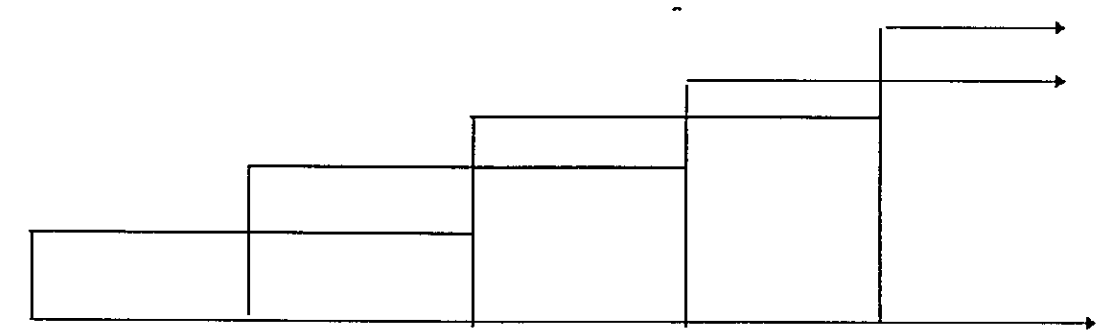
i) relieve the financial and administrative burden of the government.
ii) reduce the size and presence of the public sector.
iii) raise efficiency and productivity and promoting competition.
iv) accelerate growth
v) meet national economic policy targets i.e. reducing poverty, greater distribution of wealth to Bumiputras, etc.

2.4 Future direction

A number of potential projects and services that are privatizable have been identified. The EPU has a rolling plan (Figure 2.1) which has a two year mechanism. In the first year, projects are identified and privatization may proceed; the second year involves the review of the privatization effort. This cycle runs every two years, and by the third year, they are both reviewing the privatization effort as well as identifying new projects to be identified (see Section 2.5.2).

The Works Ministry is apparently dissatisfied with the privatization exercise of the water supply services and wanted a more comprehensive privatization to encompass other aspects (BT; Jomo)

Figure 2.1 Rolling Privatization Action Plan



End 1990	End 1991	End 1992	End 1993	End 1994
Prepare action Plan for 1991 and 1992	Review Implementation in 1991 and prepare Plan for 1992-1993	Review Implementation in 1992 and prepare Plan for 1993-1994	Review Implementation in 1993 and prepare Plan for 1994-1995	Review Implementation in 1994 and prepare Plan for 1995-1996

Source PMP, 1991 34

2.5 Privatization policy and plan

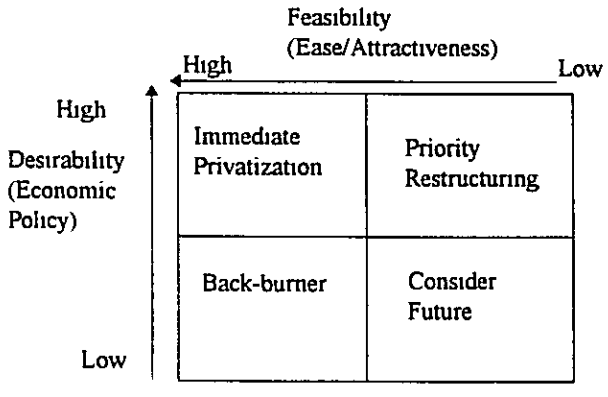
2.5.1 Privatization Masterplan (PMP)

The privatization policy is implemented within the broader national policy framework, supported by other complementary policies such as employment, capital market and fiscal policies (Privatization Master Plan or PMP 1991). The aim is to phase out government involvement as much as possible and to allow the greatest amount of freedom in the market for the private sector while confining the government's activities in the economy to the minimal and intervening only to achieve certain national objectives. Where competition is not viable, regulation will be introduced to ensure that consumer interests are protected in terms of price, quality and availability of services (PMP). Regulations will be constantly reviewed with a view to liberalizing them. However, intervention in the commercial decision will be avoided as this goes against the main objective of privatization. Regulation will hence be restricted to the control of price increases and aspects of service quality only.

In the first few years privatization policy proceeded on an-ad-hoc basis. Aware of this problem, the government in 1995 commissioned a study which produced the 'Privatization Masterplan' (PMP) for Malaysia. The study reviewed a wide range of government-owned enterprises (GOEs) which cut across functions of all levels of government i.e. Federal, State, local authorities as well as Government companies, to determine both their feasibility and desirability for privatization. As a result, 246 public enterprises were identified as privatizable.

Selection of government entities to be privatized is determined by feasibility and desirability considerations such as the economic viability, legal and regulatory amendments required and the priority the government attaches to a particular sector for change and the potential of the private sector in providing greater efficiency in delivering goods and services over the public sector. Figure 2.2 summarizes the feasibility and desirability considerations for the government privatization

Figure 2.2 Privatization Grid



Source PMP 1991 37

The PMP is essentially to put forward a coherent and integrated program covering the entire spectrum of the GOE sector. (Adam & Cavendish, 1995)

The main advisory body reporting directly to the Cabinet is the Privatization (Main) Committee under the chairmanship of the Director-general of the EPU and consisting of the Secretary-General of the main ministries (Finance, Energy, Communications and the Implementation and Co-ordination Unit). The executive body is the Privatization Secretariat established within the EPU. This Secretariat, now called the Privatization Taskforce, has only about 12 officers at the beginning of 1995. However, in view of the policy's increasing importance, staffing at the officer level has more than doubled. As at September 1995, there are 27 officers working in the Privatization Taskforce.

However, operationally, the Taskforce depends on the support of other technical departments to provide insights into issues, technical matters, administrative and legal constraints and even opportunities. In the evaluation process of any privatization, the relevant government agencies are coopted into the technical review committee. On the financial side, the Ministry of Finance has a very important voice in the assessment. However, the final assessment lies almost wholly with the EPU, as they take the final proposals to the Cabinet.

Occasionally, the EPU relies on merchant banks and other financial and management advisors, especially in the larger privatization projects. Here their experience will help to reduce learning costs, and enable the government to have a broader spectrum of advice and opinions.

2.5.2 Privatization Action Plan (PAP)

The PAP represents a 'more systematic and organized manner of policy implementation and is in consonance with the macro-economic policies and development strategy' (PMP, 1991). The PAP is guided by a Privatization Master Plan study, which was conducted in the early 1980s.

The PAP consist of a two-year rolling plan which is reviewed at the end of each year, detailing the entities to be privatized and those to be prepared for privatization based on a set of criteria. The annual review will take stock of the progress being made so as to determine the entities to be privatized in the next two years. The size of the program also takes into account the absorptive capacity of domestic capital market. This is to ensure that demand for capital to finance privatization will not crowd out demand for capital to finance other purposes.

Potential privatization entities are included each year of the rolling PAP if they are deemed to have potential to generate changes and benefits to the economy. These candidates can either be existing government entities or they can be new projects, initiated by the private sector, e.g. infrastructural type, where their privatization can bring about desired economic benefits.

2.5.3 Project Selection Criteria

Of the total of 424 projects reviewed by the consultants of the PMP Study, only 246 entities were found to be privatizable. However, not all the entities will eventually be privatized. A continuous review of its entities is being undertaken to include even those that were not covered by the PMP Study.

The entities selected from the review exercises will be added into the rolling PAP after detailed privatization studies have been conducted on each of them. These projects which have been identified by the government will be considered as government-initiated privatization projects and thus subjected to competitive biddings. Proposals submitted by the private sector on its own will be considered but they must contain unique features.

The feasibility and desirability of the GOEs for privatization are determined by a number of factors. The feasibility criterion is based on factors such as the ease of privatization, that is the necessary restructuring i.e. legal and regulatory changes required before an entity can be privatized as well as considerations such as economic viability and growth potential of the candidate.

The desirability factor is determined via the priority attached by the government to a particular sector for economic development and changes and the possibility of greater efficiency by the private sector in provision of goods and services over the public sector. Other considerations also enter into the decision making, and the list of objectives outlined in Section 2.3 are the most relevant.

GOE candidates for privatization are divided into 4 categories based on the above criteria:

i) Immediate privatization
Candidates in this category are ranked high on the feasibility and desirability criteria and are the primary focus of privatization.

ii) Priority restructuring
Candidates are high on the government priority list but not so for the private sector or difficult to privatize whereby some form of restructuring is needed.

iii) Back-burner
Privatization is feasible but benefits are less evident compared to candidates in categories (i) and (ii) and thus privatization will be put on hold.

iv) Consider future
This category contains candidates which are ranked low in terms of feasibility and desirability and therefore privatization will take place after the other candidates have been privatized.

2.5.4 Participating Corporate criteria

Privatization proposals submitted by the private sector are determined by its privatizability and uniqueness. They are considered on a 'first-come-first-served' basis and will be rewarded based on 'their innovativeness and ingenuity' and encouragement of entrepreneurship.

The general guidelines to determine the uniqueness of a project as outlined in the *Privatization Masterplan* are:

i) the proposal contains a unique solution to an economic problem and offers a cost-effective method of solving the problem or offers to generate potential savings for the government (perhaps the case of Indah Water's multi-point sewerage system proposal is one such example);

ii) the private sector party may be in a unique position to effect a successful privatization in view of its possession of certain patent rights or technical know-how which becomes an essential feature in a privatization proposal (perhaps the case of Kualiti Alam's toxic and hazardous wastes is a good example); and

iii) the privatization candidate would not be viable if privatized on its own and its viability is dependent on being linked to another component of which a private sector party is already in possession. In such a case, the privatization of the project would be granted to the private party who is in possession of the main component.

However, if the proposal does not meet the above guidelines, it will be subjected to competitive bidding in which the project will be awarded by the government to the best bidder.

2.6 Methods of Privatization

Central to the notion of privatization is the transfer to the private sector of activities and functions generally under the responsibility of the government. There are various forms by which privatization can take place. The methods being adopted in Malaysia are:

i) Sale of assets or equity

Sale of equity applies to government companies and result in transfer of all three organization-related components as i.e. management responsibility; assets (with or without liabilities) or the rights to use assets; and personnel. The sale can be either complete (a total transfer of government equity in a company) or partial sale (transfer of less than 100% of equity). Most of the sales registered have been on a partial basis, although for *Syarikat Gula Padang Terap Sdn Bhd* (Padang Terap Sugar factory) and *Cawangan Percetakan Keselamatan* (Security Printing Branch)...

Where the sale of assets is concerned, it may or may not involve all 3 organization-related aspects and apply to assets of any government organization/company or entity.

ii) Lease of assets

This involves the transfer of rights to use assets for a specified period in return for a fixed payment. The privatization of the national abattoirs is one such leasing arrangement currently undertaken.

iii) Management Contract

This method involves the transfer of management responsibility to the private sector for a fee and may or may not include transfer of personnel. The Semenyih Dam was given out on a management contract in 1987.

iv) 'Built-Operate-Transfer' (BOT) and 'Built-Operate' (BO)

These forms of privatization apply to new projects whose development originally comes under the domain of the public sector. Examples include infrastructure and utility sectors such as roads and water supply projects, such as in PLUS for the North-South Highway, and IPCO Sdn Bhd in the case of the Labuan Water Supply project. At the State level, the typical example is Puncak Niaga Sdn Bhd/Taliworks taking over 27 water treatment plants in Selangor.

In cases where the BOT method is adopted, the private sector constructs a facility using its own funds, thus saving the government on investment expenditure, and operate it for a given time span (or concession period) and transfer to the government at the end of the period concerned. During this period, the company which hold the concession, collect revenue directly or indirectly, usually through a government institution.

Both methods are usually accompanied by the grant of a license and/or a concession. While the form employed will depend on a case-by-case basis, the fundamental aim is that it should involve maximum participation of the private sector.

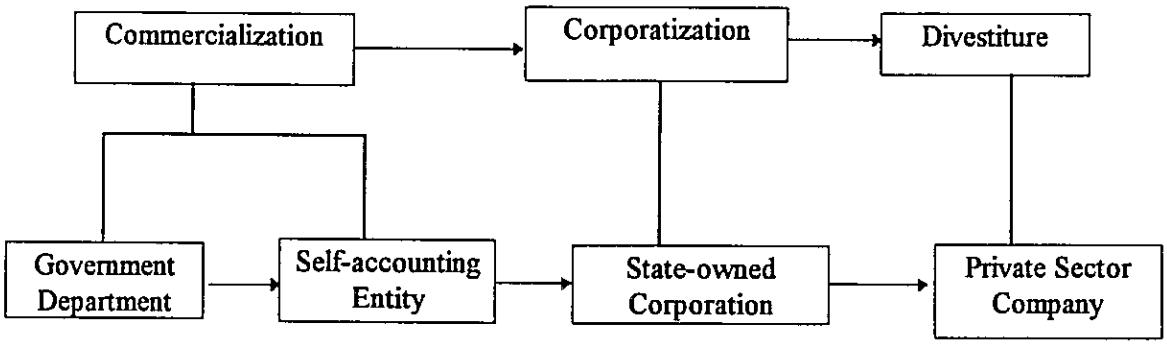
2.7 Privatization Process

The process by which a GOE is privatized are divided into three stages as described in the PMP (see Figure 2.3):

i) The first stage that an entity go through is the commercialization stage whereby user charges are introduced, followed by commercial accounting and commercial performance objectives. The principal aim here is to make the entity responsible for their revenues and costs. The user charge principle is to get rid of any subsidy element within the operations of the corporatized entity.

ii) The second stage is the corporatization stage in which the necessary changes in the laws are made to facilitate the change in status of the entity as a government body to a company. This is a consequent step, and is necessary if the government wants to dispose and sell off the shares to private parties or to the public.

Figure 2.3 Privatization of Government Department/ Statutory Body



Source PMP, 1991: 43

It is also at this stage that Government assets and liabilities are transferred from the Government entity to a company still owned by the Government but is operated on a commercial basis. Other changes are also made to enhance productivity and efficiency of the company which include the revamping of management, financial, operation and accounting systems and in the area of decision-making.

iii) At the final stage of the process which is divestiture stage, the entire ownership of the corporation is transferred from the public sector to the private sector by either one or a combination of the following methods: a) public sale; b) private sale; c) management buy-out (MBO)/employee share-ownership plan (ESOP).

A public sale is one where the shares are sold to the public at large. So far, the main way has been to float the shares on the Kuala Lumpur Stock Exchange. The floatation of Kelang Container Terminal (KCT), Syarikat Telekom Malaysia and Tenaga Berhad are good examples. A private sale is usually a negotiated deal with one or several institutions or individuals. The widely publicized sale of a portion of the national airlines shares to Tajuddin Ramli of TRI Bhd is a good example, another is the sale of a substantial stake in Proton to Mega Corporation which is owned by Datuk Yahya Ahmad. Management buyouts have also been undertaken in the case of Kumpulan FIMA Bhd by Basir Ismail, Mohamed Noor Ismail and Mohd Fauzy Abdullah, and Peremba Bhd by Mohammad Razali, Abu Bakar Noor and Hassan Chik Abas.

2.8 Administrative Systems and Structures

2.8.1 The Administrative Machinery

The main advisory body for privatization is the Inter-departmental Committee on Privatization (ICP) which is the highest decision-making body at the official level regarding privatization and it comes under the chairmanship of the Director-general of the Economic Planning Unit (EPU), which is responsible for the overall planning, monitoring and evaluation on the progress of the privatization policy. It consist of the Secretary-General of the key ministries (Finance, Energy, Communications) and agencies such as the EPU, the Implementation Co-ordination Unit, the Treasury, and the Attorney-General's office.

2.8.2 Administrative System and Structure

The privatization of a government-owned enterprise (GOE) - both Federal and state-controlled - could either be initiated by the government or the private sector.

In the case of a government-initiated privatization candidate, it is generally offered to the general public (via IPOs or initial public offering) or to 'specific target groups' through a closed bidding system/tender (p.49) and subject to competitive bidding.

At the same time the private sector is also encouraged to submit their own proposals for privatization, and if they fit the criteria outlined in Section 2.5.4, then the government may negotiate with the privatized party on the proposals.

2.8.3 Government-initiated privatization

Privatization of federal GOEs is administered by the EPU. This central implementing body of the country's privatization policy constantly and continuously reviews all government agencies and activities. It then identifies privatizable candidates which will then be included in a program whereby in-depth study are conducted. Based on these studies, a two-year rolling action plan (in which candidates will be categorized according to the criteria in section 2.5.3) will be drawn up. This plan will then be deliberated by the Inter-departmental Committee on Privatization (ICP) - the highest decision-making body at the official level regarding privatization - who will then put forward its recommendations to the Cabinet.

The responsible Ministries will then extend invitations to the private sector to submit their bids which will then be evaluated. The EPU takes over the evaluation of the bids, taking through the assessment by the technical and financial committees, and then tables the decision to the authorities. They will write out the award to the successful bidder by the appropriate Ministry.

At the state level, similar procedures is adopted except that private sector-initiated proposals are submitted to the respective State secretariats. The bids are still evaluated for the technical and financial terms, and then after due consideration, recommendations are put before the respective State governments.

2.8.4 Private sector-initiated privatization

Proposals submitted by the private sector for privatization are to be submitted to the EPU which will evaluate the proposals on a 'first-come-first-serve' basis and must meet the guidelines of privatization and uniqueness. If the proposal is successful, a letter of exclusivity will be given to the private sector party concerned to conduct a feasibility study and submit a complete proposal to the EPU. If the proposal is found acceptable, the government will negotiate with the private sector party concerned and an award is given if an agreement is reached. A typical case is the toxic waste privatization, which will be discussed in this report.

If the negotiations fail, the project will be opened for competitive bidding. However, arrangement will be made in order that the original private-sector party be compensated accordingly for the cost incurred in conducting the feasibility study for the successful bidder.

2.8.5 Review Mechanism

The PAP is reviewed at the end of each year of the two-year rolling plan. During the review, an assessment is made on the progress of the privatized entities to date upon which a detailed plan is drawn up indicating the entities to be privatized and those to be prepared for privatization in the next two years. However, we have no understanding of this process. However, it is assumed that the evaluation will be based on the terms of the privatization, especially whether the privatized body has compiled with the terms of the award, and achieved the government's privatization objectives.

2.9 Post-privatization role of the Government

The Government will mainly take on the role as a supervisor in the privatization process (BT 25/7/95) and will limit its intervention in the economy when consumer interests are at stake i.e. in controlling price and quality of services while at the same time allow the privatized monopolies of the commercial freedom to improve efficiency and productivity, the two hallmarks of the privatization policy.

Chapter 3 Health/Medical Services

3.1 History and Background to Privatization

In Malaysia, health and medical services have traditionally been provided by the government via the Ministry of Health. A system of hospitals and health centers were established, serving both urban and rural areas. The Malaysian government typically allocates slightly more than 4 per cent of its annual national budget to health care.

With a population that is increasing at about 2.5 per cent annually for the past 25 years, the strain on the Ministry of Health in terms of budgetary allocations is probably very great. Along with this is also the perennial problem of staff shortages. As such, the Health Ministry has examined ways of providing health and medical services to the public.

Other developments taking place appear to be the increasing involvement of the private sector in health care services. There has always been a system of private medical clinics and hospitals complementing the government's health and medical services program. And doctors in the private sector have normally outnumbered those in the government service. Since 1971, the government regularized the private hospitals through the Private Hospitals Act.

Even with this development, the government's hospitals have typically had to handle diverse functions besides just providing health care, such as laundry, catering, grounds maintenance, dentistry, pharmacy, medicine distribution, equipment maintenance, etc.

For some time already, the government had contracted out some of these services, such as laundry and catering. With the 1985 privatization push by the federal government, the Ministry also examined whether they could privatize other segments of the hospital and medical (i.e. both clinical and non-clinical) services in keeping with government policy.

Areas of privatization which the government has considered include:

* Petaling Jaya Medical Store (Makmal Ubat dan Stor Petaling Jaya), a federal institution supplying medicines and supplies to hospitals and clinics.
* Hospital support services, which includes management of medical waste, maintenance of building and medical equipment, laundry, biomedical cleaning (which includes disinfecting wards and operation theaters), and cleaning of the hospital premises as well as landscaping.
* corporatization of the National Heart Institute (Institut Jantung Negara)
* privatization and relocation of Kuala Lumpur Hospital
* developing the Permai Hospital Site in Tampoi, and building a new hospital in Kulai, Johor
* the Institute of Medical Research (IMR) and specialist hospitals, e.g. Hospital Bahagia
* Lady Templer Hospital, a specialist tuberculosis hospital

* haemodialysis division
* corporatization of five main hospitals

The early experience of privatization in the Ministry of Health centered around the contracting out of various services such as laundry cleaning for hospitals. This was essentially the common practice until 1985 when the federal government issued the official guidelines for privatization[1].

The next few subsections discuss the privatization experience of the Ministry of Health.

3.2 Privatization Experiences

3.2.1 Lady Templer Hospital

An early attempt at privatization involved the Lady Templer Hospital in Kuala Lumpur in 1985, when the government handed over management to Rampai Muda Development Sdn Bhd. However, even this company could not put the hospital's operations in the black.

Lady Templer Hospital, a specialist private hospital for tuberculosis, was built in 1952. For this privatization, it was created via an Act of Parliament, and thus falls outside the Ministry of Health's administration. It is governed by a board of directors. The government (Ministry of Health) subsidizes its operations by providing grants; over the years, the size of such grants have been increasing yearly. The final amount received prior to its privatization was RM2 million/ year.

The government's decision to privatize the hospital was to put an end to government subsidies. But it was also suggested that those who operated the hospital may have other reasons for doing so, namely to convert the land upon which the hospital is located for commercial purposes.

The issue is however not a simple one, since the hospital's land does not belong to the government. Nonetheless, after the hospital was privatized, it encountered various problems, i.e. failure to pay the salary to its staff, leasing out of equipment without permission, which led to legal action being taken against it, etc. Problems became so bad that staff were laid off, and the Ministry of Health had to come in to reemploy some of them. The company running the hospital became insolvent, and prompted a bailout.

There was an attempt to privatize the hospital in order to obtain the necessary financing to pay off its debts but the institution is not a government entity.

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[1] Malaysia's privatisation policy was announced in 1983 but only in 1985 were guidelines issued to all government departments

According to newspaper reports (NST 2nd December 1994), Faber Group Berhad had submitted proposals to develop the land on which the hospital is situated. However, the report did not mention about the hospital's operations.

3.2.2 PJ Medical Store

The Petaling Jaya Medical Store (hereafter referred to as the PJ Store or its name in Bahasa Malaysia *Makmal Ubat & Stor Petaling Jaya*) comes under the jurisdiction of the Ministry of Health. Its functions are to purchase, supply and manufacture medical supplies (such as medicines, surgical and equipments i.e. vehicles) on behalf of the Ministry.

PJ Store was a federal institution which was privatized in 1994. Prior to its privatization, it was a federal institution and was overseen by the Pharmacy Division of the Ministry of Health, serving the medical/health needs of the country.

In the 1980s, the PJ Medical Store's function was to source for and acquire medicines, supplies, equipments for the entire Ministry of Health. It then had a distribution network to the various states and distributed supplies to them, via hospital based medical stores and hospital based pharmacies. It also had a manufacturing arm for products such as tablets, IV fluids, galenical and sterile preparations, etc. (MOH, Annual Report, 1988:150).

Even before the PJ Medical Store was privatized, several restructuring exercises had been undertaken by the Ministry. The PJ Medical Store once supplied medicine and supplies to the state, and the state in turn supplied to the state and district hospitals, which in turn supplied to the health centers in that state. This arrangement was subsequently revised to one where regional stores were to be created, and the PJ Medical Store would then to these regional stores. While this exercise was still on-going, the government decided that the medical store was to be privatized.

The basic concept of the privatization was that the core services were to be privatized, i.e. only the PJ Medical Store but not the periphery services, i.e. the distribution at the regional or state or district levels were not affected by the privatization. With the privatization there would no longer be any state stores, as the privatized distribution would reach the district and health clinics.

In April 1994, the Minister of Health, Dato' Lee Kim Sai, announced that the government had approved the draft agreement to privatize the PJ Medical Store (NST, 28 April 1994). The company which has now taken over is Remedi Pharmaceuticals (M) Sdn. Bhd. (formerly known as Southern Task Sdn. Bhd), a subsidiary of United Engineers (M) Bhd. It is estimated that this privatization was worth RM600 million. It was also expected to bring in an annual revenue of RM50 million.

Recent news on the PJ Store's privatization however reported that Remedi Pharmaceuticals (M) Sdn Bhd was the successful privatized party (Star, 28 September 1995). More disturbing was the news that cost of drugs had escalated several fold since the privatization[2]. The company justified

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[2] The initial increases were reported to be 60 times their pre-privatisation prices For instance,

the price increases on the basis that previously the government subsidized the cost of such medicines.

3.2.3 Non-clinical Services

The Health Ministry had put out a bid for the privatization of five non-clinical service components in 1993. These components include·

* management of medical waste,
* maintenance of building and medical equipment,
* laundry,
* biomedical cleaning (which includes disinfecting wards and operation theaters), and
* cleaning of the hospital premises as well as landscaping.

According to newspaper reports, more than 100 firms were originally interested. Eventually 31 firms submitted bids for the privatization of non-clinical services to districts and general hospitals (NST, 29 October 1993). Out of these 7 were named as favored.

For the privatization exercise, the bids could be divided into six zones, north, south, central, eastern, Sabah and Sarawak. Tenders could make bids in any area and for any combination of component services, and for any region (the country is divided into various regions). The tender documents issued to the contractors allowed for bids to be made for any component and for any region, e.g.

* 1 service for the entire country or a region/regions
* 2 services for a region/regions
* 5 services for 1 region, and so on

Problems naturally arose regarding costing: costs of project based on value of materials excluding manpower. There is no basis upon which to calculate the cost therefore, the 3 tenders submitted gave different costs from that of the Ministry of Health which was computed by its Finance Division. As a result, there is no certainty whether the prices quoted by the private sector is higher or lower than that calculated by the Ministry and thus making it very difficult to ascertain the best quotation. One is thus not sure how the awards were eventually decided.

Nonetheless, the government decided to award the contract to three parties, basically on a regional basis (NST, 28 July 1994). They are Faber Group Berhad; Asia Lab Sdn Bhd; and Konsortium Tongkah Holdings, Medivest and Gleneagles International (Singapore). The final terms of the award were still to be negotiated with the Ministry of Health and the Ministry of Finance (NST, 29 April 1994).

Pethidine prices rose from RM137 and 167 (for 50 and 100mg) to RM1,000 and RM1,400 Upon appeal, the price was reduced to RM250 and RM350 See Star 28 September 1995 "Bitter Pill" Pethidine is pain killer

Health Minister Dato' Lee Kim Sai said the hospital support services in Penang, Kedah and Perlis (Zone 1), Sabah (Zone 5) and Sarawak (Zone 6) would be handled by Faber. Asia Lab would take over the services in Selangor and the Federal Territory (Zone 2), and Pahang, Terengganu and Kelantan (Zone 4) while Konsortium Tongkah, Medivest dan Gleneagles will take over in Johor, Malacca and Negri Sembilan (Zone 3).

3.2.4 Corporatization of the National Heart Institute (IJN)

The National Heart Institute was built as a replacement for the Cardio Thoracic Unit of the General Hospital. Currently, it is governed by a board of directors headed by the former director general of the Ministry of Health, Tan Sri Datuk Khalid Sahan. It opened for business in 1993

The basic problem with the IJN is the same that plagues all institutions during periods of high growth: rapidly rising salaries of specialists from the private sector versus a stable salary structure in the civil service, thus leading to exodus of specialists from the latter. As such, the IJN corporatization was expected to address this issue such that specialist salaries could be paid more than those provided for under the government scales[3]. In addition to more money, specialists also have a higher prestige.

At the moment, the IJN is operating on a commercial basis, but with a welfare component, as subsidies are provided to the poor who need their services. The commercial consideration is the primary objective of the IJN. Currently the IJN is 100% owned by the government, through the Ministry of Finance.

The IJN is supposed to follow a referral system, but gives priority to fee paying patients, allowing queue cutting only in emergency cases from those who cannot afford full payment. Government hospital referrals are still accepted.

The IJN was initiated in 1992, at a cost of RM15.5 million (6MP: 349).

3.2.5 Minor Privatization

Two other minor privatization exercises are being classified here. They are the move to make better and fuller use of the hospital facilities via renting out spare capacities to the private sector, and to re-employ specialists on a sessional basis to counter the shortfall in specialist service of the public health care. The first type is an attempt by the Ministry to ensure that its facilities are used to the maximum and only when there are spare capacities. The second type is to improve its services, via buying in the time of the private consultants.

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[3] For instance, specialists in government hospitals earn about RM5,000-6,000 per month (basic and without perks), but can earn up to RM15,000 per month at the IJN

It would appear that these are ways and means by which the Ministry is trying to operate more efficiently as well as more effectively. But at this stage, we do not have further information on these "privatization" efforts, although strictly, they would not fall into the government's definition of privatization.

3.3 Key Issues

Several issues loom large in the privatization of health and medical services. First, there is the issue of escalating costs. Providing health care at a certain quality has its costs. Currently, the government is paying out something close to 96% of the total costs, recouping only 4% of the costs through charges[4]. Hence, the present health care is heavily subsidized. As such, any privatization must see an increase in health care costs.

One manifestation of this is the wages of surgeons. A typical comparison is that of surgeons paid by the government, IJN and the private hospitals. Government surgeons are typically paid between RM5,000-6,000 per month, compared to RM15,000 per month for IJN surgeons, and RM20,000-40,000 per month for private sector surgeons. Even adjusting for certain perks that the civil service offers to specialists, there is still a wide gap with the private sector.

Indeed, escalating health care costs is one of the principal issues of the health care industry in the United States, and there appears to be a huge problem with cost containment, because of the large influence of the insurance industry there. Although the scale of costs is still relatively small in Malaysia compared to the US, this issue has already become a problem.

Second, with escalating costs, the issue is whether the poor can afford to pay for adequate health care. Although Malaysians are getting relatively more wealthy over the past few years, there are still significant numbers of poor families and households. How would these people pay for health care in the future, especially if privatization takes a larger share of the health care industry? In an attempt to reassure the people of the government's good intentions the Health Minister has said that the government would be studying all aspects of privatization, and has indicated that the hospitals would not all be privatized, if privatization were associated with increase in the cost of health care. As such, health care affordability is another critical issue for privatization.

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[4] The national health budget for 1988 was recorded at about RM1.26 billion, and has remained within such range for several years (Ministry of Health, Annual Report 1988, p 19). Whereas, the revenue that has been collected by the Ministry of Health was estimated to be RM49 million in 1992 (*Kerajaan Persekutuan, Laporan Ketua Audit Negara 1992*, p.87). Although not strictly comparable, the order of magnitude for revenue over budget is estimated to remain the same, and is estimated at 4 per cent.

The Minister of Health reported that the government bore 95% of medical costs (NST, 16 June 1994)

Third, as a result of problems related to affordability is the equally important issue of access to health care. This is where the government needs to make clear its policy.

Fourth, the issue of private sector competing with the public sector for doctors and medical personnel will become even more acute in the future. As is evident from recent trends, doctors are leaving the medical service to join private hospitals or open up private clinics. Specialists are also leaving the public service, and these are real issues in the government's ability to provide adequate health care.

3.4 Objectives: Achievements

The privatization effort in the Ministry of Health has been rather recent. A serious assessment must at least wait for a reasonable period of time before the exercise can be properly judged on its merits or demerits. At the same time, proper indicators to measure productivity and efficiency, the stimulus to economic growth, achieving of national economic policy objectives, providing health care at reasonable cost, etc. must be developed. In its absence, we provide some general impressions of the privatization efforts that have taken place in the health and medical sectors.

In so far as the Lady Templer Hospital case is concerned, it is not a true case of privatization, since it was a privately owned hospital in the first place. The Ministry had to come in to bail out the hospital operators. Although the issue was more of a bail-out, the government through the Ministry of Health has taken on the responsibility to compensate the workers of the hospital, and to reemploy some of them within the civil service. This particular case was not considered as a privatization effort by the EPU's Privatization Taskforce.

As for the PJ Medical Store, this former federal institution is already well established, and has operations which are being revamped for improvement. That it had been privatized would mean that its performance in terms of productivity and efficiency would have to improve. Further, it is not clear whether the privatization is a cap on competition, in the sense that the government will not buy from other suppliers. And the issue of privatization's impact on the government in terms of providing health care at reasonable cost, and the benefits to government of this privatization exercise. Already the first signs have been an escalation of the cost of drugs and medicines. We have also heard complaints from doctors in rural government hospitals and clinics that the supply of medicines have been poorer than before privatization. However, we must admit that these are isolated instances, and in a very remote place. But if this were the general situation, then the impact may have more disastrous consequence in that supply of drugs and medicines to rural areas, costly and logistically difficult as it is, may be deemed to be commercially less attractive, and thus the service for such areas would drop consequently. At this early stage, it is difficult to say whether this is a general trend.

In so far as the IJN is concerned, initial reactions are that the corporatization has been well received. The government is in a better position to offer medical specialists a better salary and remuneration, and thus retain specialists in public service. Heart transplants will cost more but there

are subsidy schemes in place for the poor. It is possible to argue that with this kind of subsidy, the service has become more efficient, although such a conclusion would need to be assessed a little more carefully By efficient, we mean in the classical economic sense, i.e. net marginal benefits are maximized.

3.5 Costs & Benefits

It would appear obvious that the government has been bearing the cost of medical services to the people, collecting back only a fraction of that in terms of medical charges. The privatization effort to date would appear to mean that the government will pass that function over to the private sector, and allow them to charge "market prices". In that kind of situation, an increase in medical and health care costs cannot be avoided. Theoretically, if the private sector could only function as efficiently as the Ministry, then the cost of medical care can be expected to rise by another 95% of the present costs. The basic issue then is whether the people can afford to absorb this kind of cost increases. If not now, then it must be spread out over a period of time.

In terms of benefits, the private sector must be able to offer better services. However, it is not obvious that all these private sector ran services are performing better than before they were privatized. It could be that there are startup problems during a transition period. Does this mean that the successful bidders need to get past the learning curve, and that the public and government have to bear the cost of their learning? When then can better services be expected? What are the real benefits of such privatization efforts?

3.6 Future Scenario

The Ministry of Health's privatization efforts is supervised by a privatization committee. That committee is comprised of a few divisions, viz. medical, finance, pharmaceutical, and engineering. It is headed by the Secretary-General of the Ministry. This special committee appears to be screening all possibilities for privatization, and in the process, examining how the services offered by the Ministry could be made more effective.

It is envisaged that the privatization exercise in the Ministry of Health will carry on, although it seems that the manner in which it is carried out is piecemeal, rather than taking a corporate approach towards getting in professionals to run the services, and having coordinated and integrated services. It is also not certain how or if the privatized services are monitored, or even what is written into their privatization concession.

Also in the planning pipeline is the fact that the Ministry has been considering private medical and health insurance. The insurance plan has been in the pipeline for more than 10 years already. The private sector will have to be involved. But then the government will have to think through how it can still provide adequate health care for all its population, yet discriminate the services in such a way that the rich and wealthy will be serviced somewhere else. Currently, this situation of private medical and public medical and health care exists.

The issue of Health Medical Organizations (HMOs) has also been discussed quite recently. HMOs are groups of private doctors who get together to provide medical services to the public. Many versions exist. But the government has not yet decided on the form by which HMOs can operate in Malaysia.

Nonetheless, these are prospects of privatization looming ahead in the Ministry of Health's portfolio.

Chapter 4 Toxic Waste

4.1 Background

The responsibility for industrial waste lie with its generators, i.e. the individual firm or establishment. The regulator in Malaysia is the Department of Environment (DOE), and the requisite regulation is the Environmental Quality (Scheduled Wastes) Regulations, 1989.

Current efforts to manage toxic and hazardous wastes are governed by the DOE, and the following pieces of legislation apply:

* Environmental Quality (Scheduled Wastes) Regulations, 1989
* Environmental Quality (Prescribed Premises)(Scheduled Wastes Treatment and Disposal Facilities) Order, 1989
* Environmental Quality (Prescribed Premises)(Scheduled Wastes Treatment and Disposal Facilities) Regulations, 1989

The important aspects of these legislations are that they require industry to register wastes generated, and to notify the DOE with information on such wastes. The waste manifests can then be used to track down illegal dumping of industrial wastes. The other important aspect of these legislations is that it is used for licensing purposes, for generators to dispose wastes, contractors to transport, store and handle wastes, and for the disposal of wastes by a third party.

Prior to 1989, liquid effluent discharges came under a number of legislations, such as those for rubber, oil palm, and sewage and industrial effluents. Where it is not specifically stated, effluent discharges must comply with either Effluent Standard Discharge A or B. Solid industrial wastes are usually disposed off in a dumping ground, almost without control.

Although there were many instances of complaints about the disposal of industrial wastes in dump sites, there was no alternative for industries to dispose of their waste. In 1989, the government legislated the Environmental Quality (Scheduled Wastes) Regulations. These regulations require industrial wastes included in the schedule to be registered and for its transport, storage, handling, and disposal to be licensed.

The Malaysian scheduled wastes regulations does not separate between toxic or hazardous wastes. Wastes are required to be treated when they are included in the schedule legislated by the government. In the 1989 legislation, there are 107 categories of wastes, which are normally generated by a whole range of industries, viz. petroleum, paints, pharmaceutical, rubber, chemicals to pesticides, and workshops (e.g. electroplating). The MICCI commented that the coverage was comprehensive (MICCI, 1990: 38).

Concern with toxic wastes has been one of the DOE priorities since its inception in 1975. It commissioned a study of this problem in 1981. By the mid-1980s, many of the multinational firms were pressing the government to come up with an urgent solution to the toxic waste problem, especially with regard to setting up a centralized industrial toxic waste disposal site. The American Business Council also commissioned a study of a centralized toxic waste treatment facility in 1986. This study found that it was not feasible economically for the industry to establish an integrated waste treatment and disposal facility.

Matters were made worse with the scheduled waste legislation brought into being in 1989. Waste generators were required to be responsible for their wastes, and could legally only pass on wastes to licensed operators for disposal in a licensed site. And no sites were licensed at that time. The legislation preceded the availability of facilities. Thus, the DOE had to bear the brunt of pressure from both industry and other branches of government, such as Malaysian Industrial Development Authority (MIDA) and the Ministry of Trade and Industry (the predecessor of MITI).

Around the late 1980s, the toxic waste issue was given symbolic importance as something which could undermine Malaysia's industrialization process. That symbolism was particularly significant because Malaysia had sunk into a recession, and was seen as trying to pull out of it.

In 1987, the government engaged Dames and Moore and WMI (Waste Management Inc.) to carry out a full scale survey of toxic wastes in Malaysia, examining among other things the location, sizes, land requirements for a toxic waste treatment, storage and disposal (TSD) facility. The study indicated that Selangor and Penang were the two top waste generators. It recommended that Selangor be the site for a integrated TSD comprising a secure landfill with physical-chemical treatment, stabilization and incineration facilities. Additional stabilization and secure landfills were to be established in Penang and Trengganu.

In April 1989, the government finally announced that it was commissioning EIA studies on several sites. Two firms out of an interested 11 were asked to submit bids. Chem-Security, a Canadian firm, and I-Kruger, a Danish, were the two bidders (DOE, 1990). The government had, by this time, agreed that the project would be privatized.

After due consideration, the government gave a letter of undertaking to the UEM group in January 1992. Details were not handed out, although a 10 year exclusivity was part of this undertaking. The project was to be funded privately, and UEM was to undertake the project on a BOT arrangement.

This following section will report on the privatization of the Waste Management Center (WMC) in Malaysia examining the issues, approaches and modes that has taken place. Although the EIA study by KA was completed in 1993, the project has been delayed. We'll explore the reasons and its situation in this chapter.

4.2 Approach & Mode of privatization

Resolution of toxic wastes have been explored in many countries (see UNEP, *Industry and Environment*, Special Issue #4, 1983; Vol. 11(1), 1988). They range from a comprehensive approach to treating toxic wastes like an "end-of-pipe" type of problem appear. The more comprehensive approaches would encourage industries to minimize waste outputs to in-house recovery of useful waste materials to waste treatment in-house. In that regard, the environmentally conscious, and the economically inclined, management of the manufacturing sector have instituted process change to eliminate usage of or reduce the input chemical materials that eventually become wastes. The more common approach has been to try to recover economically useful components of their wastes. These efforts have been tried by factory managers in Malaysia.

Options for handling toxic and hazardous wastes are limited. Once industrial wastes are produced, there are only a few ways to get rid of them. They could be incinerated. If there were economic value in wastes, useful elements could be recovered. Alternatively, wastes could be treated and then landfilled. In fact, the most comprehensive solution appears to be one which would reduce the volume of wastes through incineration and then to landfill the residue. Industry has recommended that a "cradle to grave" approach be taken, i.e. to monitor the wastes after it is generated, handled, stored, transported, treated before it is finally disposed in a secure landfill.

There is of course ad-hoc solutions which address specific problems in a specific location. A Malaysian example is in the case of the electroplating industry. In Selangor, a private firm is taking the initiative to build an industrial area to relocate some electroplaters which are being asked to move out of Kuala Lumpur. Because of the specific nature of this group of firms, the industrial estate comes with a common waste treatment facility, that will cater to the treatment needs of electroplating firms. Here, the developer is apparently working with the electroplating firms to design the treatment plant to cater to their needs.

We are unable to obtain more information about this project, but note that it seems to address specific problems in certain areas.

Other examples of a larger scale and perhaps a more comprehensive approach can only be found elsewhere. According to a Worldwatch Institute report, in several parts of Europe, waste treatment firms are using technology to achieve a comprehensive, long term solution to hazardous wastes (State of the World 1988: 129-130). A comprehensive solution would comprise incinerators, inorganic chemical plants, and secure land fills.

At the wider societal level, there is still the problem of industrial wastes. Industries are spewing out industrial wastes daily, and the problem needs to be addressed. In the mid-1980s, the total amount of wastes that was generated was 380,000 tons/year. By 1994, the total quantity of wastes was estimated to be 417,413 metric tons/year (DOE, 1995) About 40% of that is in dross/slag/clinker, and another 31% is of mineral sludge.

The privatization of the scheduled wastes in Malaysia has taken a build-operate-transfer (BOT) form, with full private sector equity, management and operations. In terms of technology its approach is the European, Danish model, i.e. with an incinerator, physical chemical treatment facilities, and a secure landfill. In terms of operation, it resembles the US model, with private sector participation, and no government participation.

The government's role is regulatory. The DOE indicated in 1985 that it is "basically an enforcement and monitoring agency and is not structured organizationally or financially to operate waste disposal facilities" (Hajjah Rosnani Ibrahim, 1985).

It may be interesting to note that the Danish firms that are engaged in the joint venture are noted for their comprehensive approach, with a long term track record[1].

Competitive bidding was probably the manner in which the two firms were finally selected. Chemsecurity, a Canadian firm, was the other party which was engaged by the government to carry out feasibility studies. The successful bid came from the UEM-Danish group, and they were given a letter of undertaking to begin work in January 1992.

The Malaysian approach to toxic and hazardous wastes is mainly that of the end-of-pipe approach, i.e. the privatization of a centralized waste treatment and disposal facility. It is a build, operate and transfer (BOT) project, with a concession period of 10 years. Wastes that are sent to the treatment and disposal facility must come with a manifest which classify, pack, label and record/document the wastes.

The successful bidder is Kualiti Alam, a subsidiary of the UEM-Danish group. It is 50% owned by United Engineers Malaysia Berhad, a large local conglomerate. Another 20% is owned by another Malaysian party, Arab-Malaysian Development Berhad. The remaining 30% is held by Danish institutions, i.e. Danish Waste Treatment Services A/S, a Danish group comprising of I. Kruger Engineering, Chemcontrol & Enviroplan. Chemcontrol is in turn owned by Kommunekemi, a very successful municipality operator of toxic and hazardous wastes.

Kualiti Alam will establish a waste management system which involves the setting up and operation of a centralized waste management center (WMC) and the concomitant transfer stations at strategic locations throughout Malaysia (Figure 4.1).

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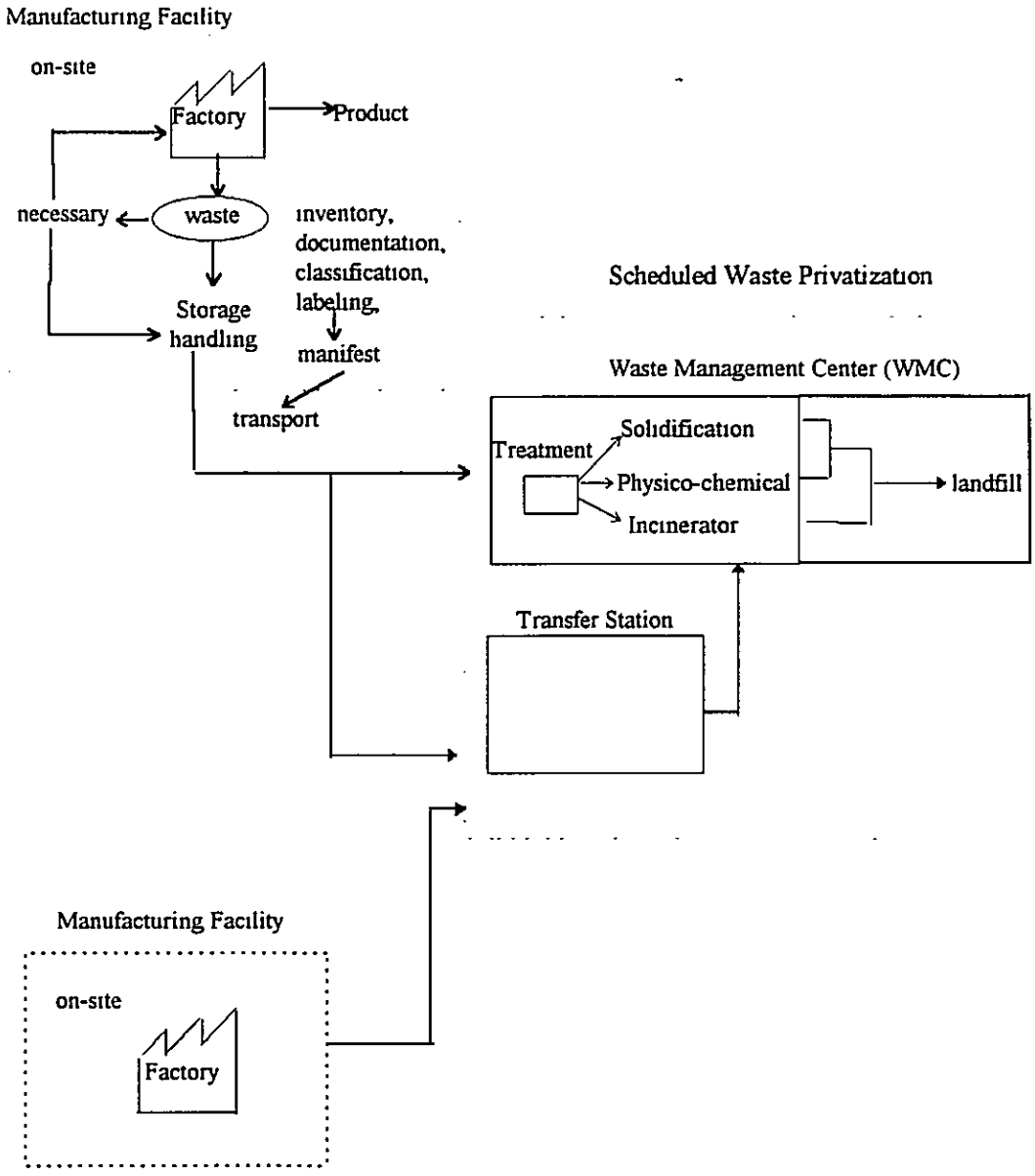
[1] The Danish firms involved here are I. Kruger, Chemcontrol, and Kommunekemi. However, it may be interesting to note that in Denmark, Kommunekemi is owned principally by an association of municipal authorities, whereas in Malaysia, they are acting basically as private sector.

Figure 4 1 Waste Management Center (WMC)



Transfer stations serve as collection points and temporary storage areas for incoming wastes. Once the transfer stations and the transportation system is operating smoothly, it is anticipated that a series of local collection stations will be established to receive scheduled wastes. These stations are equipped with receiving and storage areas, shall sort, weigh and grade the collected wastes, into categories like bulk solids, organic or inorganic wastes, oily and liquid wastes and so on.

These wastes are then transported to the WMC, they are further sampled and tested in the laboratory, before treatment. There is an incinerator. But there will also be a physical/chemical plant in place. However, the project proponent has plans to put in a physico-chemical treatment for the inorganics, and for the organic wastes to solidify them before incineration, and then final disposal in the secure landfill site.

Residuals from the incinerator will be sent to the solidification or stabilization plant if required, or directly to the secure landfill.

The original cost of the project estimate was RM200 million. However, today, the cost was reported to have escalated to RM353 million (Malaysian Business 1/1/95). The escalation of cost has been attributed to increase in land costs, said to have escalated from RM3 to RM15 million for 80 ha of estate land, with prices averaging between RM25,000/acre and RM75,000/ac. (see Sun 4.4.95). According to Kualiti Alam, the capital investment of this project is estimated at RM410 million.

Kualiti Alam is expected to pay for the entire cost. It hopes to raise shareholders' funds and also a commercial loan to pay for this cost. However, it was recently in the papers that Kualiti Alam was seeking a soft loan from the government. This has been resolved, with the funding being entirely that of Kualiti Alam.

After the letter of undertaking was issued in early 1992, Kualiti Alam carried out an EIA study. This EIA was completed in July 1992, and was approved in August 1993 The Negri Sembilan government gave its consent in December 1993. Construction was supposed to have begun immediately for a temporary storage site and landfill facilities; these were supposed to open in October 1995, after having pushed back the deadlines twice, due to unforeseen reasons. Construction was supposed to have been completed by 1997 and full commissioning is expected in September 1998.

However, the project has been delayed. Work started on site on 15th July 1995. It is only expected to start receiving wastes on a temporary basis in October 1995. The reasons for the delay are associated with project funding, especially the loans. Bankers need to be convinced that this project is bankable. Initially, during the EIA study period, there were protests from those who live in downriver from the WMC.

The EPU came into the picture on the discussion with Kualiti Alam at the end of 1994. The main government agency conducting the negotiation was the DOE. However, they have kept more or less strictly to the technical aspects of the privatization leaving out the financial aspects The EPU is supposed to take up the financial negotiations. One important item that

has emerged is a soft loan which Kualiti Alam wanted. It appeared that they faced considerable difficulties convincing their bankers as to the financial viability of the project. The principal contention appeared to be the amount of wastes that would be channeled to the WMC.

4.3 Key issues

Definition of toxic & hazardous wastes has been difficult. In general, toxic wastes are regarded as injurious to health, if consumed or imbibed in certain quantities. Hazardous waste, on the other hand, are those that become dangerous if they exist in certain concentrations or magnitude, e.g. grease and oils. The government has chosen to side-step this difficult and thorny definition via what they term "scheduled wastes". Such wastes would come under the management of the EQA, if they were named or legislated in the Regulations. The bulk of these wastes are of course industrial wastes. Hence, the focus is on industrial, not post-consumer wastes

The toxic and hazardous waste issue is a very sensitive issue, especially since the United States had launched to Superfund to clean up hundreds of toxic waste dump sites, with costs running into the billions. This issue is complicated because there has been legal issues involved in terms of the pollution that continues today long after disposal years or even decades ago. In Malaysia, the issue is that of illegal dumping. In 1995 alone, half a dozen illegal dumping were reported; the most serious being the 41 drums of potassium cyanide found in a solid waste landfill site in Pangkor island (Star 4/3/95). Scientific Chemtax was to be charged, and the DOE was reported to be asking for the maximum fine of RM100,000. Other infringements include the illegal storage of hydraulic oil, formaldehyde, ammonia, and firms discharging effluent with heavy metals. For the whole of 1993, DOE compounded about 281 cases for scheduled waste infringements. About 40% of these cases were due to failure to inform DOE of wastes generation, or to keep a waste inventory. With privatization, wastes are expected to be channeled to Kualiti Alam.

The toxic waste issue has at least three major dimensions. At the level of the country, if industrialization were to proceed unimpeded, then a solution must be found for the toxic wastes. Since the 1980s, industries have complained that there is no feasible solution for the safe handling and disposal of industrial wastes. Thus, the government chose to privatize an integrated waste management system. Financial incentives were also provided to this effect.

At the same time, the government does not want to end up having to finance the cleanup of toxic waste dump sites, which can be a very costly affair as the Superfund case in the US shows.

Present and future liability for wastes is perhaps the second major issue for waste discharging firms. They want protection against liability of damage, which could be very costly. At the same time, the public want protection against sickness and death resulting from toxic and hazardous wastes poisoning.

Third, is the issue of equity. Polluters should be made to pay for the pollution they cause. This in fact has been the main philosophy behind the privatization of the integrated waste management system. Industry has to pay for the cost of treating and disposing of the wastes that it generated.

The next question is what should this cost be? Government and industry have said that it should not be too high as to drive the latter out of business. But then, this quantum has still not been fully decided, although Kualiti Alam has put forward a schedule of treatment and disposal charges.

But to decide whether this level of charges is efficient, one would have to prepare a cost-benefit statement, meaning that the costs to industry (i.e. treatment and disposal of toxic and hazardous wastes) will have to be matched against its benefits, i.e. avoidance of damages incurred by toxic and hazardous wastes to the environment or human health. At this stage, this manner of consideration is still quite theoretical since the cost of damages cannot be decided at this stage. The government, to our knowledge, has not done this assessment.

Industry, on the other hand, will assess this imposition of costs rather differently. The more responsible firms, usually the MNCs, who have adopted a corporate philosophy to produce environmentally safe or friendly products or are too large to be ignored, have taken pains to store their wastes on site. This kind of responsibility has its costs. They bear this cost, and to them, the costs of the wastes would be the opportunity cost of alternative use of the space taken up by the storage of the toxic and hazardous wastes. There have been many complaints in the mid to late 1980s of factories that have warehouses filled to the brim with such wastes. The main content of such wastes are waste dross, and sludge with heavy metal content.

The less responsible, usually small and medium scale and locally owned, firms will usually discharge untreated wastes straight into open water bodies or into the atmosphere (Rakmi Abdul Rahman, 1992). Sometimes, they may engage the services of lorry operators to remove their wastes; and after the wastes leave their factory premise, they and its liability are deemed to have been passed to the lorry operators.

With the situation continuing for several years, a few of the more responsible firms have clamoured for positive government action.

However, the problem with this privatized project has been the long gestation period. Between the time of initiating the first toxic waste study in 1981, and the issue of the letter of undertaking in 1992, there has been a lapse of 11 years. As of October 1995, the project has still not been implemented, nor the concession agreement signed. The government took a long time to decide on the integrated waste management solution, and the privatized body has also taken such a long time to implement the project.

Industry has taken steps to try to resolve this issue. Some of them have redesigned their production process to get rid of the use of substances classified as toxic or hazardous. Others have sought to get the government to issue a license to export the wastes to other countries, either for waste recovery or for treatment and permanent disposal.

A typical example is the semiconductor firms. A few of them have changed their solder dipping processes, getting rid of TCA, and substituting with TCE, and eventually to get rid of it and use palm oil instead. And in some cases, their electroplating process has also been changed to solder dipping, and eventually abolishing this process as well. They now buy already electroplated materials from their suppliers, shifting the responsibility for this process to the latter.

Getting the DOE to issue them with a one-time license to ship out toxic wastes is another solution. For those firms that have redesigned their production process to eliminate the use of toxic and hazardous chemicals, this one-time shipment will get rid of having to deal with toxic and hazardous wastes. The DOE has given licenses to firms for such purposes. Of course, in this process, the waste load is reduced, and thus reduces the amount of wastes that will go to the WMC. However, it is envisaged that the DOE will not undermine the WMC operations once they have started accepting scheduled wastes. Most of the one-time waste export is for metal or resource recovery, incineration and then to be landfilled. This may affect the economics of the WMC.

MNCs have begun sharing information about how to deal with toxic and hazardous wastes, especially those in the same industry. The sharing is two-way: within the same group of firms, and between firms. As such, some of the larger and more resource rich firms are moving towards clean technologies.

The issue then would be the smaller firms, medium to small scale types. These firms have paid next to nothing previously. So when they are asked to pay, one should be able to anticipate their reaction. No price will be reasonable. Enforcing the environmental standards on them will be costly, and will take up a lot of effort. So far, there has not been any known study to determine the impact of the integrated waste management system on small and medium scale industries. The question is whether these costs would affect the industrialization program in the sense of impacting severely on the small and medium scale industries, known to be polluters

Apart from this issue of the impact, is the underlying issue of what price to pay for waste treatment and management. The structure of fees and charges were not provided when the project was first initiated. However, Kualiti Alam has now proposed a charge structure and level. Acceptability of these fees will be another big issue with industry. More so is the willingness of industry to pay these rates. This issue is no small matter since industry has not had to pay anything so far for toxic wastes, except by way to arranging for contractors to remove wastes from their factories[2].

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[2] Even for municipal wastes, the rates for the Klang Valley will increase significantly. Currently, the tipping fee in the MPPJ dump site for private lorry contractors is estimated to be RM1/tonne of waste. When the new Air Hitam/Puchong solid waste sanitary landfill site opens for business, the tipping fee at Puchong will be RM25/tonne, with the transport cost borne by the lorry contractor.

Industry has commented that these rates are not competitive with other competitive treatment and disposal facilities. And since some of them are not able to make use of foreign facilities, they claim that they may be under the threat of monopoly. The question of how to impose cost on industry which has not been used to pay for their wastes disposal will be the next problem in this privatization effort. The fact of the matter is also that industry has a strong political lobby in the present government.

Under the present concession agreement, it is not possible to introduce more competition, as Kualiti Alam has a 10, possibly more, years of exclusivity. The problem is that it is contractually bound not to issue new licenses for other toxic wastes treatment and disposal operations, a matter of some concern since one will have to place full trust to Kualiti Alam to deliver the treatment plant, and at the same time, not to place too excessive a charge on industries, such that it hurts them. The government will have to be fair to all concerned, both ensuring that the wastes are directed to the right places for treatment and final disposal, as well as to ensure that the costs of wastes treatment does not drive industry out of business.

Another related issue is the design capacity of the integrated waste management system by Kualiti Alam. The design caters to only 70,000 tons/year of wastes whereas industry is generating 410,000 tons/year. Kualiti Alam claims that the rest are not toxic and therefore there can be cheaper and more effective solutions to those kinds of wastes, e.g. recycling. Would there be a problem of capacity shortfall? Perhaps it is not difficult to increase the capacity of the disposal nor treatment in case there is inordinate demand, but the design of the landfill would almost certainly be fixed.

In terms of the regulatory framework, the DOE will be the regulatory agency. Discounting the fact that the government took a long time to decide on the toxic waste project, they are also impatient with what they consider to be slow progress of the project by Kualiti Alam. That they have the technical knowledge and experience to deal with Kualiti Alam is not in doubt. However, the biggest issue for the country as well as for Kualiti Alam is whether scheduled wastes are not disposed of illegally but are directed to the approved waste management center. At this stage, there is not enough evidence to assess whether the DOE will be an effective enforcement agency, especially with the smaller firms. Currently, the DOE has a waste registration system at the firm level, and they also have a licensing system for operators, handlers, storage sites, etc. Having such a system is the first step towards an effective monitoring system. An equally important component will be the enforcement. Another consideration may be how to stay clear of political interference in the enforcement.

That Kualiti Alam took such a long time to implement this privatized project has created doubt on its status. The DOE and the Ministry have issued stern warnings about the slow progress of the privatization. For Kualiti Alam, they face a variety of problems: getting bankers to understand the risks involved and to share in that risk hasn't been easy. The negotiation process with the government and arriving at the final terms of concession has also not been easy Issues such as guaranteed waste volume versus monitoring of situation (illegal dumping), soft loan (bankers not convinced of financial feasibility), changing demand scenario which results in smaller treatment plant design (although 1987 volume was 380,000 tons; the KA

plant will only treat 70,000 tons), and escalating costs (RM200 million has become RM335 million). Apparently, Kualiti Alam conducted a market research and found that the volume of wastes is not as high as expected by the DOE. If this is the case, then the financial viability of the project is a real issue

With the delay, the difficulty is becoming more serious from day to day as pressure builds up on the government side. The government has threatened to take back the privatization. To have come this far, the government has faced considerable opposition. The local people on site have argued that the project puts their livelihood and lives at risks. Hence, they launched a strong protest against the project. Having overcome this opposition, the delay again puts pressure on industry to hang on to their wastes.

4.4 Achievement of privatization objectives

Has the government achieved the privatization objectives in this scheduled waste privatization? Partial achievement perhaps but it may be best to discuss each of the objectives in detail.

(a) Relieve Government's financial & administrative burden

Yes, it has relieved the government of financial burden of building and operating the Waste Management Center and the transfer stations, and the entire scheduled wastes operations. Through the polluter pay principle, Kualiti Alam will levy charges and fees to recover its investment. Other operators involved in the handling, storage, and transport of the wastes are also licensed by the DOE. Here, Administratively, DOE's regulatory responsibility will become even more important. They must monitor this situation very closely, especially when the WMC is operational to ensure that the anticipated risks are maintained and not increased. They will have to give the assurance that the project is safe and secure, within the limits specified.

In that regard, the cost of DOE's monitoring work may be partially off-set by the licensing fees, although that may not be consistent with the manner in which the licensing charges are set out. The government may wish to review the fees to ensure that the regulatory cost is covered.

Another important aspect of the administrative burden will be to ensure that the scheduled wastes are sent to the WMC in the proper manner. Here, DOE's enforcement role becomes important, and critical to Kualiti Alam's viability. If the enforcement effort is inadequate, then the privatization will have failed to achieved its objective in the sense that toxic and hazardous wastes would continue to be illegally dumped, and cleanup may be problematic, costly, and wasting valuable human and other resources. If not enough wastes are sent to Kualiti Alam, then their economic position may be affected.

These considerations are important. Thus, the full achievement of the first objective will be contingent upon the DOE and the government's efforts at its regulatory role. So, while the government may not have to invest in the actual capital works and operational mechanisms, it will still have to play a very important regulatory role for the privatization to achieve its full objectives.

(b) Promotion of competition, efficiency & productivity

Kualiti Alam will be awarded a concession period in return for its investment. In the original letter of undertaking, it was ten (10) years. The government will not license another firm to provide the same services for the duration of the concession period. However, in the light that the costs have escalated, the retreat by Kualiti Alam on the soft loan, the government is likely to agree to their request for an extension of the concession period.

Since this waste management project has not yet begun, it is not possible to evaluate its performance. But the background of the Danish firms may give some assurance that at least they have the experience to handle the technical aspects of the waste management center. The Kommunekemi example is world renowned in terms of their ability to handle toxic and scheduled wastes.

It should be emphasized that this privatization requires the cooperation and acceptance of waste generators to ensure that it works. In that respect, the efficiency and performance of the waste management company (Kualiti Alam) itself is only part of a larger picture.

Kualiti Alam can only operate efficiently if wastes are being sent to the facility. And the wastes would only arrive if the generators accept the project and are willing and able to pay its charges. That aspect has still to be resolved. It can be ascertained whether competition will result in a lower level of charges and fees for waste management, but that is not an issue at this stage of the project.

One important indicator of the success of the privatization would be whether Kualiti Alam is able to make profits and thus continue to operate the waste management system.

(c) Accelerating Economic Growth

As indicated earlier, one of the main concerns of industry was the absence of an industrial waste treatment and disposal center. That may constrain new industrial investments, and the operations of existing industrial (waste generating) firms. Providing a waste management system will release these impulses that restrain growth. With the manufacturing sector growing at almost 15% per annum, there will be added reasons for manufacturing to continue expanding.

Of course, at a very narrow level, some growth will be generated in the sense that new operations related to waste management will contribute to economic growth. But this is only a very narrow aspect of a larger issue.

However, the mirror side of the issue is whether industry will find the cost of waste treatment and disposal prohibitive. Once the WMC is in operations, the DOE is likely to step up enforcement to ensure that scheduled wastes are being sent there. And since this is institutionalized, then the cost of avoidance will be very high.

Given this dialectical relationship, it is not obvious that the project will accelerate growth, at least in the short term. This is because of the uneven treatment of toxic and hazardous wastes between regions and countries. If the issue of toxic wastes are evenly treated, then such problems will not arise. This is the classic case of externalities.

Hence, on balance, we are unable to make a clear and definite assessment whether this project will contribute towards or dampen economic growth. It depends on whether firms will still be competitive after they use the system.

(d) Reducing the size of public sector

This privatization exercise will not reduce the size of the public sector, since there is no institutional history behind this activity. In fact, the DOE may have to be expanded if it is to take on a more responsible role in enforcements and also in monitoring.

(e) Achievement of national economic policy

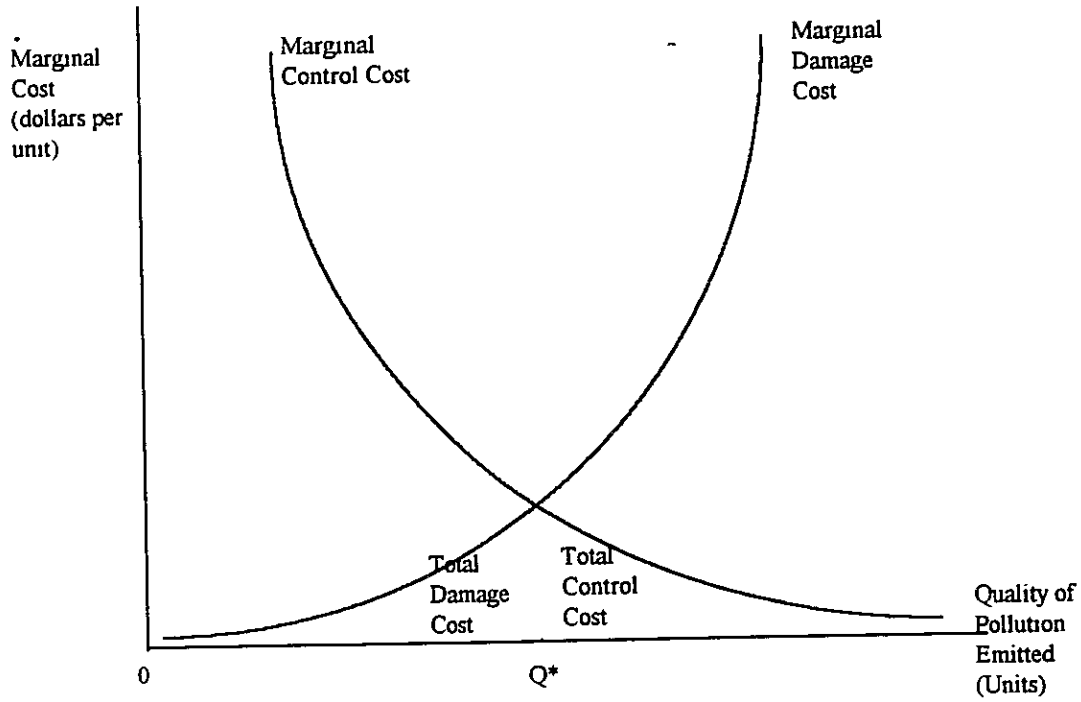
Yes, this privatization will achieve national economic objectives as it provides options for Malaysian industry to have access to scheduled waste treatment and disposal services. The fact that Malaysian firms are involved in a joint venture with the industry leaders in toxic and hazardous waste management speaks well of the Malaysian entrepreneurs to learn more about this business. Over time, technology transfer will help Malaysians to become better at environmental management.

4.5 Costs & Benefits

At this very early stage of the privatization, it is not possible to make a meaningful assessment of the benefits and costs, except at a theoretical level.

The normal starting point of any analysis is to maximize the net benefits of the project (avoidance of damage), while minimizing the costs of the project. An optimal solution can be found when the marginal benefits are equal to marginal costs. In that respect, Figure 4.1 shows the efficient allocation of toxic and hazardous waste pollution.

Figure 4 2 Efficient Allocation of Pollutant



Source: T. Tietenberg (1994); page 214

As our knowledge of the damage costs are far from complete, it is not possible to quantify such costs at the moment. Nonetheless, the nature of the marginal cost and benefit curves are generally in the right direction

Major project costs include the capital cost of investment, maintenance and operations, such as transport, storage, handling, treatment, and disposal over the long term. To be added to this is the cost of enforcement and monitoring the situation. This would be roughly equivalent to the cost of the privatization effort.

Major benefits of the project could be the cost of avoiding health incidence from indiscriminate toxic and hazardous waste disposal. One could also define that as the opportunity costs of not having a proper waste treatment and disposal center. However, such considerations are still ambiguous, as one would have to get into details about damages and what it would take to avoid the problems of toxic and hazardous wastes, etc.

It may be important to bear in mind that it would be very costly to impose no pollution condition to the treatment and disposal of toxic and hazardous wastes. That would not be optimal. An economically efficient solution is one where the marginal costs would equal the marginal benefits.

4.6 Future Scenario

What has been outlined above are the main features of a national scheduled wastes management system. For the moment, the implementation of this system is going on, although not perhaps at full speed. This is because the main concession agreement is still being finalized. Nonetheless, this privatization effort will remain the principal scheduled waste system for Malaysia, and according to the concession agreement no more national systems would be approved over the next 10 years or so.

Would we see more of the piecemeal type of privatization that was briefly described in Section 4.2? Or would the DOE continue to provide licenses and permits to firms to export their toxic and hazardous wastes?

It would appear that both types are equally possible, with a slightly better chance of the first happening over the second. The piecemeal solution is a very focused solution to a localized and very well contained problem. It can be settled fairly easily, if the parties involved are well intentioned; if they are not particularly well intentioned, then we would expect to run into the same problems as in Kualiti Alam, with firms trying to undermine the project, not showing interest in paying up, etc. It is our opinion that although isolated, this approach makes sense, and is economically feasible.

The second option - of the DOE issuing more export licenses - is less acceptable, since government agencies must and should try to cooperate to implement national policies. And

privatization of the national solid waste dump site is no small matters.

Investment opportunities for private sector involvement in this project is still not too late. Kualiti Alam thinks that there are many opportunities for suppliers of equipments and service providers. The Government wants to privatize more, and seek access to capital markets to develop the environmental sector. Options include here include building construction, waste manifest system operations, transport, storage and warehousing, disposal, perhaps even waste recovery. The private parties are invited to seek Kualiti Alam's assistance in developing the business opportunities available.

Chapter 5 Solid Wastes

5.1 Pre-privatization Scenario and Background

Solid waste collection and disposal in Peninsular Malaysia, except for the capital city Kuala Lumpur, is the responsibility of the local authorities (Section 72, Local Government Act 1976). In Kuala Lumpur, the Dewan Bandaraya Kuala Lumpur (DBKL) or Kuala Lumpur City Hall is the local authority. People pay rates to the local authorities annually or semi-annually for the cleansing service provided (see Table 5.1). These rates are generally low and the service is underpriced.

Although the local authorities come under the purview of the Ministry of Housing and Local Government at federal level, they also report to their respective state governments. Under the Constitution, they are under the co-jurisdiction of both federal and state governments. Operationally, local authorities obtain development funding from the Ministry of Housing and Local Government. Annual budgets, however, are approved by the State Governments.

In East Malaysia, the states of Sabah and Sarawak may refer to the Ministry of Housing and Local Government for advice but they are not bound to follow the Ministry's guidance. By convention, they come under the respective State Government's Cabinet or Ministry.

Privatization of solid waste in Malaysia is a very recent phenomenon. So far, only one project has been privatized at state level. In general, there seems to be a lack of coordination between the state and federal levels in their respective privatization efforts, as can be seen by the events below:

* In 1994, the Privatization taskforce of the Economic Planning Unit (EPU) invited private firms to make bids for the privatization of solid waste collection and disposal for all 144 local authorities in Malaysia (Business Times, 1995). A total of 28 bids were received for four different regions in Malaysia when the tender was closed at end-1994. The EPU is still evaluating these bids. The latest informal information has it that the government has already approved the successful parties, and is waiting for an appropriate time to announce them.

* In mid-April 1995, the Selangor state government privatized a sanitary landfill project without waiting for the outcome of the national privatization exercise. The Ayer Hitam landfill project in the district of Petaling was awarded to Worldwide-SITA Environmental Management Sdn Bhd, a joint venture between the local public-listed company Worldwide Holdings Bhd and the SITA group of France. SITA officials say the landfill, with capacity to collect 2000 tones of garbage daily, is scheduled to begin operation in late 1995.

Table 5.1 Disposal Charges

Local Authority	Amount Landfilled	Operating for Landfilling (RM/month)	Operating Cost for Landfilling (RM/tonne)	Charges for Disposal to Contractors		
				Household (RM/tonne)	Commercial (RM/tonne)	Industrial (RM/tonne)
Gombak District Council	420 0	94500 0	7 5	2 5	5.0	5 0
Municipality of Klang	360 0	37800.0	3.5	3.0	5.0	5 0
Kuala Langat District Council	90.0	11880.0	4 4	2.0	5.0	5 0
Kuala Selangor District Council	75.0	9450.0	4.2	-	-	-
Municipality of Petaling Jaya	550.0	107250 0	6.5	2 0	3 0	3 0
Municipality of Shah Alam	300.0	54000.0	6.0	-	-	-
Petaling District Council	200.0	34800.0	5.8	-	-	-
Sabak Bernam District Council	27.0	3888.0	4.8	-	-	-
Sepang District Council	20.0	6000 0	10 0	-	-	-
Hulu Langat District Council	200.0	36000.0	6.0	-	-	-
Municipality of Ampang Jaya	1000.0	195000.0	6.5	1.0	1.6	1 6
Hulu Selangor District Council	19 0	3591 0	6.3	-	-	-
Kuala Lumpur City Hall	3000.0	517500.0	5.8	2.0	3.6	3 6
Average	481 6	85512 0	5 9	1.0	1.8	1.8

Source : THT/UPM Survey, 1994

Note · The table presents the estimated monthly operating cost of landfills, and the charges imposed by contractors for the different categories of waste

* In May this year, Kuala Lumpur City Hall announced an allocation of RM5 million (US$2 million) to conduct a feasibility study on the purchase of an incinerator to burn its garbage of 2000 tones to 3000 tones generated daily (Star, 5 May 1995). The City Hall has contracted out 60% of garbage collection. The remaining 40% is carried out its own workers.

* In July this year, the Johor state government said it had agreed in principle to a joint proposal by local company Malaysian Mining Corporation and an Australian company to introduce a comprehensive refuse disposal system as practiced in Brisbane and Darwin (Star, 21 July 1995).

As solid waste is still the responsibility of the local authorities, the states are still entitled to make decisions on solid waste. Accordingly, the national privatization of solid waste can only take place with necessary amendment to legislations to bring solid waste under federal jurisdiction.

Solid wastes can be classified into domestic waste (municipal solid waste) and commercial waste. Generally, municipal waste is generated by households and is collected by workers from the municipal council while commercial waste, generated by industries and commercial establishments, is usually collected by the private contractors. Both these wastes, after a round of sorting and recycling, are taken to solid waste dump sites.

Local authorities provide cleansing service as one of the urban services. Local authorities were set up in the early days to provide cleansing service in the urbanized areas. This service accounts for 30% (for large local authority) to 50% (for small local authority) of the annual budget of local authorities, and 50% to 80% of the manpower employed (JICA study, 1989).

However, due to shortage of funds, equipment and trained staff, cleansing service provided by most local authorities have not been satisfactory. Public complaints comprise infrequent collection of garbage, spillage during collection, non-collection of big items and illegal dumping. The frequent breakdown of equipment and limited cooperation from the public have not helped matters (New Straits Times, 16 June 1995).

In recent years, solid waste is posing a serious urban environmental problem due to limited space remaining for dumping. Following urbanization and improved standard of living, the volume of municipal solid waste has increased and the quality of wastes is becoming more complex. Each local authority is thus facing difficulty in securing suitable landfill sites and solid waste management problems. Existing dump sites are already filled to the brim, and overdumping is being carried out.

The situation is pressing in big cities such as Kuala Lumpur and Petaling Jaya, where solid waste generation rates are higher (Table 5.2). The current landfills in these two places have exceeded their capacity. The two landfills of Kuala Lumpur -- Jinjang and Sungei Besi -- were expected to close in 1994 but up to June 1995, they were still operating. The Kelana Jaya landfill area will be closed when the new Air Hitam sanitary landfill opens (JICA study on Municipal Solid Waste Recycling, June 1995).

Table 5 2 Waste Generation, Quantity and Type for 1994

Local Authority	Waste Quantity and Type for 1994 (Ton/Day)							
	Quantity *Tonne/day*	Per Capital *kg/head/d*	Household	Market & *Commercial*	Industrial & *Construct*	Institutional	Landscaping	Street Sweeping
Gombak District Council	420 00	1 20	152 00	135.00	102.00	20 00	5 00	6 00
Municipality of Klang	360 00	1 00	135 00	91 00	102 00	20 00	5 00	6 00
Kuala Langat District Council	90.00	1 00	N I	N I	N I	N I	N I	N I
Kuala Selangor District Council	75.00	0 45	32 75	30 00	10 00	1 00	0 50	0 75
Municipality of Petaling Jaya	550 00	1 12	156.00	133 00	149 00	12 00	50 00	50 00
Municipality of Shah Alam	300.00	0 73	80 00	100 00	110 00	8 00	0 50	1 50
Petaling District Council	200 00	1 08	100 00	65 00	33 00	1 57	0 10	0 33
Sabak Bernam District Council	27 00	0 61	18.7	4 00	3 00	1 00	0 10	0 20
Sepang District Council	20.00	0 76	11 1	6.00	3 00	2.00	0 05	0 05
Hulu Langat District Council	200 00	0 55	85 00	60 00	30.00	20 00	2 00	3 00
Municipality of Aampang Jaya	1000.00	1 19	450 00	260 00	200 00	50 00	15 00	25 00
Hulu Selangor District Council	N.I	N.I	N I	N I	N I	N I	N I	N I
Kuala Lumpur City Hall	3020 00	1.44	1010 00	500.00	1010.00	120 00	150 00	230 00
Total	6262.00		2230.55	1384 00	1752.00	255 57	228 25	322 83
Percentage of Total			36.63	22.11	27.99	4 08	3 65	5 16

Source . THT / UPM Survey, 1994 Note N I = No Information

Note The table presents a breakdown of the daily tonnage of waste generated according to the type and source of waste, and the district within the Central Region It is observed that Household waste, Industrial and Construction waste and Market and Commercial waste contribute to 33 63%, 28% and 22 11% respectively to the total daily solid waste generated.

Table 5.2(cont.) Waste Generation Quantity and Type for 1994

State/Local Authority	Quantity (Tonnes/day)	Per Capital kg/head/day	Waste Quantity and Type for 1994(Tonne/day)					
			Household	Commercial & Market	Industrial & Construction	Institutional	Landscaping	Street Sweeping
Negeri Sembilan								
Seremban Municipal Council	156 00	0 80	51 79	25 27	58 19	6 71	7 80	6 24
Jelebu District Council	18 00	0 45	8 17	4 14	2 93	2 25	0 18	0 34
Jempol District Council	27 00	0 54	12 25	6 21	4 39	3 38	0 27	0 50
Kuala Pilah District Council	27 60	0 60	12 52	6 35	4.49	3.45	0 28	0 52
Port Dickson District Council	52 00	0 67	23 60	11 96	8 45	6 50	0 52	0 97
Rembau District Council	*10 00*	*0 67*	*4 54*	*2 30*	*1 63*	*1 25*	*0 10*	*0 19*
Seremban District Council	35 00	0 65	15 88	8 05	5 69	4 38	0 35	0 65
Tampin District Council	39 30	0 67	17 94	9 57	5.73	5 12	0 33	0 62
Total	364 90		146 69	73 85	91 5	33 04	9 73	9 53
Percentage of Total	100 00		40.2	20 24	25 07	9 06	2 69	2 75
Melaka								
Melaka Municipal Council	400 00	0 80	132 8	64 8	149.20	17 20	20 00	16 00
Alor Gajah Municipal Council	90 00	0 67	40 84	20 7	14 63	11 25	0 90	1 68
Jasin District Council	36 00	0 67	16.34	8.28	5 85	4 50	0 36	0 67
Total	526 00		189 98	93 78	169 68	32 95	21.26	18 35
Percentage	100.00		36 12	17.83	32.26	6.26	4 04	3 49
Johor								
Johor Bahru City Council	500 00	1 12	166 00	81 00	186 50	21 50	25 00	20 00
West Batu Pahat District Council	140 00	0 67	63 53	32.20	22 75	17 50	1 40	2 62
East Batu Pahat District Council	10 00	0 90	4 54	2 30	1 63	1 25	0 10	0 19
Central Johor Bahru District Council	170 00	0 80	56 44	27 54	63.41	7 31	8 50	6 80
South Kluang District Council	19 00	0 53	8 62	4 37	3 09	2 38	0 19	0 36
North Kluang District Council	65 00	0.45	29 50	14 95	10 56	8 13	0 65	1.22
Kota Tinggi District Council	22 00	0 66	9 98	5 06	3 58	2 75	0.22	0 41
Kulai District Council	30 00	0 60	13 61	6 90	4 88	3 75	0 30	0 56
Mersing District Council	12 00	0 67	5.45	2 76	1 95	1 50	0 12	0 22
South Muar District Council	80 00	1 00	36 30	18 40	13 00	10 00	0 80	1 50
North Muar District Council	27 00	0 80	12.25	6.21	4 39	3 38	0.27	0 50
Pontian District Council	37 50	0 67	17 02	8 63	6 09	4 69	0 38	0 70
South Segamat District Council	58.00	0 67	29 05	12 91	8 61	6 63	0 53	0 99
North Segamat District Council	90 00	0 80	40 84	20 70	14 63	11 25	0 90	1 68
Local Authority of Pasir Gudang	42 00	0 80	13 94	6 80	15 67	1 81	2.10	1 68
South East Johor Municipal Authority	12.00	0 45	5.45	2 76	1 95	1 50	0 12	0.22
Total	1314 50		512 52	253 49	362 69	105.33	41 58	39 65
Percentage of Total	100 00		38 99	19.23	27 59	8 01	3 16	3 02
Grand Total	2205.40		849.21	420.40	623 82	171.28	72 66	68 04
Percentage of Total	100 00		38 51	19 06	28.29	7 77	3.29	3 09

Source THT/UPM Survey, 1994

Note The table presents a breakdown of the daily tonnage of waste generated according to the type and source of waste and the district within the Southern Region It is observed that the household waste, industrial and 22 1% respectively to the total daily solid waste generated.

According to a recent JICA study on solid waste in Malaysia, landfill sites of municipal councils are mostly located within a range of 10-15 km from collection area and have an area of 10 to 20 hectares. In recent years, it has become more difficult to find available land for landfills. New location is usually 20 km from collection area and the landfill area is normally small. As for district councils, their landfills are mostly located within 10 km from collection area and have an area size below five hectares.

The more common topographic conditions are riverside, swamps and flat ground. Generally, low and wet sites are characteristics of present day landfills.

Controlled tipping or landfill is used as the mode of operation in municipal councils, but open dumping is predominant in district councils. There is no incineration as yet. While most of the landfills in municipal councils are well-maintained, having site office, access road, cover materials and weighbridges, district councils have poorer management and maintenance facilities at landfills.

In all the landfills, almost nothing is done to control leachate movement in the landfills, thus creating pollution. Municipal councils are facing pollution from leachate and problems caused by scavengers, but district councils face a major problem of securing cover materials as they advance from open dumping to control tipping. Odour, fly-problem, littering and hygiene are some of the problems faced by open dumping.

A government survey in 1994 showed that on average each Malaysian generated about 250 kilos of solid waste a year (685 grams a day) . However, only two per cent of this was recycled, the rest went to landfills or was dumped illegally (New Straits Times, 2nd February 1995).

The survey also shows that municipal solid waste consists of a high percentage of paper and plastic, vegetables and other putrescibles (Table 5.3). The other components are textiles, leather, and rubber waste/garden/tember waste, metals, glass. Half of this could be recycled.

Table 5.3 Waste Composition of Selected Cities/Towns in Malaysia

Area	Composition (Weight)				
	Organics	Paper	Plastics	Metal	Others
City (Kuala Lumpur)	48 4	30 0	9.8	4.6	7.2
Moderate Urban (Seremban)	35 0	10.0	2.5	5.0	25.0
Rural	63 7	11 7	7.0	6 4	11 2

Source THT/UPM Survey on Local Government, 1994

A survey commissioned by the Petaling Jaya Municipal Council (MPPJ) in 1993 showed that the waste generators in MPPJ area have an average composition of 27% in paper, cardboard, paper products, 36.5% in vegetable and putrescribles, 16.4% in plastics, 7.0% in timber

products and wastes, 3 1% in textile and leather, 3.1% in glass, 3.0% in ferrous metals, 2.0% in rubber products, 0.9% in non-ferrous products, and 0 4% in other incombustibles, ceramics.

And the all-in generation rate was found to be 1.12 kg/p/cd. The waste generation rate for residential units is highest for squatter areas (3.42 kg/du/cd), followed by high income (3.18 kg/du/cd), low income (2.76kg/du/cd) and medium income (1.96/du/cd).

5.2 Approaches and Modes of Privatization

Local authorities in Malaysia started "privatization" of their urban services in the early days when they contracted out part of their solid waste collection service to private collectors. This happened even before the country propounded its national privatization policy in the early 80s. For example, Kuala Lumpur City Hall has contracted 60% of its solid waste collection service to the private sector and is retaining 40% for its own workers.

This form of service contract in privatization can be used if the service contracted out is limited to collection, transport and transfer of solid waste. However, where treatment of solid waste and environment protection has to be taken into account (for example, where a sanitary landfill is built or an incinerator is installed), other modes of privatization may be more applicable.

In mid-April this year, the Selangor government privatized the Ayer Hitam sanitary landfill in the district of Petaling to Worldwide-SITA Environmental Management Sdn Bhd after a long period of closed-door negotiation. So far, this is the only major project of privatization on solid waste service in Malaysia, and the mode of privatization used in this case is the BOT (build-operate-transfer) method with a concession period of 20 years.

In the BOT form, the private company finances the construction of the project. After building the project, it operates and maintains it for the whole concession period. At the end of the concession, the private company should return the whole project to the government in good form.

In the Ayer Hitam landfill case, Worldwide-SITA is solely responsible for the financing and construction of the landfill. The state provides the land free but the company has to come out with a capital investment of RM30 million to finance the construction of the landfill, with a capacity to handle 2000 tones of waste a day. During the 20-year concession period, the company operates and maintains the landfill. It has to treat leachate and ensure that the environment is not polluted. As there is an undertaking from the state government to direct seven local authorities in the Klang Valley to send their rubbish to the landfill, Worldwide-SITA bears little risk of not collecting enough solid waste for the landfill.

At the end of the concession period, the company has to cover the landfill and return the place to the state government so that it could be rehabilitated for other uses, such as a golf course or a recreational park.

There are reasons to believe that the BOT form of privatization may become the prevalent mode in the national privatization exercise

At national level, the EPU has opted for competitive tender system for the privatization of solid waste collection and disposal, which has attracted a total of 28 bids. Although the EPU has not come out with any recommendation yet, some bidders have already disclosed their contents. Since several major bidders are consortiums with large land banks, it could be inferred that the EPU could be in favor of the idea to build sanitary landfills to treat solid wastes in Malaysia. Accordingly, the mode of privatization at the national level could also be the BOT method, or BOT mixed with service contract.

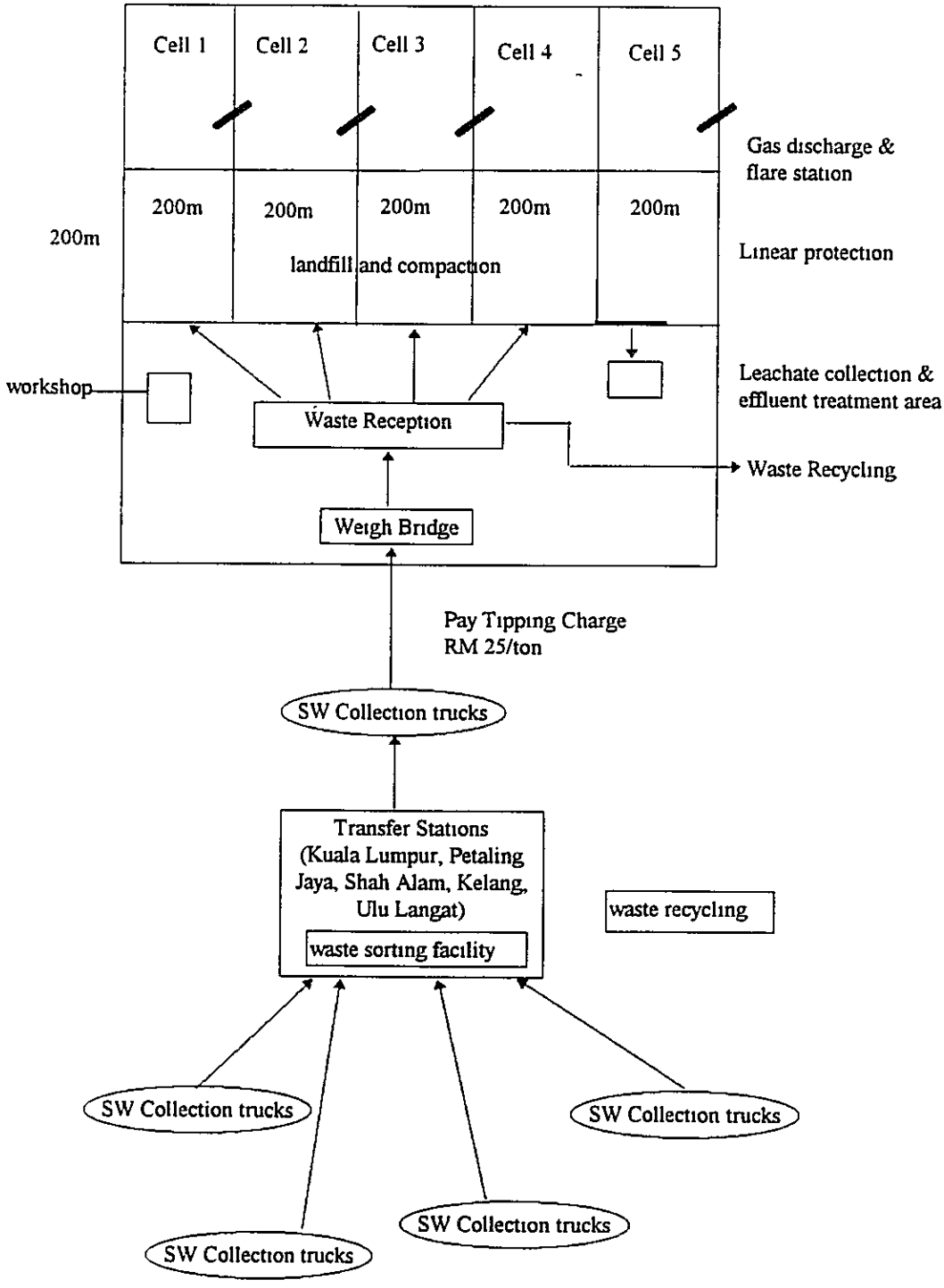
Although the nature of the privatization award is still not clear, we were given to understand that it will be comprehensive in nature, i.e. it will involve post-consumer or post-industrial wastes, from the generation, collection, transport, recycling and sorting, to disposal at a sanitary landfill sites, to leachate treatment (see Figure 5.1). If this is the way in which the privatization will take shape, then it would be a more comprehensive solution than the Selangor example. The Selangor privatization only involves landfill, albeit a sanitary landfill system. The transfer station system has still not been worked out. And the collection is still under the jurisdiction of the local authorities. No doubt, this situation is untenable, since there is an impending national privatization exercise being conducted. Whichever the case, the successful bidder for the national privatization will have to discuss and negotiate with the Worldwide-Sita firm on their component of the solid waste system.

In other countries, especially the advanced industrialized ones, they have already implemented successfully sanitary landfill projects. Japan, France are good examples. But it does seem awkward to privatize solid wastes on a national basis. The argument against a national privatization effort relates to its social and environmental and economic costs. At the level of the environment, the demands for solid waste disposal systems for rural and less urbanized areas may be very different from that of urban areas. As such, there can be different, and more cost effective solutions for rural areas, whereas in the urban areas, the cost and environmental dimensions of solid waste solutions are vastly different.

The implication of having one system for solid waste must mean that all consumers pay the same price. However, if the social angle is to be taken into consideration, in that rural and presumably less affordable consumers should pay less, then, other segments of the Malaysian society will have to end up subsidizing the rural areas. This will go against the philosophy of the solid waste privatization exercise in the sense of a "user pay" system. The principle of a standardized environmental system for the whole country had been implemented for sewerage, and the implication of that had been to load the industrial and commercial users with the subsidy for rural, less affordable consumers. Already a year into the privatization, the public and industry are still complaining about high tariffs and charges of the privatized sewerage services.

The key point must then be whether a standardized system is essential. Economically, this does not make sense, unless of course, the entire population is relatively homogenous in their affordability, and demand the same environmental quality. This can hardly be so, since rural areas face much less problems than highly urbanized areas.

Figure 5.1 Sanitary Landfill and Transfer Station for Solid Waste (SW), Selangor



5.3 Key Issues

Privatization of solid waste, though has occurred in a limited way, will soon happen at national level. The issues that confront the nation are: how much of solid waste management service should be privatized? What process of waste treatment should be adopted for the country to solve the present and future problem of solid waste disposal? Should recycling be introduced and the public be educated to participate in this activity? How effective can the authorities be in playing its regulatory role?

In many countries, solid waste collection and related operations are frequently contracted out, usually at municipal level. A notable exception is the United Stares where waste management has become a major commercial sector. Even so, about 32% of the waste management market remains with state authorities (Nasir, 1992). Hence, Malaysia could be the first country to attempt the wholesale privatization of its solid waste systems if nothing is left for the local authorities.

Before deciding on the process of waste treatment, factors needed to take into consideration include the economic aspect, suitability of technology and pollution to the environment. A comprehensive technological-economic evaluation which had been carried out by Mohd Nasir Hassan (1992) concluded that landfill was the most cost-effective and appropriate method of waste disposal in Malaysia. The social costs (direct costs plus environmental damage costs) of proper sanitary landfill was estimated to be around RM35/ton compared to RM500 per ton for incineration and RM216 per ton for composting (joint paper by Nasir, Rakmi, Kamil & Wan Nor, Oct 1995).

Although landfills require a large area of land, and this is difficult to find in fast developing areas such as Kuala Lumpur and Petaling Jaya, the limitation can be overcome by locating landfills away from waste-generation areas and by setting up transfer stations near collection points. Studies have shown that both incineration and composting are highly capital intensive and expensive to maintain. For example, an incinerator with a daily burning capacity of 2,500 tons could cost RM 1 billion with yearly operating cost at around RM14 million, while a landfill to tackle similar capacity will cost three to five times less in capital investment (Malaysian Business, 30th Jan 95). Also both incineration and composting are not pollution free. Accompanying incineration is the emission of toxic gases such as dioxins and furans. The main problem with large scale mechanical composting is the high cost and unreliable market for the compost products.

Although incineration reduces the weight and volume of solid waste by 80-90%, and has the benefit of eliminating harmful bacteria and viral constituents, destroying many toxic organic compounds, it requires fuel for combustion. In addition to producing gases, it also produces ash which needs to be landfilled.

It appears that in future when landfill capacity in Malaysia becomes exhausted and replacement of landfills is limited, the nation may require to look into disposal alternatives such as incineration and composting.

At present, there is hardly any sorting of waste at source by house owners although there is active sorting at the collection and dumping stages by the collection staff and private parties, including scavengers. Waste is a resource at a wrong place and can be recycled. Government initiative may be necessary to increase the extent of recycling. In a recent study in the Petaling Jaya Municipal Council area, 85.8% of respondents agreed to cooperate with voluntary separation of waste if there is a clear policy imposed by the council (MPPJ, 1993).

Hence, public education of the people is important if the government is interested to promote recycling of solid wastes.

One obvious consequence of solid waste privatization is the rise in costs. People will have to realize that throwing things is no longer free and there is a price to pay. Indeed, residents in Kuala Lumpur have been warned several times of higher charges on garbage collection (Nanyang Siang Pao, 22/10/95). Privatization of solid waste and a subsequent rise in assessment rates could create public awareness in this area, but it can also become an extra burden to the people if privatization is not planned and carried out properly.

While the EPU is working on national privatization programs, Selangor state has gone ahead with its own landfill privatization project in Ayer Hitam. This inevitably invites the question of whether the landfill project will be affected by the national privatization plan when the latter is implemented?

However, before a full national privatization can take place, the Federal Government will have to amend the law to transfer the jurisdiction of solid waste management from local authorities to the federal government. The other aspect will involve setting up a regulatory body to oversee/supervise the work of the privatized agency. Indeed, the government has the benefit of having this experience when it privatized national sewerage services to Indah Water Konsortium, but unfortunately in the latter case, the regulatory committee is short of trained personnel to carry out regulatory function.

Lastly, it may be necessary to discuss what options there may be for the privatized party to be paid for their services. Currently, property owners, the generators of wastes, pay house assessments. And for that, they get various municipal services, of which solid waste collection and disposal is one of them. After the privatization, it is prudent to say that the assessment rates will not be sufficient to pay for the solid waste system. In any case, there is still the issue of the subsidy to consider; can MPPJ assessment rates be used to subsidize the privatized solid waste system in Gua Musang? A new system for rate collection will have to be devised. In that regard, the Local Government Act will have to be amended to enable the privatized party to collect charges for their services. This is not difficult, although politically, it may be a problem.

On the level of charges that may be imposed, there will definitely be an issue, if there is no more subsidy from the government. It is our assessment that the current system is heavily subsidized in the sense that the diseconomies from solid waste dumping is "paid" by neighboring residents to solid waste dump sites who have to suffer the nuisance of the smell of mercaptons, and other noxious gases, eminating from the dump sites. To ensure that this does not happen, the privatized party may have to develop sanitary landfills. The cost of such

landfills are a quantum leap from the current costs of maintaining dump sites. For instance, the cost of tipping solid wastes at Kelana Jaya is estimated to be RM1 per ton. At the Air Hitam sanitary landfill site, the tipping fee is RM25 per ton; this does not yet take into account the cost of transport from various parts of the Kelang Valley to Air Hitam/Puchong. Hence, there will be a very significant cost increase.

Currently, any cost increase will be buffered by the local government. This is because the local government pays for the entire solid waste disposal system, and will probably have to pass this cost back to their residents. In any case, there is still a buffer, with the possibility that it may subsidize the poorer or more deserving constituency. How will such operational cost increases hit the local governments? This will depend on how much the privatized system costs, overall and on a unit basis.

In any case, the government may have to think of more innovative ways to collect money to pay for anticipated hefty sums to deal with solid wastes. Options open include taxing consumption and passing such taxes to waste disposal. A consumption tax is the market means to discourage consumption, and in that regard, to lower the solid waste streams that would be building up in the consumer side. Some current ideas in this regard are described in the JICA Study of Solid Waste Recycling in Malaysia (1995).

On the regulators end, the principal issue will be whether the regulators are well defined and have been prepared to handle the privatized parties, i.e. given sufficient resources, manpower and training to deal with emerging issues. It must be emphasized that regulating privatization is not merely a technical issue of making sure that the system works. It is also how to make use of existing institutional resources in the most efficient manner to supervise the privatized parties in their job performance. It needs no reminding that once privatization takes place, the regulators are depending on the private party to deliver services. Whether they perform well, especially in a monopoly type environment, will depend on how well the regulatory framework is devised and implemented. There can be a clear distinction between the profit motive of the privatized party, and the supervisory system of the regulator.

5.4 Costs and Benefits

Solid waste management and facilities in Malaysia needs urgent attention and huge investment. Local authorities are short of financial resources and there is an urgent need to reorganize and improve waste management, which requires a significant capital outlay. Illegal dumping and open burning are causing environmental and health hazards.

As in other environment related services, this area has been suffering from gross under-investment by the state and federal governments. It is not possible to assess how bad under-investment is as data is lacking, but a look at some of the bids for the national privatization plan may drop a hint or two. For example, Alam Jernih Sdn Bhd, one of the major bidders, was reported to plan an investment of US$5 billion to provide waste management services in Malaysia for 25 years (The Star 6/7/95). The other bidders, proposing to provide regional waste management service, had submitted proposals worth RM1 billion to 2 billion.

If we go by the investment figures of the bidders, it means the Federal Government will save billions in development costs if the solid waste management service is privatized nationwide. At local levels, the local authorities will be relieved of the burden of having to cope with shortage of funds and untrained staff.

With national privatization on the card and huge investment planned by the bidders, it is natural to expect that the real cost of garbage disposal, collection and treatment will surface in due course. While Kuala Lumpur City Hall had warned its residents that they must be prepared to pay when the city switches to using an incinerator costing RM1.2 billion (TS 12/5/95), the Minister for Housing and Local Government Dr. Ting Chew Peh had said the Federal Government would ensure that any solid waste management system implemented would not burden the people (NST 17/5/95). If the latter is true, it can only be inferred that the Government is prepared to absorb the additional charges, at least for the present.

It appears that while people may be prepared to pay extra tariffs for improved service, cleaner and healthier environment, they certainly do not wish to pay unacceptably high rates. This involves value for money and users' recognition of value based on the polluter pay principle.

5.5 Achievement in Privatization

Through privatization, the private sector is expected to fund the improvement plans. This will involve taking over the role of the local authorities which are currently responsible and empowered to provide these facilities and services. The surplus manpower in local authorities can then be redirected to carrying out recycling activities.

Privatization is expected to promote the growth and diversification of companies. It is expected to bring higher service standards and efficiency into the system. Private sector accounting would enable the true costs of solid waste management to be captured. This enables more effective planning and investment.

Privatization is also expected to relieve the Federal Government of its burden on development cost, which could be as high as over RM10 billion. It should also be able to bring about a more uniform system of waste management in Malaysia.

With the open tender system adopted by the EPU in the national waste privatization scheme, it is envisaged that the tendering process itself will generate information about the relative efficiency of the operators who bid for the contract.

It is obvious that there are many issues still to be resolved in the solid waste privatization. A possibility may be to look at other countries to see how it has been operating. In Japan, this issue is deemed too sensitive for the private sector to take charge of. Nonetheless, Malaysia hopes to do this differently.

5.6 Future Scenario

At the time of writing, the EPU is still processing the 28 bids in its national solid waste privatization exercise It appears that the government is determined to go for privatization of solid waste nationwide, regardless of the efforts in privatization by state governments. It is obvious that this issue needs urgent attention as rapid population growth, urbanization and industrialization continue to help generate massive amounts of solid wastes. The current poor system of waste management makes it even more urgent for the authorities to look for immediate but long-term management strategies.

Although financing the privatized solid waste systems may not be the prime concern of government, they will still have to consider how best the system is to be paid for. A large increase in the privatized services is envisaged. Handling the public on this matter will be difficult, given the price increases in other utility areas, such as in telephony, energy, water, sewerage, and generally a higher cost of living. This is one key area of concern.

It is envisaged that the solid waste privatization exercise will be completed by the end of 1995 or 1996. There are outstanding issues in the legal, regulatory, and institutional framework which needs to be resolved. Once these are completed, the privatization exercise can proceed. However, the government may take a do-as-we-go approach, and privatize before resolving all outstanding issues, as in the sewerage privatization exercise.

If that were the case, there may be some opportunities for investments by firms which have good and competent environmental and solid waste handling systems. Sanitary landfills will likely be required. So far, the local environmental firms still lack the technical expertise for handling such technologies. Joint ventures will likely take place. And this is where foreign technology may be needed.

Chapter 6 Water

6.1. Background and Pre-privatization Scenario:

Although Malaysia first declared its national privatization policy in 1983, privatization of water supply system or parts of it did not begin until the late 1980s. It is one of the last public utilities to be privatized mainly because water is considered as a basic need, and thus there is a social element in water supply. It is an obligation of the government to provide this basic need to the population. In fact, most water privatization projects are still at their initial stages of privatization. Apart from the social factor, complications unique to water management also slow down the privatization process.

Under Malaysia's Federal Constitution, water is a state matter. As such each of the 13 Malaysian states operates, manages and develops its own water supply system (Figure 6.1). Each state has its own Water Supply Enactment for development, protection of water resources and catchment areas. Every state has a powerful role in water conservation, regulation and use. It distributes water and collects tariffs from users.

Water rates are different for the 13 states (see Table 6.1), depending on the abundance of water supply, the quality of water and the pattern of human settlement. However, the Federal Government has a role over water matters. The Federal Public Works Department (PWD) provides technical advice and consultation to states, including guidelines on water resource use. The Economic Planning Unit (EPU) of the Prime Minister's Department evaluates project proposals while the Ministry of Finance provides the water supply development funds.

Under the Sixth Malaysia Plan (1991-95), the Federal Government allocated a total of RM2.855 billion (US$ 1.165 billion) for water source works, reticulation, upgrading and rehabilitation. Allocations for 1986-90 period totaled RM2.716 billion (US$ 1.109 billion).

Prior to full privatization of state water bodies, a state may rely on the Federal Government for funding of water development projects and subsidies. But once a state water body is fully privatized, as in the case of Johor, Federal Government funding stops.

The principal source of domestic water supply in Malaysia comes from surface water. The total annual surface water is 159 billion cubic meters, but out of this, 65% represents run-off to the sea, 25% is used for hydro-electric power generation and only 10% is available for domestic, industrial and irrigation purposes.

Water supply in Malaysia's 13 states are currently managed by five types of water organizations, each enjoying varying degrees of autonomy. The five types are: Water Board, Water Supply Department, state PWD, Federal PWD and private Water Corporation (Table 6.2).

Figure 6.1. Water Supply System

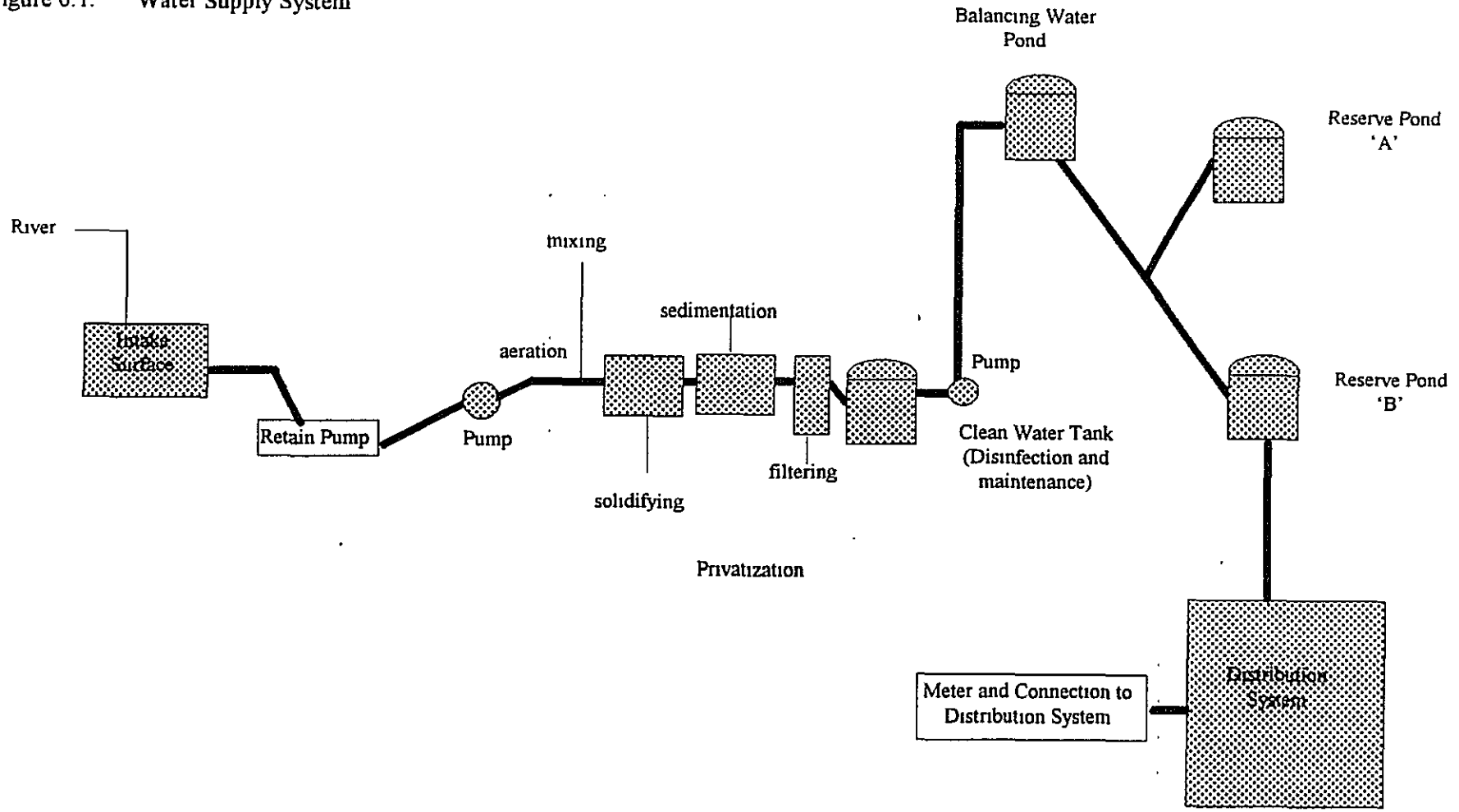


Table 6 1 Water Rates in Malaysia 1995

TYPE OF CHARGE	JOHOR	NEGERI SEMBILAN	SELANGOR AND FEDERAL TERRITORY OF KUALA LUMPUR	PULAU PINANG	KEDAH	PAHANG
DOMESTIC SUPPLY						
Residential	0-15 m³@RM0 30/m³ 16-30m³@RM0 70/m³ 31-45 m³@RM0 95/m³ >45 m³@RM1 15/m³	0-9 m³@RM0.40/m³ 10-20m³@RM0 55/m³ >20 m³@RM0 65/m³	0-15 m³@RM0.42/m³ 16-40m³@RM0 65/m³ >41 m³@RM1 05/m³	0-20 m³@RM0.22/m³ 20-60m³@RM0 42/m³ >60 m³@RM0 70/m³ Bulk Supply 0-90m³@RM26 00/month >90 m³@RM0 35/m³	0-20m³@RM0 40/m³ 21-40m³@RM0 72/m³ 41-60m³@RM0 90/m³ >60 m³@RM1 10/m³	0-18 m³@RM0 37 m³ 18-45m³@RM0 79 m³ >45 m³@RM0 99 m³ Military Camp RM0 55 m³
Religious Institutions	-do-	in excess of free supply RM0 20/m³	RM0 33/m³ min. charge - RM 3.00	-do-	-do-	RM0 44 m³
Charitable Organisations	-do-	in excess of free supply RM0 20/m³	RM0.42m min. charge - RM 3.00	-do-	-do-	-do-
Government Buildings and Statutory Bodies	RM1 15/m³ min. charge - RM 5 00	RM0.50m min. charge - RM 5 00	RM0.80³ min. charge - RM 10 00	as for industrial	-do-	-do-
Min. charge per month	RM3.00	RM3.00	RM3.00	RM2.50	RM3.00	RM3.00
COMMERCIAL SUPPLIES						
Industrial/commercial	0-20 m³@RM1.20/m³ >20 m³@RM1.60/m³ min. charge -RM 10 00	0-100 m³@RM1 00/m³ 100-500m³@RM0 90/m³ >500m³@RM0.85/m³ min. charge -RM 10 00	RM1 20/m³ min. charge -RM 10 00 (inc. private swimming pool)	0-20 m³@RM0 52/m³ >20m³@RM0 70/m³ min. charge -RM 6.00	0-10000 m³@RM1.20/m³ 10001-50000m³@RM1.40/m³ >50000m³@RM1.80/m³ min. charge -RM 10 00	Gazetted Area 0-227 m³@RM0 92 m³ >227m³@RM0 84/m³ min. charge -RM 30 00 Trade @RM1.45/m³ min. charge -RM 20 00 Part-Trade @RM0 99/m³ min. charge -RM 10 00
Construction	-do-	-do-	-do-	RM0 90/m³ min. charge -RM 10 00	-do-	as for trade
Swimming Pool	-do-	RM1.00/m³ min. charge -RM 5 00	-do-	as for industrial	-do-	@RM1.32/m³ min. charge -RM 15 00
SPECIAL RATE						
Shipping	@RM3.70/m³	@RM1 00/m³	@RM2.10/m³	@RM1 50/m³		Commercial RM4.00 m³ min. charge -RM 30 00 Fishing Boat @RM4.00 m³ min. charge -RM 30 00
Special Rate			as for construction			
Bulk Supply		Ladang/Estate	RM0 65/m³			
Educational Institute/Army Camp/Estate		@RM 0.70/m³ min. charge -RM 5 00	min. charge -RM 100 00			
Pig Rearing Areas in Mukim Bt. Pelandok Port Dickson		0-70 m³@RM0.90/m³ >70m³@RM0.80/m³ min. charge -RM5 00				
Condominium			RM0 75/m³ min. charge -RM 100 00			
Residential Flats (Government/Semi Government)			RM0.50/m³ min. charge -RM 20 00			
Current rate w.e.f.	1/4/91	1/2/93	1/1/91	1/5/93	1/3/93	1/1/83

W e.f - with effective from

Table 6 1 (cont) Water Rates in Malaysia 1995

TYPE OF CHARGE	MELAKA	TERENGGANU	SARAWAK	BINTULU	PERAK	PERLIS
DOMESTIC SUPPLY						
Residential	0-15 m^3@RM0 45/m^3 15-40m^3@RM0 70/m^3 >40 m^3@RM1 10/m^3 min. charge - RM 3 00	0-9 0m^3@RM0 33/m^3 9 1-27 2m^3@RM0 44/m^3 27 3-45.4m^3@RM0 55/m^3 >45 5m^3@RM0 77/m^3 Public Standpipe RM0 66/m^3	0-15 m^3@RM0 44/m^3 15-50m^3@RM0 65/m^3 >50m^3@RM0 69/m^3	0-14m^3@min. charge RM6 00 14-45m^3@RM0 61/m^3 >45 m^3@RM0 66/m^3	0-10m^3@RM0 30/m^3 10-20m^3@RM0 70/m^3 >20 m^3@RM0 90/m^3	0-15m^3@RM0 27/m^3 15 1-40m^3@RM0 45/m^3 >40 1m^3@RM0 80/m^3
Religious Institutions	RM0 45/ m^3 min. charge - RM 3 00	<45 5m^3- free >45 5m^3@ RM0 77/m^3	-do-	-do-	@ RM0 30/m^3	-do-
Charitable Organisations	-do-	as for residential	-do-	-do-	-do-	-do-
Government Buildings and	RM1 05/m^3	RM0 50m	-do-	-do-	as for residential	-do-
Statutory Bodies	min. charge - RM15 00	min. charge - RM 5 00				
Schools			@RM0.60 per m^3	@RM0 66 per m^3		
Min. charge per month	RM3 00	RM3 00	RM4 00	RM6 60	RM3 00	RM2 50
COMMERCIAL SUPPLIES						
Industrial/commercial	RM1 40/m^3 min. charge -RM 15 00	Industrial @RM0 88/m^3 min. charge -RM 10 00 Trade 0-45 5m^3@RM0 66/m^3 >45 5m^3@RM0 88/m^3 min. charge -RM 10.00	Industrial 0-25m^3@RM0 95/m^3 >25m^3@RM1 20/m^3 min. charge -RM 22 00 Commercial 0-25m^3@RM0 88/m^3 >25m^3@RM0.96/m^3 min. charge -RM 20 00	Industrial 0-23m^3-min. charge -RM27 70/m^3 >23m^3@RM1.21/m^3 Commercial 0-23m^3-min. charge -RM20 90/m^3 >23m^3@RM0 99/m^3	Industrial/Commercial 0-10 m^3@RM1 20/m^3 >10m^3@RM1.40/m^3 min. charge -RM 12 00	Part Trade RM0 80/m^3 min. charge -RM 3 50 Trade @RM0 85/m^3 min. charge -RM 4 50
Construction	as for industrial	as for industrial	as for commercial	as for commercial	-do-	as for trade
Swimming Pool	as for industrial	RM1 10/m^3 min. charge -RM15 00	as for commercial/residential/1	as for commercial/1 residential/1	-do-	as for trade
Bulk Supply					@RM0 60/m^3 min. charge -RM 100 00	
Public Standpipes	RM0 80/m^3 min. charge -RM 20 00	@RM0 66/m^3	@RM0 39/m^3	@RM0.36/m^3		@RM0 52/m^3
SPECIAL RATE						
Shipping	Bulk Supply @RM3 00/m^3 min. charge -RM 15.00 Raw Water @RM0.70/m^3 min. charge -RM 20 00 Estate as for government buildings	Commercial ship @RM2.20/m^3-RM10 00 Fishing boat @RM0 88/m^3 min. charge -RM10 00	@RM1 50/m^3 Special Commercial ship 0-25m^3@RM1 10/m^3 >25m^3@RM1 21/m^3 min. charge -RM 25 00 Domestic/Commercial Rates 0-25m^3@RM0.75/m^3 >25m^3@RM0 86/m^3 min. charge -RM 17.00	@RM1.70/m^3 Special Commercial ship 0-25m^3@RM1.21/m^3 >25m^3@RM1.33/m^3 min. charge -RM 27 50 Domestic/Commercial Rates 0-25m^3@RM0.83/m^3 >25m^3@RM0 95/m^3 min. charge -RM 18 70	as for Bulk Supply	as for trade
Current rate w.e.f.	1/8/92	1/2/84	1/2/84	1/9/82	1/9/91	1/6/93

/1 - commercial rate for hotel pools and residential rate for domestic pools

/2 - for approved large industrial consumers only:-

0-4550m^3	@RM 0.66/m^3
4550-9090m^3	@RM 0.55/m^3
9090-22730m^3	@RM 0.51/m^3
>22730m^3	@RM 0 76/m^3

w.e.f. - with effective from

Table 6 1 (cont) Water Rates in Malaysia 1995

TYPE OF CHARGE	KELANTAN	SABAH/3	FEDERAL TERRITORY OF LABUAN	KUCHING	SIBU	SRI AMAN, MIRI, LIMBANG, SARIKEI, KAPIT
DOMESTIC SUPPLY						
Residential	0-20 m^3@RM0 25/m^3 21-50m^3@RM0 40/m^3 >40 m^3@RM0 60/m^3	@RM0 90/m^3	@RM0 90/m^3	1-15m^3@RM0 48/m^3 15-50m^3@RM0 72/m^3 >51 m^3@RM0 76/m^3	1-15m^3@RM0.48/m^3 15-50m^3@RM0.72/m^3 >51 m^3@RM0 76/m^3	1-15m^3@RM0 48/m^3 15-50m^3@RM0 72/m^3 >51 m^3@RM0 76/m^3
Religious Institutions	-do-	free	free	-do-	-do-	-do-
Charitable Organisations	-do-	@RM0 90/m^3	@RM0 90/m^3	-do-	-do-	-do-
Government Buildings and Statutory Bodies	-do-	RM0 50m min. charge - RM 5 00	-do-	-do-	as for residential	-do-
Schools			@RM0 60 per m^3	@RM0 66 per m^3		
Min. charge per month	RM2.50	RM4 00	RM4 00	RM4 40	RM4 40	RM4 40
COMMERCIAL SUPPLIES						
Industrial/commercial	RM0 70/m^3 min. charge -RM7 00	Commercial RM0 90/m^3 min. charge -RM4 00	RM0 90/m^3 min. charge -RM4 00	Commercial min. charge -RM 22 00 1-25m^3@RM0 97/m^3 >25m^3@RM1 06/m^3 Domestic/Commercial min. charge -RM 18 70 1-25m^3-RM0 83/m^3 >25m^3@RM0 95/m^3	Commercial min. charge -RM 22 00 1-25m^3@RM0 97/m^3 >25m^3@RM1 06/m^3 Domestic/Commercial min. charge -RM 18 70 1-25m^3-RM0 97/m^3 >25m^3@RM1 06/m^3	Commercial min. charge -RM 22 00 1-25m^3@RM0 97/m^3 >25m^3@RM1 06/m^3 Domestic/Commercial min. charge -RM 18 70 1-25m^3-RM0 83/m^3 >25m^3@RM0 95/m^3
Construction	-do-	-do-	-do-	Commercial Rate min. charge -RM 27 50 0-25m^3@RM1 21/m^3 >25m^3@RM1 33/m^3	Commercial Rate for Water processed for sale min. charge -RM 27 50 1-25m^3@RM1.21/m^3 >25m^3@RM1 33/m^3	Commercial Rate min. charge -RM 27 50 0-25m^3@RM1.21/m^3 >25m^3@RM1 33/m^3
Swimming Pool		as for industrial/residential/4	-do-	-do-	as for commercial	-do-
Bulk Supply				@RM0 43/m^3		@RM0.43/m^3
Public Standpipes				@RM0.43/m^3	@RM0.43/m^3	@RM0 43/m^3
SPECIAL RATE						
Shipping	@RM2 00/m^3 min. charge -RM20.00	@RM2 70/m^3	@RM2 64/m^3	@RM1 70/m^3	@RM1 70/m^3	@RM1 70/m^3
Current rate w.e.f.	1/8/92	1/2/84	1/2/84	1/9/82	1/9/91	1/6/93

/3 - except for Kota Belud District whrer rates are half of those shown for Sabah
/4 - mdustrial rate for hotel pools and residential rate for domestic pools.

Table 6 2 Types of Organization Managing Water Supply in Malaysia

Type	State
1. Water Board (WB)	Melaka, Pulau Pinang, Perak, Kuching City and Sibu City (both Cities in Sarawak)
2 Water Supply Department (WSD)	Selangor (including Wilayah Persekutuan Kuala Lumpur), Negeri Sembilan, Terengganu, Sabah and Pahang
3. Public Works Department (PWD)	Kedah, Kelantan, Perlis and Sarawak (except Kuching and Sibu City)
4. Water Corporation	Johor (Feb. 1994, Syarikat Air Johor Bhd.)
5. Federal PWD HQ	Wilayah Persekutuan Labuan

The Water Boards of Melaka, Penang and Sarawakian cities of Kuching and Sibu are state-formed organisastions and function like independent state institutions. They collect water tariffs and plan their own budgets. On the other hand, the Water Supply Departments of Selangor, Negeri Sembilan, Terengganu, Sabah and Pahang function like any state departments. Water tariffs collected enter the state coffers and the water departments receive their fundings from the state government, which may be less than the water tariffs that they collect.

The state PWDs of Kedah, Kelantan, Perlis and Sarawak (except for Kuching and Sibu), which were once the state branches of the Federal PWD, are now under state control. They now function like a state department. While Labuan is under the jurisdiction of the Federal PWD, Johor's water supply is managed by a company set up under the Companies Act.

The state water authorities are responsible for the cost of operating and maintaining water systems and financing its own projects and co-financing projects with the Federal Government. The financial aid it receives from the Federal Government comes in the form of grants and soft loans for capital works in water projects, which include urban and some rural areas. Rural water supplies in general are implemented with Federal Grants.

Once a water project is privatized, the role of the state water authority is reduced to that of a regulatory body, acting as a watchdog for the government.

By and large, water resource management is carried out on a largely piecemeal basis under various legislations, and by many authorities. Other agencies involved in water projects are:

1 Ministry of Works: designs and implements water projects in Regional Development Areas and Special projects, eg. Antah-Biwater Rural Water Supply Project;
2. Ministry of Rural Development: plans and coordinates Federal Rural Water Supply projects;
3 Ministry of Land and Cooperative Development: administers Federal grants and loans for building treatment plants and distribution systems in FELDA (Federal Land and Development Agency) schemes and regional development schemes;

4. Ministry of Health: cooperates with state governments to provide community water supplies to prevent the spread of communicable diseases under the Rural Environmental Sanitation Program (RESP).

The plethora of agencies involved in water management is best depicted in Table 6.3. As can be seen, the entire water resource management aspect is very wide and many agencies are involved. In fact, it has been claimed that no one agency overlooks the entire management or planning function of water resource. Instead, the water management function is so fragmented that all levels of government are involved, depending on the aspect of nature of the pollution (IPT, 1992: 85).

Table 6.3 Agencies involved in Water Management

Watershed Management	Water Supply Department Public Works Department Forestry Department Land Office
Water Resource Planning	Water Supply Department Public Works Department State Governments Federal Public Works Department (Water Supply Branch)
Irrigation & Drainage	Drainage and Irrigation Department
Flood Management (outside municipality) (within municipality)	Drainage & Irrigation Department Municipal Council/ Local Authority
Water Pollution Control rubber mills oil palm mills industrial effluent sewage (factory) sewage (household) any pollutant or disturbance animal waste (licensing)	 Department of Environment Department of Environment Department of Environment Department of Environment Municipal Council/ Local Authority Municipal Council/ Local Authority Municipal Council/ Veterinary Dept.
Overall Water Quality	Department of Environment, monitors but not responsible
Landuse Zoning	Local Authority/ State Planning Agencies

Source: Adapted from IPT, 1992, Table 4.5, p.84

Further to these numbers of agencies, water endowments are unequally distributed amongst the various states, some of whom (for example, Penang and Melaka) are somewhat dependent on other states to meet some of their water needs.

Generally, Malaysia has paid substantial attention to providing and improving water supply situation.The EPU envisages that 87.7% of the total population will enjoy piped water by the

end of 1995. Urban coverage is expected to reach almost 100% while the coverage of rural water supply to reach 79% by the end of 1995 (see Table 6.4, 6.5 and 6.6). This is the result of the Government's policy to increase accessibility to safe water.

Table 6.4: Urban Water Supply Coverage, 1985-95

State	*1985*		*1990*		*1995*	
	Persons	*%*	*Persons*	*%*	*Persons*	*%*
Johor	673,992	92	888,960	96	1,145,473	97
Kedah	175,275	95	215,915	97	257,838	98
Kelantan	199,355	65	261,096	69	399,670	85
Melaka	114,800	100	126,400	100	139,200	100
Negeri Sembilan	207,904	89	265,880	92	345,504	96
Pahang	241,965	95	272,930	98	301,056	98
Perak	625,730	98	700,920	99	784,575	99
Perlis	15,252	93	20,273	97	26,900	100
Pulau Pinang	556,934	98	697,158	99	881,100	100
Sabah	292,900	100	392,800	100	540,700	100
Sarawak	283,765	95	353,856	96	450,500	100
Selangor[1]	1,892,400	95	2,478,714	98	3,266,200	100
Terengganu	255,000	85	350,010	90	481,555	95
Malaysia	**5,535,272**	**93**	**7,024,912**	**96**	**9,020,271**	**98**

Note [1] Include Wilayah persekutuan Kuala Lumpur

Source 6MP, 332

Table 6.5: Rural Water Supply Coverage, 1985-95

State	*1985*		*1990*		*1995*	
	Persons	*%*	*Persons*	*%*	*Persons*	*%*
Johor	687,836	61	792,342	67	936,546	78
Kedah	597,632	58	768,758	67	963,732	77
Kelantan	216,900	30	316,080	40	433,347	51
Melaka	311,108	82	375,030	90	441,392	98
Negeri Sembilan	295,425	75	335,495	85	370,215	95
Pahang	485,745	65	594,160	70	774,595	79
Perak	937,800	72	1,084,278	78	1,212,796	83
Perlis	74,600	50	108,030	65	148,680	80
Pulau Pinang	412,250	85	436,608	96	370,440	98
Sabah	381,710	38	594,152	52	1,002,800	80
Sarawak	414,447	33	656,731	47	1,145,150	74
Selangor[1]	724,671	73	833,000	85	715,528	94
Terengganu	135,560	40	195,199	53	241,280	65
Malaysia	**5,675,684**	**57**	**7,089,863**	**66**	**8,756,501**	**79**

Note [1] Include Wilayah Persekutuan Kuala Lumpur

Source 6MP 333

Table 6.6: Water supply situation in Malaysia
(Actual coverage of population served with piped water)

Year	Total (%)	Urban (%)	Rural (%)	Overall Target (%)
1980	58 7	89 0	42.9	
1985	70 9	93 1	57 6	[72 9]
1990	78 3	{96 5}	{72 8}	[82 4]
		{targets set earlier}		[target set earlier]

Source 5MP 473 & 6MP 332

Water demand has increased vastly in tandem with the rise in population and the fast pace of economic development and industrialization. Malaysia's liberal policy on investments introduced in October 1986 has lured many foreign industries to set up factories here. The domestic and industrial water demand is forecast by the EPU to increase by 46% during 1990-95 (Table 6.7 and 6.8), while demand for irrigation is expected to rise marginally. So far, Malaysia has been quite successful in meeting both industrial and domestic requirements.

Table 6.7 : Malaysia: Water Supply and Demand, 1980-90

(Mld)

State	*1980*		*1985*		*1990*	
	Treatment plant production capacity	*Demand*	*Treatment plant production capacity*	*Demand*	*Treatment plant production capacity*	*Demand*
Johor	212.0	236.6	426 5	398.6	810 1	703.9
Kedah	142 9	162.9	260 0	287.1	569 0	534 3
Kelantan	51 9	51.9	113 0	103.7	201 4	180 1
Melaka	79 2	79.6	232 7	140.6	240.7	237 0
Negeri Sembilan	118 3	97.8	213.0	182.0	387 8	325 6
Pahang	113 8	113.8	221.7	199.3	622 5	315 4
Perak	441 4	318.5	526 7	468.2	830 5	696 1
Perlis	15 0	6.8	19 3	25.0	66 9	41 2
Pulau Pinang	291.2	268.5	464.1	342.6	631 9	551 0
Sabah [1]	124 6	106 9	318.0	188.0	556 8	362.8
Sarawak	157 0	101.5	267.0	233.0	532 2	334.0
Selangor[2]	854.9	707.8	1,037.0	1,098.4	1,895 1	1,768.0
Terengganu	39.5	28.7	119.6	. 71.4	332.1	229.2
Malaysia	**2,641.7**	**2,281.3**	**4,218.6**	**3,737.3**	**7,677.0**	**6,278.6**

Sources: Ministry of National and Rural Development
Water Supply Division, Public Works Department

Notes:
[1] Includes the Federal Territory of Labuan
[2] Includes Federal Territory of Kuala Lumpur

Table 6.8· Water Treatment Capacity and Supply, 1985-95

State	1985		1990		1995	
	Treatment plant production capacity	*Quantity Supplied*	*Treatment plant production capacity*	*Quantity Supplied*	*Treatment plant production capacity*	*Quantity Supplied*
Johor	431	431	983	529	1,520	931
Kedah	237	237	478	374	837	602
Kelantan	135	104	149	116	441	187
Melaka	150	114	143	137	184	175
Negeri Sembilan	208	182	230	230	483	370
Pahang	276	201	528	369	822	542
Perak	552	468	644	564	838	722
Perlis	24	24	54	43	139	63
Pulau Pinang	418	343	494	452	695	577
Sabah	249	188	367	363	708	488
Sarawak	324	183	388	282	709	433
Selangor[1]	1,000	1,000	1,793	1,406	2,768	2,475
Terengganu	158	291	291	114	335	201
Malaysia	**4,162**	**6,542**	**6,542**	**4,979**	**10,479**	**7,766**

Note [1] Include Wilayah Persekutuan Kuala Lumpur

However, rapid industrialization, high population growth and greater rural-urban population shift have combined to cause serious water pollution. Deteriorating river water quality is caused by organic pollution (resulting in higher Biological Oxygen Demand), higher content of soil and sedimentation, heavy metals, sewage and animal waste. Coastal and marine water quality is affected by the presence of feacal coliform, total suspended solids, oil and grease.

In general, the country has not been quite successful in combating inefficiency in water supply. One major factor is gross under-investment in this sector. A study by the Federal Government, completed in 1989, revealed that in 1988, the unaccounted for water losses averaged 43 per cent for the whole country. In some states, the efficiency of water supply was even lower, with unaccounted for water losses at 45% (6MP).

The high level of losses was attributed to meter under-registration, system leakages and other losses. To reduce such losses, the study recommended upgrading and rehabilitating existing treatment plants and distribution system to ensure a more efficient utilization of water resources. This recommendation, if translated into action by the Government, would mean massive capital investment.

The Public Works Ministry estimated in May 1995 that a sum of RM2 billion (US$ 816 million) would be needed to lay new pipes all over the country to minimize water losses through leakage (New Straits Times; 5th May 1995)

To measure the efficiency of the water system in Malaysia, a full engineering study is being conducted by the Public Works Ministry, with help from the Asian Development Bank. This

study, costing RM500 million, is being conducted in 30 districts. So far, study on 11 districts have been completed but the outcome of the study has not been made public.

In line with the privatization policy, several projects were privatized during 1986-90 (6MP). These schemes included the construction and operation of the Labuan Water Supply Project under the Federal Government, and the award of management contracts of Sungai Layang, Sungai Terip and Sungai Semenyih water treatment plants. On a build-operate-transfer basis, Phase 2 water supply projects of Greater Ipoh, Krian, Larut and Matang were also privatized (6MP). Table 6.9 summarizes the status of water privatization in various states.

Table 6.9: Status of Water Privatization in Various States

State	Parts Privatized	Companies Involved
Selangor	1 Water treatment plant, Semenyih (BOT) 2. 25 water treatment plants, (BOT)	Taliworks Sdn Bhd Puncak Niaga Sdn Bhd
Johor	1. Building of dam at Sungai Layang, Sungai Johor, treatment plants and laying of pipelines (BOT) 2 Rehabilitation of 14 treatment plants, and expansion and development of reservoirs and treatment plants 3 Corporatisation of Johor Waterworks Department in 1994	Southern Water Corporation sole owner - Johor State Government
Penang	Currently studying proposals to privatize Penang Water Authority	
Kelantan	Working towards privatising State Water Department at end 1995	Kelantan Foundation and the Thames Water Pte Ltd
Negeri Sembilan	Government in March agreed in principle to privatize State Water Department	
Perlis	Government decided in July 1994 to privatize work to supply water and maintain treatment plants	
Sabah	1. Kota Kinabalu water supply privatisation (BOT) 2. Sandakan and Tawau Water Supply privatization (BOT)	Jatama Sdn Bhd Timatch Sdn Bhd
Pahang	State government agreed in 1991 to privatize water management, water distribution and billing to consumers	
Other States	No visible action yet	

Source Newspaper reports

6.2 Modes of Privatization

Water supplies can be derived from two main sources -- surface water and groundwater. Surface water consists of fresh water in rivers, lakes and reservoirs that collects and flows on the earth surface. By contrast, ground water collects in porous layers of underground rock. When we talk about water privatisation in the Malaysian context, we refer to water supply from surface water, which accounts for 95% of potable water supply.

Malaysian states have adopted water privatization mainly in three forms. These are:

a) Management or service contracts
b) Build-Operate-Transfer (BOT) contracts
c) Mixed management and BOT contracts

6.2.1 Management or service contracts

Management or service contracts involve the transfer of management operation and maintenance of existing treatment plants or newly-constructed plants by the Government to the private sector for a definite period of years. Generally, the private company awarded the contract is wholly responsible for the operation and proper maintenance of the plant. It also bears all the risks involved in the repair and/or replacement of the facilities. The Government pays the company a fixed rate for the supply of water in bulk during the concession period, which is normally five years and renewable for a further five years. At the end of the period, the company has to hand back the plant to the Government in good condition.

An example of this mode of privatization is the operation of the 545MLD Sungei Semenyih water treatment plant in the state of Selangor. This plant, privatized in early 1990s, supplies water to the Klang Valley (capital city Kuala Lumpur and adjacent areas). In this case, the company not only has to bear all the risks involved, but also has to face penalty if it fails to supply water in accordance with the specified quantity and quality during the five-year concession period.

However, there are other contracts given out solely for the supply of management staff and labor for the operation of the water treatment plants. In these cases, the government pays for all the chemicals and electricity consumed as well as for the maintenance of the facilities. The government also bears the risks in the operation and maintenance of these plants.

6.2.2 Build-Operate-Transfer (BOT) contracts

In the BOT form, the private company finances the construction of the project. When the project is completed, the company operates and maintains the facility for a fixed period before transferring the whole project back to the government in good working condition. This type of contracts normally carries a concession period of 20-25 years.

An example in BOT privatization is the Labuan Water Supply project. The company awarded this contract designed, constructed the project and is maintaining it now. The concession period is 13 years, including the period used up in the construction of the project.

Under the terms and conditions of the concession agreement, the government purchases the water in bulk from the company. The amount of payment depends on the quantity of water delivered. This payment takes into consideration the amount of chemicals and electricity consumed and their price fluctuations. Additionally, the government also makes a separate monthly payment to the company to cover its overhead, investment and financing costs.

Under the contract, the company will be penalized for failing to supply water in accordance with the specified quality or the minimum scheduled quantity. The company bears all the risks associated with construction and financing costs, foreign exchange rate fluctuations and technical problems. At the end of the concession period, the company is required to hand over the entire facility in good condition to the government free of charge.

6.2.3 Mixed Management and BOT contracts

This form of privatization is a combination the first two modes of privatization just discussed. In this form, the private company takes over the operation of existing treatment plants and undertakes to finance and build new facilities to meet rising demand during the concession period. The government purchases water in bulk from the company.

Two such contracts have been awarded in Perak and one in Johor state. The concession period for all the contracts is 20 years. In the case of the two contracts in Perak, water price paid by the government was fixed at the time the contract was awarded. This means that the company has to bear inflation risk. However, the company has the discretion to time the construction of new facilities to meet rising water demand. In the case of Johor, the price of water sold to the government changes with the phasing in of new facilities. The new price will also take inflation into account.

6.3 Key Issues

The implementation of water privatization projects has brought to light several issues and problems. Below are some major ones:

a. Privatized services in water supply may not necessarily result in the service being cheaper. Even taking into account increased efficiency and productivity, the net effect of a privatized service is usually more expensive than a government-operated one. This is because in a government-operated department, there are a lot of hidden costs such as insurance and corporate costs which will surface in a private concern. Further, the private sector has to allow for higher financing costs and all the associated risks, taxes and profit. The question that should be raised is: Should these additional costs be

passed on to the people (end-users) or be borne by the government? If the government absorbs these costs, does this amount to subsidizing a privatized service? Or could it be that a privately-run operation can be so efficient as to absorb these costs without making a strong impact on its bottom line?

In the Labuan privatization project, the government decided to carry the financial burden and subsidize the project without raising water rates on the consumers. In the privatization of treatment plants, several state governments have openly announced that water tariffs will not be raised. This may mean that the government will pay for the additional costs, or that the private sector is able to absorb these costs in their operation.

It will be politically unacceptable for water rates to be high. Traditionally, water has been a subsidized commodity to meet the basic need of people. It is generally perceived that every person has a right to cheap, clean and safe water. If such an essential commodity becomes an expensive item, society can be destabilized and support for the government can be affected. However, it may be acceptable to the people that the government gradually passes on some/all of the costs to them over a period of time.

b. Water authorities need to assess the economic viability of water projects before making a privatization decision. It appears that some water authorities have privatized water projects for which they have no budget, irrespective of whether the project is viable or not. In these cases, water authorities have not assessed the economic viability of the water project and have not obtained funding for the project. When they privatized the projects, they seemed to work on the assumption that the private sector will be able to solve all the problems for them, including financing. The state may have cashflow problem if the privatized project requires a higher pricing for water sold back to the state.

   Water authorities should also prepare themselves well before embarking on privatization. It is observed that at least one state authority was not ready for privatization when it opted to go full swing into privatization. People running the privatized unit continue to exude the inefficiency and bureaucracy normally associated with government department. As a result, some objectives of privatization laid out by the government are defeated.

c. The tendering process of privatization projects needs to be given due consideration. In Malaysia, the government has often shied away from the open tender system. Instead, many privatization projects have been awarded privately to individuals or companies which mooted the idea. The rationale of the government is that entrepreneurs should be rewarded and that this "first come-first served" method will save time and money of potential contenders. It is both expensive and time-consuming to carry out a detailed study and submit a proposal.

But critics of the government have pointed out that politically-linked business groups have been given privatization jobs and this may not be in the best interest of the nation. Some of these businessmen have no track record and it could be risky to pass on major privatization projects to them. As many water projects are still at their infant stages of privatization, it is too early to assess whether all the projects will be successful.

d. Compared to international financial institutions, local banks are relatively inexperienced in the financing of privatized projects. Hence, financing of many major privatization projects is done by international group. Local banks have asked for insurance cover for different types of risks that used to be assumed by the government before privatization. This raises the cost of financing projects. Hence a review of the financing policy by local banks may be needed.

e. Government departments do not pay tax for profits made, if there is any. Under current tax laws, income from the BOT projects are not tax deductable, even for the loan repayment component. Also, the depreciation of assets is not permitted for tax deduction. Unless the tax laws for such privatized concerns are reviewed, the private sector invariably will have to pass on the costs to the consumers.

f. Malaysia's fast pace of development and industrialisation, high population growth, rapid rural-urban migration and lack of control on pollution has affected the quality of its water at source. Construction projects on hill slopes have affected the environment and water quality. According to the specifications made by the World Health Organisation, 74% of Malaysia's water sources are slightly or grossly polluted. Sites for suitable dams near urban areas are no longer easy to locate. For example, the future supply of water for Kuala Lumpur will have to come from Pahang state rather than Selangor. It is going to be a more expensive affair to build treatment plants and treatment of water will cost more. Against this backdrop, water has become a "depleting resource" in Malaysia. To ensure that Malaysia will continue to be blessed by abundant supply of clean water, the country has to take steps to stem pollution and has to be more environmentally conscious in its development projects.

g. So far, water privatization centers almost exclusively on treatment plants. This area appears to be the most lucrative and neatest part in the three processes of water supply: catchment, treatment and distribution. The private sector does not appear to be keen on the distributive system. If this part is also privatized, can the government afford to absorb additional costs or will it pass on the burden to consumers?

h. Although water privatization has gone thus far, the question that is still being raised by some quarters is: should an essential service such as water supply be privatized? Should the government treat water supply as a social service to the people? As a commodity, water is free and the people should only pay the minimum for the use of this basic but essential item. But on the other hand, some argue, if the people want efficient supply and service, they have to pay for it. Also, those who pollute and cause water to be depleting should also pay the price for it.

i The terms and conditions in many privatization contracts appear to favour the private sector more than the state government, allowing a lot of flexibility during implementation. But state governments appear to place emphasis on the larger objectives of privatization rather than micro issues. Though at times a state government may have to bend its own rules, it has helped to smoothen the privatization process.

6.4 Achievement in Privatization

Unlike some other sectors (energy and telecommunications), water privatization is not fully implemented in Malaysia, hence its impact cannot be fully felt yet. Many privatized projects are still at their infant stages of transition. However, it is still possible to examine whether the five objectives of privatization set out by the Federal Government can be or have been achieved partially or fully.

a) *Objective 1: relieving the government's financial and administrative burden*

Traditionally, the government incurs large capital expenditure in the construction of dams, treatment plants, laying of pipes and maintenance to ensure not only that there is adequate supply to end-users but also that the public water supplies system is in proper order.

The pressure to increase investments in this sector is piled upon the government as the population keep growing and more and more industries keep streaming in as a result Malaysia's economic boom and favorable investment climate. The per capita demand for safe water supply increases as the country progresses. Generally, people expect a higher quality of service from the government as standard of living rises.

By bringing in the private sector to finance, build and maintain parts or all of these water infrastructure, the government has succeeded in reducing its burden. It will not have to come out with development costs and to worry about maintaining water facilities in BOT or mixed privatization contracts.

In addition, privatization allows the privatized project to gain access to the private sector capital markets through equity and joint venture participations.

b) *Objective 2: promoting competition, raising efficiency and productivity*

As water privatization projects are normally awarded to a single company rather than several companies in a state, there is no competition in service in the actual sense of the word. However, there may be competition at bidding stage if open tender system is adopted. After bagging the project, the pressure is on the the private sector to prove that it can perform a good job in terms of providing better service and providing quality water to consumers.

Privatized water treatment plants have been operating efficiently, as in the case of 27 water treatment plants in Selangor managed by Puncak Niaga Sdn Bhd. The company is able to provide better service and quality water. The reliability of water supply has also been improved compared to previous government-run operation.

When a state water authority is turned into a private firm, as in the case of Johor, the restrictive rules and cumbersome procedures inherent in a government department are expected to give way to a speedy decision-making process. The exposure to the competitive world outside would provide the spur to raise efficiency and productivity. But as Johor Water Bhd was only corporatized in February 1994, the management still exudes some bureaucratic characteristics of a state government department. It appears that the system still needs time to oil itself and people takes time to change their work ethics and culture.

c) *Objective 3: accelerating the growth of the economy*

Privatization increases the role of the private sector in national development and hence could generate more economic activity and contribute towards higher economic growth.

The profits made by the private sector in privatized projects can also be shared by the government in the form of company tax, which effectively means more revenue for the government. The country can then use the additional funds for other development projects to spur greater economic activities.

d) *Objective 4: reducing the size of the public sector*

Before the concept of privatization was mooted in 1983, Malaysia's public sector was huge in relation to its total workforce. The ratio of public sector to the entire workforce was 1 : 7. In addition, the public sector was known to be inefficient. The government felt the strain of having to support more than 860,000 civil servants in the pre-privatization era. Traditionally, salaries of civil servants account for the largest single expenditure in the government's annual budget.

However, as more privatization programme are being implemented, the number of civil servants fall. Many have opted to join privatized firms for higher salaries and better benefits. In the water supply sector, there is the added problem of shortage in skilled workers and trained professionals. Once the water authority or projects are privatized, the government can be relieved of the staff shortage problem too.

e) *Objective 5 redistribution of wealth to indigenous Malays and eradication of poverty*

Malaysia, with bumiputera or indigenous Malays accounting for half of its population, launched its 20-year long New Economic Policy (NEP) in 1971 with the twin goals of redistributing wealth to the Malays and reducing poverty. One avenue that the government has used to achieve the redistribution goal is by awarding privatization projects to Malays. When a company or project is privatized, a non-Malay bidder often has to team up a Malay or buimputera partner in order to be considered for the tender.

When a fully-privatized firm having a proven record of profits opts for public listing on the stock exchange, it has to divest part of its shares to stipulated Malay institutions or Malay businessmen, at below-market price. This will raise the equity and wealth of the Malays. In a public listing exercise, the general population can subscribe to the shares at below-market price. In this way, the public benefits from the successful privatization of the project.

In water privatization, Malays have gained participation in water treatment jobs. But as most of these privatized projects are still in their infant stages of privatization, the full impact of privatization is not tangible yet.

6.5 Costs and Benefits

The major investment costs involved in a water supply system include investments in the construction of infrastructure such as dams, treatment plants and laying of pipes. The major operational costs incurred include costs in the processing of water, use of chemicals, petrol and electricity, repair and maintenance of the water supply system and payment of staff salaries.

Once privatization takes place, some hidden costs such as insurance and corporate costs, which were previously borne by the government in government-run water supply system, will have to surface and will have to be built into the cost structure. These hitherto hidden costs may be transferred to the state governments or the end-users. In the Malaysian context, state governments buy back treated water in bulk from the privatized concerns. Hence these costs may well be borne by the governments if water tariffs remain unchanged.

Out of political consideration, many state governments are prepared to absorb the hidden costs soon after privatization. It is part of the popular belief that water supply should be a social service of the government to the people and that people should enjoy water freely and cheaply. But many believe that the burden will eventually be passed on or shared with end-users. If this happens, it is inevitable that water rates will rise and consumers have to bear the costs.

As bottom-line is the main consideration of a privatized concern, it may want to choose water supply projects catering for the urban rather than rural area. In densely populated urban areas, returns may be good as there is economies of scale but this may not be the case in rural areas. Hence, it appears that in rural areas, it may be necessary for the government to continue its social programme on water supply.

Although many water privatization projects are still in their initial stages of privatization and a full scale privatization (whereby a privatized concern makes public offer of its shares and applies for listing on the stock exchange) has not materialized in any of the projects, some initial success is seen in some privatized projects. The major unquantifiable but discernable benefits seen in the privatization of water supply system include:

a) Benefits to end-users

On the whole, consumers have been able to enjoy a higher level of service without very high increase in cost to them. There is a greater reliability of water supply and the quality of water supply has improved, as in the case of Selangor

In Kedah, the privatized treatment plant was found to be more efficient than plants operated by public-sector agencies i.e. the cost of water from privatized plant was found to be cheaper than when it was government-managed (Star July 3, 1993).

b) Benefits to the government

The government is relieved of the financial and administrative burden and it is able to reduce its development budget. The government has also benefited in being able to keep within limits the size of its staff despite an increase in facilities constructed. It is expected to enjoy higher revenue when privatized projects turn profitable and start paying tax to the government.

The rise in private investment as a result of privatization will spur greater economic activities resulting in higher economic growth. This benefits the nation as a whole.

c) Benefits to the private sector

The private sector is given an increased role in development of the nation and additional business avenue to gain experience and profit from the venture. By teaming up with foreign technical partner, the local private sector tend to gain in technology transfer.

After gaining the know-how in managing water supply projects, a private firm may venture overseas to bid for similar contracts (as in the case of Renong Bhd in highway projects and Telekom Malaysia Bhd in telecommunications field). In the long run, the private sector not only profits from local privatization but also foreign ventures. Its home country can also benefit if foreign exchange is brought back by the privatized firm.

d) Benefits to the staff

Generally, civil servants enjoy salary revision after joining a privatized firm. The terms of employment under the new employers are not worse off than those under the government. The government has stipulated that a privatized department or a company involved in privatization projects cannot lay off former civil servants in the first five years of operation.

Under a new private employer, staff are placed to work in an environment where they are rewarded according to their performance and productivity. This new work culture may stimulate them to work harder and learn faster.

In the Johor case, more than 1,700 employees of Johor Water Bhd had their pay package revised in February 1995, one year after the company was corportised. The implementation of the new package will cost the company an additional RM1 million per year to its currernt salary allocation of RM17 million (The Star, November 3, 1995)

e) Benefits to the environment.

The efficiency and productivity expected of the private sector is likely to lead to the enhancement of the management of water resources.

6.6 Future Scenario and Investment Opportunities

Privatization of water supply in Malaysia has been confined mainly to water treatment and the modes used are mainly management contracts, BOT contracts and a combination of the two.

Although to a large extent, water privatization has shown initial positive results, it is not an entirely satisfactory situation to have only water treatment plants privatized. If only water treatment process is privatized, the private sector could ignore how much water is lost through the distributive network. In theory, treatment plants will enjoy a higher sale of treated water to the government if there is a greater loss of treated water through the pipes. Hence, if there is a

sabotage at the distributive system, the net loser is the state government and the gainer in revenue is the private sector managing the treatment plants. In addition, due to greater pollution of water resources, there is an urgent need to enhance water management at source.

The EPU recently issued guidelines to all state governments to privatize the three stages of water supply system - catchment, treatment and distribution parts, rather than just dishing out the treatment process to the private sector. Hence the next stage of privatization for water supply in Malaysia is likely to be the parting of dams and distributive systems for states which have already privatized their treatment plants, and the privatization of three stages of water supply for new water projects and for states which have not embarked on privatization yet.

To foreigners who possess the required expertise and skill in water supply system, investment opportunities abound in this area. Local companies generally lack expertise in this field. Foreign companies can be technical/equity partner to their Malaysian counterparts which lack the required know how but understand the local conditions so well as to operate smoothly. There are also opportunities for consultants on privatization and financial institutions ready to render their service. To the local investors, it is essential for them to obtain a good technical partner and experts' help when they bid for water jobs.

Since Malaysia's policy is to keep inflation low and the prices of public utilities affordable, it is a challenge to the private sector how it can manage the whole water supply system lucratively given that the non-revenue water (which includes leaked water, free water supply to rural areas and stand-pipe water) in the current distributive system is high. About 80% of the pipes in the country are asbestos cement pipes which can soften and burst in acidic soil condition. In addition, water systems suffer gross underinvestment and water pollution is high too. But it is apparent that if a project is viable and the price is right, there will be takers.

The state governments may have to amend state legislaltions if they follow the EPU guidelines Currently, most state legislations stipulate that the state government supplies water and collects tariffs from the people. If the private sector is to take over the distributive and collection functions, necessary amendment to the current legislations will have to be effected.

Chapter 7 Sewerage

7.1 Background and Pre-privatization Scenario

The case for privatizing Malaysia's entire sewerage facilities was first presented by a private sector consortium to Prime Minister Dr Mahathir Mohamad in December 1991. Two years later (December 1993), Indah Water Konsortium comprising chiefly Britain's North West Water Group PLC and Malaysia's Berjaya Industrial Bhd was officially awarded the privatization contract to rebuild and operate the country's sewerage system at a cost of RM6.3 billion (US$2.4 billion) ("Asian Infrastructure", a special report reprinted from The Asian Wall Street Journal).

Prior to privatization, sewage treatment plants, sewers and other facilities in Malaysia were managed by 144 local councils or local authorities. The local authorities were dependent on Federal Government for grants and loans to develop their sewerage facilities. Due to shortage of funds and human resource constraints, most local authorities place low priority on the development of the centralized sewerage system. Between 1986-1990, only nine projects out of a total of 19 feasibility studies on centralized sewerage system for state capitals and major towns were implemented (Sixth Malaysia Plan, 1991: 334).

To control pollution arising from sewage and sullage, the government introduced the Environmental Quality (Sewerage) Regulations in 1979, compelling developers of houses, hotels, tourist resorts and other developments to provide communal treatment plants and sewerage systems in their respective projects. Due to a rise in building and land costs, some developers looked for cheaper, but not necessarily appropriate options. Many failed to carry out proper maintenance due to shortage of manpower and lack of expertise ("Indah Water Begins Operation", newspaper supplement on Indah Water) .

Currently, many Malaysians still use archaic systems such as hanging latrines, the bucket system, and pit latrines. In rural areas, these systems may still cope with the level of sewage concentration, but in urban areas, they become a source of major environmental and health hazards. Although many households in the urban areas are connected to individual septic tanks or communal system, there is little maintenance mainly due to ignorance. A lack of funds and an acute shortage of environmental services are contributory causes.

Malaysia's existing sewerage system serves only 46% of the urban population. Many sewerage facilities are in poor condition and there is a lack of resources and expertise to operate them.

A national sewerage survey carried out by Indah Water reveals that 65% of predominantly untreated water goes into Malaysia's rivers and seas, and that Malaysians produce more than five million tons of sewage every year (Indah Water's campaign literature).

Malaysia's sewerage system was overwhelmed by the rapid pace of economic growth. Pollution of water sources, coastal waters and beaches is increasing due to population growth,

rapid rates of urbanization and industrialization as well as inadequate provision of sanitary facilities.

Pollution of the sea can be seen clearly in the case of Penang Island. On the island, a system of sewage pipes connected to thousands of homes dump tons of raw sewage into the sea everyday. The system of pipes was supposed to terminate in a treatment plant that has never been built ("Indah Water Begins Operation", newspaper supplement on Indah Water).

Official statistics show that river and marine pollution is on the rise. The 1992 Environmental Quality Report of the Department of Environment (DOE) showed that the number of very polluted rivers increased from 6% to 7%, and the incidence of slight pollution increased from 51% to 63% of the nation's natural waterways. Suspended solids were also found on the coastal seas of Peninsular Malaysia (Indah Water Begins Operation, newspaper supplement on Indah Water).

The deterioration of the environment is a major concern to the government, and the Economic Planning Unit under the Prime Minister's Department recommended in the Sixth Malaysia Plan that the national sewerage services be privatized.

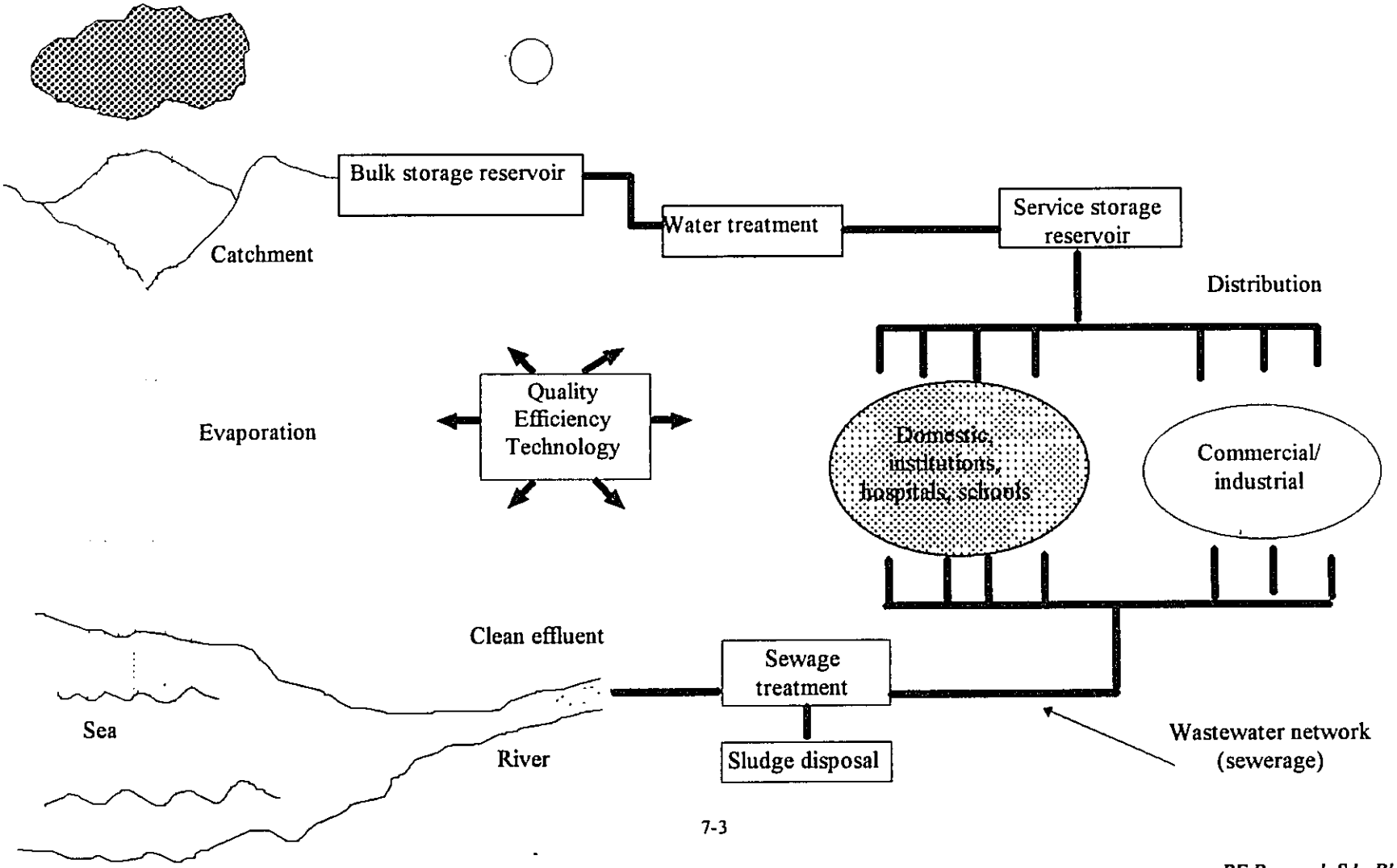
The continued pollution of the coastal waters is a threat to island resort tourism, now a big foreign exchange earner for Malaysia. Hence, Indah Water Konsortium's proposal to put sewerage treatment plants (Figure 7.1) at where they are most needed is attractive. Priority will be given to high population density areas and tourist island resorts, such as Langkawi and Tioman Island.

The shortage of funds also prompted the government to privatize sewerage services. Under the Sixth Malaysia Plan (1991-95), only RM500 million was allocated for sewerage facilities. If this amount is spread over 144 local authorities, each would get about RM3.5 million (US$1.4 million). This amount is totally inadequate in huge capital outlays such as a sewage treatment plant. A medium to large one in Malaysia would cost about RM300 million to RM400 million.

Before privatization contract could be awarded, the country had to change its laws so that sewerage would come under federal jurisdiction rather than under the purview of the local authorities. The legislative change came in July 1993 (Sewerage Services Act 1993). The 1993 legislation not only allows for the privatization of sewerage services to the private sector, but also approves the setting up of a national regulatory body to act as a watchdog for the government on sewerage services.

In addition to acting as a regulatory authority on all sewerage services and sanitation, the new Director General of Sewerage Services, under the Minister of Housing and Local Government, also acts as a licensing authority on all sewerage infrastructure. The Director-General has to ensure that Indah Water fulfills its promises in the concession agreement. For example, he has to monitor the capital works program in terms of costing and coverage, and the promised environmental standards too.

Figure 7.1 The Proposed Sewerage Treatment System



Indah Water Konsortium began work in April 1994, starting with a clean-up of Kuala Lumpur first. By the end of its 28 year-concession period, all the major towns in Malaysia are expected to be serviced 100 per cent by sewers, while other categories of town will have 30 per cent sewers and 70 per cent septic tanks (Interview with Director-General Lum Weng Kee by Indah Water in "Ensuring Standards Are Met").

However, sanitation in many rural areas will continue to come under the Ministry of Health's Rural Sanitation Program, whereby pits are dug away from the source of water supply When these pits are full after five to eight years, new pits will be dug nearby (Interview with Lum Weng Kee by Indah Water).

7.2 Mode of Privatization

The privatization of Malaysia's national sewerage services is a monopoly given to Indah Water Konsortium. This is a classic example of the much-debated "first come-first served" method of awarding privatization contract, whereby political link with the top political leadership helps to bring a business idea across, and later crystallize it into a privatization award. The mode of privatization used in sewerage services is BOT (Build-operate-transfer) ("Asian Infrastructure", a special report reprinted from Asian Wall Street Journal)

Indah Water Konsortium (IWK) comprises five shareholders -- North West Water (M) Sdn Bhd (subsidiary of Britain's North West Water Group PLC), Berjaya Industrial Bhd, AIMS Worldwide Sdn Bhd, Lembaga Tabung Angkatan Tentera and Polis diRaja (M) Bhd. However, its promoters were North West and Berjaya (Indah Water Begins Operation, newspaper supplement on Indah Water).

The idea to persuade Malaysia to allow the private sector to overhaul, operate and maintain its nationwide sewerage system was first mooted by North West Water Group. The group, a listed company in United Kingdom having vast experience in waste water treatment, then teamed up with Berjaya Industrial Bhd controlled by Mr Vincent Tan, a wealthy local Chinese businessman close to Prime Minister Datuk Seri Dr Mahathir Mohamad ("Asian Infrastructure", special report reprinted from Asian Wall Street Journal).

In December 1991, Tan secured an appointment to meet Dr Mahathir and the team impressed upon the leader the need to privatize the country's entire sewerage service. The Prime Minister then directed the Economic Planning Unit (EPU), a department in charge of privatization, to conduct a privatization feasibility study. In February 1992, the EPU recommended to the Cabinet that North West-Berjaya group be given six months to compile and submit a comprehensive proposal, during which no rival proposals would be entertained.

In mid-August 1992, North West-Berjaya submitted a 14-volume study dealing with the proposal. Meanwhile, to factor in Malaysia's political realities, they brought in as shareholders the armed forces pension fund (Lembaga Tabung Angkatan Tentera) and a police cooperative (Koperasi Polis diRaja Bhd), giving each 20% stake in the Indah Water Konsortium. They also

brought in a 15% shareholder AIMS World Wide Sdn Bhd, a private company controlled by alleged associates of the top government leadership. Berjaya retained 20% stake while North West kept 25%. North West sold down its stake to 5% in late 1994, and Berjaya emerged to be the single largest share holder having 40% stake

In January 1993, the EPU recommended that Malaysia's sewerage system be privatized and that Indah Water Konsortim be given the concession. The following month, the Malaysian cabinet issued a letter of award to Indah Water, subject to further negotiations on certain aspects of the deal.

In December 1993, after the country passed the necessary legislation to privatize sewerage services, the Prime Minister signed a 28-year concession agreement with Indah Water. The mode of privatization used is a BOT mixed with management contract. This effectively means the concessionaire will take over the present facilities and manage them, and to build new ones to cater for the rise in demand.

The sewerage concession requires Indah Water to manage and operate public sewerage systems which are currently maintained by the local authorities, and to refurbish, upgrade and build new sewerage facilities to increase capacity and improve efficiency.

Under the concession agreement, Indah Water is required to implement the Capital Works program to be incurred over 28 years in 6 phases. Out of the total capital investment planned, Indah Water is required to spend RM3.5 billion (US$1.4 billion) to upgrade existing treatment plants and to build 300 new plants. It is also required to lay 15,000 km of new sewer pipelines and maintain more than 2,000 treatment plants, according to an Indah Water official.

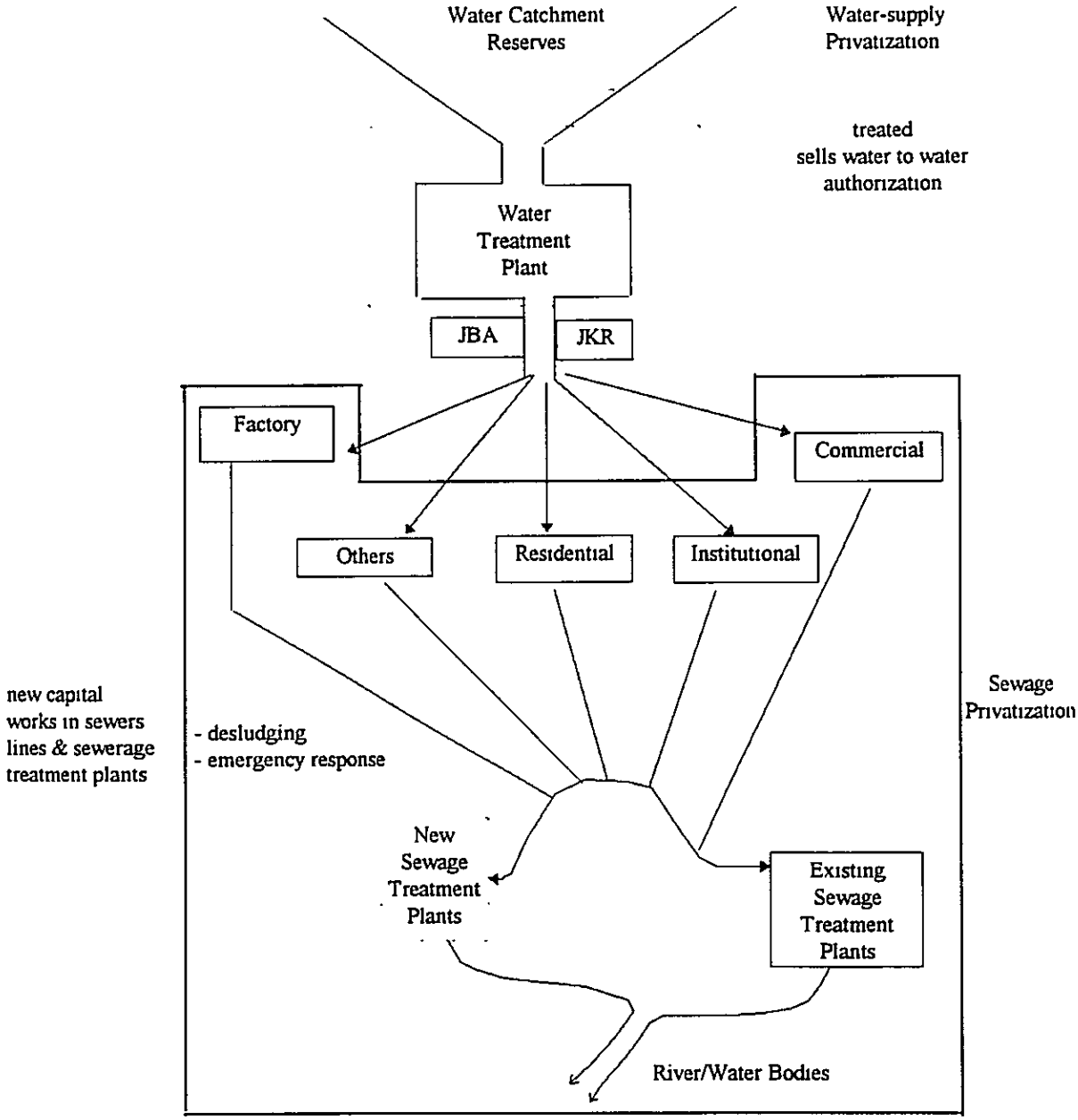
Indah Water adopts the "multi-point sewerage system" whereby treatment facilities are provided for decentralized high priority areas at strategic locations, which can be amalgamated into a regional centralized system in future (Figure 7.2).

Apart from sewage, Indah Water is also needed to treat sullage from households. Presently, many houses have their household pipes discharging sullage (waste water from the kitchen and bathrooms) into drains and then into public waterways. The Government wants the households to eventually channel all their sullage into sewers and have it treated. Existing houses may be required to renovate their plumbing system to connect to the sewers while new building plans will be required to ensure that all sullage is channeled into sewers (Indah Water Begins Operation)

Besides increasing the capacity of treatment plants to meet the increased volume of sullage and sewage, Indah Water has to connect more houses to the public sewerage system to ensure more efficient disposal of sullage and sewage.

Indah Water is also required to desludge the septic tanks of households regularly, carried out previously by local authorities or private contractors.

Figure 7.2 Multiple-point Sewerage System



Indah Water enjoys close cooperation with the government. For example, the law of 1993 helps Indah Water in the collection of tariffs (Section 30, Sewerage Services Act 1993). The state water departments now collect tariffs from consumers when they issue water bills to consumers as sewerage levy is billed together with water bill. The federal government also granted Indah Water a soft loan of RM475 million when the consortium began work.

Indah Water took over the public sewerage systems in Kuala Lumpur on 2nd April 1994. By 1st August 1995, it had taken over 94 local authority areas. The remaining 50 local authority areas are expected to be taken over by-mid 1996. Upon takeover, Indah Water commences operations and maintenance immediately (Indah Water campaign literature).

At the end of the 28-year concession period, Indah Water is to return all the existing and new assets to the federal government in good condition and free of charge.

7.3 Key Issues in Sewerage Privatization

Since the national privatization of sewerage services in Malaysia is the first of its kind in the world, some of the issues and problems encountered here may be unique. In most other countries, privatization of sewerage services has taken place on a regional basis.

Although the Malaysian government has been very patient and flexible in this privatization project to help Indah Water Konsortium to resolve issues to ensure the success of the project, there are still some teething problems that could not be resolved overnight. In fact, it is a learning experience for both the government and the private sector in this project because both parties lack experience in this field, according to an Indah Water official. The current barrage of complaints against Indah Water is indicative of this shortcoming.

Hence, with hindsight, the question that should be raised is: could it have been better for Malaysia to opt for privatization of sewerage services in the main cities which are facing serious sanitary problems or on a staggered basis (state by state) instead of privatizing the whole nation at one go? Indah Water originally proposed to take over sewerage services from local authorities in 11 main cities, which house almost half of Malaysia's 19 million people, but the Economic Planning Unit counter-suggested that Indah Water took over the whole nation.

From the economic standpoint, the dense population in major cities offers the economies of scale. Also, Indah Water could have been more focused in tackling these areas, whose sanitary problems may be more urgent than the sparsely populated rural areas. However, from the administration's viewpoint, it might be better to standardize the sanitary systems in the country and to tackle all the problems by the same company.

One way to decide on which approach to take is to examine the economics of the sewerage. Implementing a standardized system for the whole country implies that demand is homogenous which it is not Indeed, the system design is probably more suitable for urban areas than it is

for the rural ones. In that regard, there is a cost to this decision to have a standardized system. The second issue arising here from is that of affordability. Since the cost of operating the new system will be much higher than its current costs, the public, under the new laws, will have to bear its costs. In Malaysia, the social element has to be taken into account. The implication of this is that the poor will be asked to pay less than the rich; and since both of them use the same system, the cost of service will most likely have to be shifted to some other user

Stretching the tariff is the character of the Indah Water sewerage system. The principle is affordability. The affordable will subsidize the less able. In fact, the tariff loading is on the commercial and industrial operators who are connected to the sewer (see Table 7.1). These firms will have to pay not only what the environmental services that they use but they will have to subsidize all other users who do not pay full rates.

The national privatization of sewerage services poses problems in tariffs imposition. From the tariff structures drawn up in the concession agreement, it can be seen that there is a lot of urban-rural cross-subsidy and industry-household cross-subsidy (Table 7.2). Indeed, industries are feeling the impact as they have to pay relatively high charges. This taxing of industries may deter manufacturers from investing in Malaysia and may affect its long-term industrialization program. The Federation of Manufacturers in Malaysia (FMM) tells us that they have taken up the grouses of members collectively and they are holding negotiations with Indah Water. However, major drinks manufacturers having their own treatment plants, such as Guniness and Carlsberg, do not have to pay the new sewerage charges.

In the past, industries and households only pay for water bills and did not have to pay for sewerage charges per se. Now that they are required to pay sewerage charges, they begin to complain and demand explanation and justification for payment. The hue and cry in newspapers (Nanyang Siang Pao, 15/9/1995) only goes to show that little work has been done by both the government and Indah Water to educate the public on the importance of a proper sanitary system to improve public health, reduce environmental pollution and on the costs needed to maintain the system. For example, about 80% of the total organic pollution is contributed by the disposal of partially or untreated human and piggery waste (Abu Bakar Jaafar, seminar paper 10-12 October 1995). Indeed, Indah Water was under fire by the Hulu Langat district for failing to brief the council on the privatization of the sewerage system in the district (NST, 26/5/1995). In late October, Housing and Local Government Ministry Ting Chew Peh openly criticized Indah Water in all the newspapers for not having done enough work to educate the public.

Indeed, in many countries such as the United Kingdom, water and sewerage charges are not billed separately. The rationale is that water is a free natural resource and the collection of water tariffs is used to cross-subsidize costs involved in sewerage treatment. But the history and law of Malaysia has separated the jurisdictions over water (a state matter) and sewerage services (under local authorities), hence it may be too political to champion for the merger of the two services.

Table 7 1 Impact of Sewerage Charges

Activity/Business	% charge over estimated revenue	Equivalent charge
1 Hotel		
Large	0 52 - 0 76%	RM 1 62 - 2 48 per occupant per day
Medium	0 16 - 0 63%	RM 0 19 - 0 81
Small	0.47 - 1 07%	RM 0 58 - 1 08
2 Office complex		
Large	0 21 - 0 80%	RM 0 01 - 0.05 per square foot
Medium	0 20 - 0.48%	RM 0 01 - 0 03
Small	0 40 - 1 96%	RM 0 02 - 0 09
3 Shopping complex		
Large	0 52%	RM 0.08 per square foot
Medium	1 59%	RM 0 10
Small	1.09 - 1.34%	RM 0 07 - 0.12
4 Coffee shop		
Large	0 53 - 1 11%	RM 0 02 - 0 03 per customer per day
Medium	0.39 - 0 97%	RM 0 01 - 0 03
Small	1 77 - 2.58%	RM 0.05 - 0 08
5. Restaurant		
Large	0.06 - 0 13%	RM 0 02 - 0.03 per customer per day
Medium	0.21 - 0.22%	RM 0.05 - 0 06
Small	0 10 - 0 11%	RM 0 02 - 0 03
6 Hair dressing saloon		
Large	0.16 - 0 44%	RM 0 05 - 0 13 per customer per day
Medium	0 07 - 0.31%	RM 0.02 - 0 09
Small	0 35 - 0 99%	RM 0 11 - 0 30
7 Clinic		
Large	0 01 - 0 04%	RM 0 00 - 0 01 per customer per day
Medium	0.13 - 0 52%	RM 0 03 - 0 11
Small	0 09 - 0.22%	RM 0 02 - 0 05
8 Laundry		
Large	2 54 - 6 89%	RM 0 16 - 0 45 per customer per day
Medium	0 99 - 3 80%	RM 0.06 - 0 25
Small	1 85 - 2 77%	RM 0.12 - 0.24
9 Manufacturers		
Large	0 02 - 0 04%	RM 0.0039 - 0 0045 per prod. qty.set*
Medium	0 54%	RM 0.0108
Small	0.7%	RM 0 0027
	* "Production quantity set" e g.: equals 4 345 liters of soft drinks of which water comprises 90%, or 5 liters of ice-cream produced of which water comprises 45%	
10 Army & Police camp		
Large		RM 0 24 per office per day
Medium		RM 0 03

Source Indah Water Begins Operation, newspaper supplement on Indah Water

Table 7.2 Sewerage Tariffs Set by the Government

Assessed Value Band	Connected services		Septic Tank Services	
Domestic Customers	**Fixed Monthly Availability**	**Monthly Usage Charge**	**Fixed Monthly Availability**	**Monthly Usage Charge**
Up to RM 600	RM 2 00	Not Applicable	RM 2 00	Not Applicable
RM 601 - RM 1,000	RM 1 00	RM 0 14/m^3	RM 0 68	RM 0.07/m^3
RM 1,001-RM 3,000	RM 2 11	RM 0 14/m^3	RM 1 43	RM 0 07/m^3
RM 3,001 - RM 10,000	RM 5.32	RM 0.14/m^3	RM 3.61	RM 0.07/m^3
Above RM 10,000	RM 10 00	Not Applicable	RM 10 00	Not Applicable
Commercial/Industrial/ Government	-	RM 1 20/m^3	-	RM 0 90/m^3

The domestic rate is calculated on a combination of the assessed value of your property and your waste usage The assessed value is actually the annual assessed value upon which one's assessment tax (cukai taksiran) is based For example, if your property is connected to a sewerage system and your assessed value is RM9,600, and if you use 30 cubic meters of water per month, you will be charged.

RM5 32+(RM0 14/cu.m x 30) = RM9.52 per month

If you have a septic tank, your bill for the same property, using the same amount of water will be.

RM3 61 + (RM0 07/cu m x 30) = RM5.71 per month

The government has also laid out the minimum and the maximum sewerage tariff:
Minimum Monthly Sewerage Charge - RM 2.00 (Applicable only to single and separate
Minimum Monthly Sewerage Charge - RM 10 00 used solely for residential purposes)

Source Indah Water Begins Operation, newspaper supplement on Indah Water

When the EPU came out with the grandiose idea of privatizing the sewerage services for the whole country, it failed to consider whether the nation was prepared for it and whether there were enough trained regulators in the government to act as watchdog of the privatized sewerage services. According to industry sources, the Sewerage Services Department under the Housing and Local Government Ministry lack expertise in supervising the whole nation and the irony is: they are being trained by Indah Water to supervise Indah Water. Further more, Indah Water is helping the Sewerage Services Department to carry out some regulatory function on new property developments by vetting building plans.

In planning the national privatization, Indah Water and the Federal Government had failed to foresee the hiccups in land issue. Under the capital works program in the concession, Indah Water has to acquire land to build catchment and treatment plants but as most plants have to be located in the center of the city to ensure lower cost, such prime land is not easily available. State governments, which are in charge of land matters, are reluctant to surrender such pieces of land to Indah Water while private land owners will only sell their property at commercial rates. According to work schedule, Indah Water should have carried out about 20 capital works projects in the first three years, but up to now (one and a half years) it has only covered three. If land issue is not resolved, this privatization project could be affected.

While the concession agreement addresses the past in terms of sewerage treatment, it does not cater for current and future needs. Under the law, property developers have to build their own sewerage treatment plants and their building plans have to be approved by the Sewerage Department. Indah Water will find it difficult to implement a central catchment planning if it fails to obtain concensus with developers on a strategy to cater for present and future needs.

Additionally, the concession also fails to address the issue of treatment plants built and maintained by the private sector. Since most of these private plants are in bad condition, Indah Water is not prepared to take over them unless they have been refurbished. The issue of private plants had stirred up some controversy in Ipoh, where 750 houseowners who had to part-finance the construction of a central sewerage system in their area three years ago complain of "high charges" imposed by Indah Water (The Star, 29/9/95).

7.4 Achievement in Privatization

Although Indah Water has not taken over all the sewerage services, the privatization of sewerage services nationwide has certainly helped to achieve some, if not all, of the privatization objectives laid out by the government.

It has certainly relieved the central government of its financial and administrative burden. The fact that Indah Water Konsortium is required to invest RM6.3 billion over the 28-year concession period means the government will save this amount of investment in this area, which has suffered from under-investment. For example, under the Sixth Malaysia Plan (1991-95), the government only allocated RM500 million for sewerage services.

In taking over the responsibility of local authorities, Indah Water has and will absorb many of the staff from the 144 local authorities. This effectively means that the company will help to reduce the size of the public sector, which the central government has tried to cut down. It will also help to overcome the shortage of skilled staff in this field by bringing in experts from North West Group of London. Additionally, Indah's experts are also training the staff of the Sewerage Services Department of the Housing and Local Government Ministry.

Although Indah Water has the monopoly over the sewerage service, it is proving that it is able to produce efficient service. It responds to the complaints of the households quite promptly. The company has structured itself into three departments: planning, operations and billing. Its planning office handles all the new developments and capital works, operations office provides maintenance and carries out responsive service, and its billing office takes charge of collections and billing

While the public do not have a choice of who treats their waste water or sewage and do not have a range of products or services from which they can make a selection, Indah Water does not have the freedom of a normal private company too. Indah Water is told the quality standard it must achieve and the maximum price it can charge by the government.

As Indah Water's plan is to connect septic tanks in residential areas to central sewers, cut down the number of small treatment plants and to centralize sewer treatment, as well as standardizing treatment process, this will bring about efficiency and cost-savings. Quality control can also be better supervised by the regulatory body once sewer treatment is centralized and all systems are standardized.

The standardization of the treatment process will encourage the setting up of ancillary industries, such as the making of standard pumps, sewer pipes and other product range We understand that Indah Water is coming out with a catalogue on the range of products it needs. Spurring more business activities in the sewerage service will contribute higher economic growth, which is one of the objectives of privatization.

As the partners of Indah Water Konsortium comprise two Malay-based institutions and a Malay firm, namely the arm forces pension fund Lembaga Tabung Angkatan Tentera and police cooperative Koperasi Polis diRaja Bhd, and AIMS Worldwide, the aspiration of the government to redistribute wealth to indigenous Malays is fulfilled by this privatization. After these organizations have learnt the skill and management in sewerage service from their British partner North West, they will be ready to bid for similar jobs in other countries.

7.5 Costs and Benefits

The major investment costs in sewerage services are construction of treatment plants and land cost The cost of building a small sewer treatment plant in Malaysia serving the needs of about 150 people is RM150,000 and the cost of building a big one catering for 400,000 people can be RM400 million. However, these figures do not take into consideration land factor. Hence, if land cost is taken into account, the capital investment can be much more.

Land has become very expensive due to economic boom and a consequent strong demand in properties over the last few years. As most treatment plants need to be built in towns or cities for cost-effectiveness (at least there is saving on laying of sewer mains and pipes), the scarcity of such prime land is posing a problem.

Although upon privatizing the sewerage service, the government has benefited from relieving itself of financial and administrative burden, land problem has not dissipated. Indeed, the success of this privatization now hinges substantially on land issue mainly because land is a state matter and state governments are reluctant to release prime land to Indah Water at low price for the construction of treatment plants. If land price is forbiddingly high, Indah Water's capital projects can be affected.

In the concession agreement, the government has allowed Indah Water, the sole concessionaire, to impose charges on users of the service. People, who did not have to pay for sewerage previously, are forced to pay levy by law (Section 30, Sewerage Service Act 1993). This sewerage charge, together with levies imposed by other privatized services, is burdening and testing the affordability of ordinary Malaysians.

The imposition of charges has hit small and medium industries considerably. As sewerage charge is tied to the amount of water consumed, regardless of water is used for sewerage, many industries have complained about unreasonable rates. One example is the grievance of the Malaysian Textile Manufacturers Association (NST, 23/2/95). Another group that has voiced its concern is the Federation of Malaysian Manufacturers (NST, 10/19/95). If sewerage levy is too high and taxing on the cost of production, industries may be deterred from expanding their operation or coming into Malaysia. This will then affect Malaysia's long-term industrialization strategy to become a developed nation by the year 2020.

But on the other hand, this privatization can be turned into an opportunity to educate the public on the importance of environmental quality. Malaysians generally do not care much about the environment and their polluting behavior. Hence, in making them pay, this privatization exercise would raise their consciousness to have a cleaner environment and to protect public health. Indah Water had come out with educational literature on sewerage last year and early 1995, but unfortunately the campaign was short-lived and there was insufficient publicity.

The public should be made aware that environmental quality is an issue that demands urgent attention of the authorities and cooperation from the people. In fact, the bulk of the total organic pollution (about 80%) is contributed by the disposal of partially treated or untreated human and animal (piggery) waste (Abu Bakar Jaafar, October 1995, "Two Decades of Environmental Quality Management in Malaysia: The Way Forward", Seminar on National Review of Environmental Quality Management in Malaysia). And the rivers, particularly those in the West Coast of Peninsular Malaysia, continue to be polluted by human waste, piggery waste, silt and other suspended matters.

Indeed, the least that this privatization exercise can bring about is the prevention of further deterioration of the environment and water quality. By improving the quality of sewerage services, Indah Water's planned capital works programs is likely to ensure that waste water entering rivers and coastal waters is cleaner. This will be one of the main benefits of the project. Social activities can then be carried out in a clean and healthy surrounding.

For the private sector, this privatization has provided a business opportunity for the five partners of Indah Water Konsortium with a guaranteed average profit of 14-18% per annum over the 28 years. After learning the management skills from North West Water and gaining experience from this privatization, Malaysian companies such as Berjaya Industrial and AIMS Worldwide may be able to export their skills overseas, particularly in other third world countries hoping to emulate Malaysia to privatize their sewerage service nationwide. If they are successful in exporting their experience, this will not only bring in additional foreign exchange for Malaysia but will also boost the image of the country internationally.

As with other privatized services, civil servants have been given better pay packages and benefits to join Indah Water. But it goes without saying that higher productivity and efficiency is also expected of them.

7.6 Future Scenario and Investment Opportunities

As Indah Water is trying to carry out the work that it plans to do, and keeping to deadlines on the takeover of the sewerage services of the local authorities, this privatization is likely to bring benefits to the environment and the public in general.

The public's awareness for the need of hygiene and good sanitary facilities is likely to heighten because of this privatization and the current on-going debate over what charges Indah Water should impose on users of its service.

However, the concession agreement of Indah Water only deals with solving sewerage problems of the past, not the present and the future. Hence, there is a need to address sewerage problems that will crop up later due to present and future developments and population increase. And this is the area where there is investment opportunity for the private sector. There is no catchment planning for the future and the concession agreement of Indah Water is silent on this matter. Currently, Indah Water takes upon itself to negotiate with property developers on the link-up of sewerage facilities with new developments, and this has caused delay in some of Indah Water's capital works.

Chapter 8 Summary and Conclusion

8.1 Summary

Malaysia is known to have a unique privatization program. Being a middle income country, and having very high growth rates, development economists have found this correlation quite interesting. The private sector has been singled out as the main engine of economic growth. Privatization is one key policy area. Much of that policy is articulated in the Privatization Masterplan.

This volume of the study is concerned with providing insights into Malaysia's privatization policy, concept and the mechanisms of implementation. A second volume of this study will document the case studies in the environmental areas. The focus of the study is on environmental concerns, namely water supply, solid waste, toxic waste, sewerage and health/medical industry.

Malaysia uses a wide definition for privatization, ranging from partial to complete sale of an entity, to licensing of operations to the more conventional form of build operate and transfer. Perhaps, this has to do with the command and control approach with regards to economic development.

Previous evaluation of the privatization experience has been generally good. Productivity of the privatized entities has increased. But the gains have not been evenly spread out, although overall there have been gains. In so far as the government's objectives are concerned, the government has managed to reduce its administrative and financial burden: the sale of equities in privatized firms have raised funds for the government.

But overall competition has not increased. Many of the state monopolies have now become private monopolies. Thus, this suggests that the regulatory framework would have taken an even more important role in terms of protecting consumer and indeed even government interests. Because of the rapid growth of the overall economy, it has not been possible for us to segregate the contributions of privatization from that of the overall growth. Be that as it may, one should give the benefit of the doubt to the privatized agencies, since their productivity increased, and that would have contributed to the overall growth as well.

Another important feature of Malaysia's privatization appeared to have been its social distributive nature. The government has a positive social engineering policy to redistribute more wealth to the bumiputera. The privatization process has been a key area by which the two policies have merged. Hence, benefits to the bumiputera community has been high, and that seems to be a conscious aspect of the government.

However, certain scholars have disputed these findings. They point to the political connections between the owners of the privatized entities and the top government leadership, suggesting that stock sale was undervalued, manner of privatization arbitrary with a smack of favoritism,

and that the gains are superficial. Citing that only "cash cows" are privatized, the government is left with the duds that it will have to bear. Indeed, in many of the cases, the evaluations were supposedly done too early and the gains could not be easily identified.

8.2 Malaysia's Privatization Policy and Concept

Turning to the main task at hand, the cornerstone of the privatization policy has been that the government believes that market forces are superior compared to administrative fiat. As such, the government will be rolled back, taking less a development and more of a regulatory role. This is not different from how privatization is conceptualized.

Privatization became government policy in 1983, and guidelines issued on its implementation came out in 1985. The Privatization Masterplan was published only in 1994, although implementation had taken shape more directly since the late 1980s. Out of a total of 426 projects that were reviewed, 246 were deemed privatizable.

The five objectives of privatization are: to relieve the financial and administrative burden of the government; to reduce the size and presence of the public sector; to raise efficiency and productivity and promote competition; to accelerate growth; and to help meet national economic policy targets i.e. reducing poverty, greater distribution of wealth to Bumiputeras, etc.

Managing the privatization is the EPU's Privatization Taskforce. Comprising less than 30 officers, this Unit has already successfully launched more than 100 privatization to date. This Unit also makes use of other government agencies to assist in the evaluation of bids and tenders, and will appoint the agencies on the basis of their technical expertise and relevance. A financial evaluation is also conducted again with contributions from other government agencies. The EPU makes the final recommendations, after going through both technical as well as financial evaluations.

The Privatization Action Plan is a two-year rolling plan which is reviewed at the end of each year, detailing the entities to be privatized and those to be prepared for privatization based on a set of criteria. The size of the privatization also takes into account the absorptive capacity of domestic capital market, among other things.

Although identifying government entities to be privatized is one of the main activities, the EPU also entertains proposals from the private sector on what to privatize. Privatization proposals submitted by the private sector are determined by its privatizability and uniqueness. They are considered on a 'first-come-first-served' basis and will be rewarded based on 'their innovativeness and ingenuity' and encouragement of entrepreneurship. This is a contentious part which critics point out as unfair advantage.

Methods of privatization practiced in Malaysia include: sale of assets or equity, lease of assets, management contract, built-operate-transfer (BOT) and build-operate (BO)

The process by which a government owned enterprise is privatized is to first commercialize the unit or agency, principally to make them more accountable. Second, it is to corporatize, i.e to create a legal entity from that agency, and finally, it is to dispose of the equity in that privatized entity.

Both the federal and state governments also get involved in privatization. For instance, in the case of water supply, the Selangor government has privatized its water supply, and the federal government has privatized the Labuan Water Supply. With the privatization, the government hopes that these entities will become more efficient and productivity is enhanced.

8.3 Privatization in the Medical/Hospital Sector

The medical services have been traditionally provided by the government, although private clinics providing physician services have been allowed for many years. More recently with the growth of the economy, private hospitals and HMOs have emerged at a very rapid rate.

Even before privatization became a policy, the Ministry of Health has already contracted out services to the private sector, in areas unrelated to health and medical practice, such as laundry and catering. Since 1985, the Ministry has considered a whole range of entities to be privatized:

* Petaling Jaya Medical Store (Makmal Ubat dan Stor Petaling Jaya), a federal institution supplying medicines and supplies to hospitals and clinics.
* Hospital support services, which includes management of medical waste, maintenance of building and medical equipment, laundry, biomedical cleaning (which includes disinfecting wards and operation theaters), and cleaning of the hospital premises as well as landscaping.
* corporatization of the National Heart Institute (Institut Jantung Negara)
* privatization and relocation of Kuala Lumpur Hospital
* developing the Permai Hospital Site in Tampoi, Johor and building a new hospital in Kulai, Johor.
* the Institute of Medical Research (IMR) and specialist hospitals, e.g. Hospital Bahagia
* Lady Templar Hospital, a specialist tuberculosis hospital
* haemodialysis division
* corporatization of five main hospitals

By 1995, the main entities which could be included in the privatization study include the PJ Medical Stores, hospital (non-clinical) support services, and corporatization of the National Heart Institute

The principal issue for health care is cost containment. However, in terms of cost containment, the performance of the PJ Medical Stores has been quite the opposite; prices of drugs have gone up tremendously

Another key issue is staff and skills shortage, caused mainly by private sector paying vastly higher salaries. The private sector is offering vastly higher salaries and is attracting away the skills of the health and medical government service. The corporatization of the National Heart Institute was intended to address this problem. It appears to have done it fairly successfully.

It is perhaps not well known but the government pays 95% of the medical costs in the entire country. The citizens pay only 5% if they use government facilities. As such, there is a tremendous amount of subsidy. The privatization is intended to address this issue, i.e. put in place a user pay type of service, with a safety net still provided by the Ministry of Health.

The overall performance of privatization in this sector has been mixed. While there appear to be good grounds to classify the corporatization of the National Heart Institute as a successful case, the PJ Medical Store example appear to be dismal. Although services to urban areas have improved, they have come with a hefty price inflation. Rural services are still dismal. This points to the importance of the regulatory role of government to insist on the social aspect of their services, rather than accept their profit motive basis. In so far as the PJ Medical Stores are concerned, it is still very much a monopoly, with hospitals having no options to buy from cheaper sources.

8.4 Privatization in Toxic Wastes

A toxic and hazardous waste treatment and management service has been demanded by the industrial sector for more than 10 years. In fact, some have claimed that the continuing absence of such a service is threatening the industrialization process in Malaysia.

The government, after due consideration, brought into being legislations controlling the handling and storage, transport and treatment of toxic and hazardous wastes in 1989. But this was done without a waste center being established, and created problems for industry. The government subsequently gave Kualiti Alam a letter of undertaking and for them to provide waste management services in 1992. The government entertained two bids before finally selecting one. The successful bidder has a long term track record in Denmark, and is a consortium of firms which experience in toxic and hazardous waste management.

Toxic and hazardous wastes can be managed in a number of ways. They range from a comprehensive approach to treating toxic wastes like an "end-of-pipe" type of problem appear. The more comprehensive approaches would encourage industries to minimize waste outputs to in-house recovery of useful waste materials to waste treatment in-house.

What is licensed is a centralized waste treatment system with waste transfer stations, and this is to be accompanied by a manifest system which documents the wastes. It is a cradle to grave type of approach.

The privatization takes a BOT approach. The parties that are licensed to provide this service have been given a 10 year concession. An incinerator is planned, together with physical-chemical treatment facilities, and a secured landfill, with controlled treatment of leachate, etc.

However, there have been start-up problems. This is mainly related to the inability of the privatized party, Kualiti Alam, to secure adequate financing, and to nail down a concession agreement with the government. On top of this, Kualiti Alam will have to face a reluctant industry which has been used to dumping its wastes practically for nothing. On top of this, the government has also licensed firms to export their wastes. Firms are also responding to this critical situation. Firms which want to project a responsible corporate citizen's image have redesigned their production process to reduce and eliminate the use of toxic and hazardous chemicals. These happenings have reduced the waste loads, with the possibility of undermining Kualiti Alam's business.

The project is still in limbo, with a concession agreement still to be knocked into shape.

8.5 Privatization in Solid Wastes

The privatization of solid wastes in Malaysia is in progress. At the federal level, the government has already completed its evaluation of the national solid waste privatization bids, which they received from 28 parties. At the state level, the Selangor government has already licensed another party to provide sanitary landfill for the Klang Valley. These different initiatives appear to be uncoordinated and could well pose problems for each other.

Solid wastes is the responsibility of the local government. However, because of the financial and human resource and managerial weakness of local governments, they have not been able to provide adequate services in this area. The solid waste dump sites do not have any safety measures, and is a nuisance to those who live in its vicinity, emitting odour, causing health and hygiene problems. With a rapid urbanization rate, it is now becoming difficult for local governments to solve this problem, especially with their limited resources.

The traditional method of treating only the end of pipe approach in taken in the Selangor privatization. A sanitary landfill privatization concept has been approved. However, we are still not clear on the shape and approach of the national solid waste privatization exercise.

Nonetheless, the principal issue here is the anticipated increase in costs of the sanitary landfill. Currently, dumping one ton of solid waste costs RM1. At the sanitary landfill site in Puchong, the tipping fee is estimated to be RM25. With this huge increase in cost, the cost of municipal waste collection and disposal must surely rise. How this cost increase is to be distributed will be a problem. Other problems which can be anticipated at this stage relate to institutional and economic problems. For instance, how are the costs to be recovered? and through which institutional means. Such matters are perhaps not difficult to resolve, but they must be done before the full scale privatization is effected.

8.6 Privatization in Water Supply

Rights to water fall under State jurisdiction and central development. But federal government normally allocated funds for water treatment. Because water treatment facilities cost a lot, and funding is scarce, few water treatment projects are implemented.

Water supply systems encompass the catchment area, the water treatment facility, and the reticulation system. Of the three, the State would be very cautious about the catchment area as it involves land, and is unlikely to be privatized. Between the water treatment and reticulation/distribution system, the water treatment facility involves less risks, and therefore more easily privatizable.

There have been four main forms of privatization in Malaysia. The first is to privatize on a BOT basis the water treatment plants e.g. 25 water treatment plants are privatized to Puncak Niaga Sdn Bhd. In Selangor also, contract management of water supply have been given out, e.g. Taliworks. The third form is to privatize the entire water board/water authority. The Kelantan Water is a typical example of a lock, stock and barrel type of privatization. The fourth is to corporatize a state entity, perhaps prior to corporatization, eg. Syarikat Air Johor.

However, in several other countries, e.g. Australia, and United Kingdom, the water supply and sewerage system are normally grouped into a single entity. The rationale for this combined system is that the water resource portion which normally is profit making, can be used to subsidize the sewerage portion.

In Malaysia, the separation of the two bodies implies that consumer surplus for water may be captured by the private entities, not the consumer. The consumer then ends up paying full cost for the sewerage component, thus depriving them of a potential subsidy.

Since water is a natural monopoly, it is important for the regulatory body to ensure that the price of water are not unfairly priced.

Privatizing only the water treatment facility is likely to leave the people /state with a huge financial burden. This is because most of the distribution systems are leaking very badly. Every drop of water that is leaked away will have to be paid for by the people/state. As such, the price of BOT must be high enough to contribute towards reinvesting to improve the distribution system.

For the moment, because the water authorities are buying water from privatized water treatment company, consumers may not be directly affected by any increase in the cost of privatization or water treatment. The cost of treating water will be higher if supplied by the privatized body than by the state. Hence, price increases may be staggered.

There appears to be an urgent need to address a few issues in terms of water supply privatization. First, if there is to be a privatization only of the treatment plants, then a good price must be offered based on fair value.

An urgent need to invest in the distribution system is necessary, if the system is to be optimized, and water costs reduced.

The water tariff structure should still be embedded with a social element, although based on a user charge principle. This is to protect against economically less well off, but to discipline the public/industry on their use of a scarce resource.

Land use in the water catchment areas must be strictly controlled in order to reduce deterioration in water quality, and consequently treatment costs.

The regulator must be given the role and function to ensure that privatized charges are fair and do not capture all the consumer surplus. The privatized entity must abide by their social responsibility.

8.7 Privatization in Sewerage

The concessionaire is implementing a multi-point sewerage system for a period of 28 years. They plan to spend RM6 billion, out of which RM3.5 billion is meant for capital works. The area of coverage is for 144 local authority areas, practically the whole country.

For this effort, the government is providing a soft loan of RM475 million. The concessionaire has made a general offer to absorb staff from all the local authorities who were involved in sewerage services.

A phased program and a concession agreement had been agreed to. The concessionaire has a foreign partner in North-West Water, a British waste water specialist. The local partners are from Berjaya Group, the Armed Forces Fund, and the Muslim Pilgrims Fund. It has been alleged that the concessionaire is politically well connected.

Although sewerage services used to be provided by local authorities, the federal government decided to implement a standardized system for the whole country. Administratively elegant, it will nevertheless be costly to implement. Reason ? Not every region have the needs for the same sewerage services. Urban areas are congested, the pollution loading from sewerage is high, and therefore the entire country's standardized sewerage system must be able to cater to this. Rural areas have less of such problems, and a cheaper, more cost effective solution would suffice.

The above situation captures one of the main features/problems of the implemented national sewerage system - the country is being asked to pay for an over-designed system.

Guess who is paying? Commercial and industrial operators, the government and the rich urban households. This will subsidize the poor and rural folks. The tariff structure is stretched and expanded such that the affordable is made to subsidize those less fortunate. Meanwhile the operator still makes his profit.

The main impact of privatization will be to drive up the cost of sewerage services to the industry and commercial establishments. Operating cost for industry will rise. Would this affect the current industrialization process?

Ordinary consumers are also being asked to pay more. Their main query - what are they paying for? They claim that even as they pay more they won't be able to see the benefits. The concessionaire has started collecting charges but no work is done. That may be partly true because while the concessionaire has a works schedule and program, these have not been announced.

The Director General of Sewerage Services Division is the regulator of the concession. To date, his department is understaffed and he has very little resources except to rely on the concessionaire for information on their work schedule. The regulator has to cooperate with the concessionaire to get his work done, not the other way around. Technically, the regulator is at a slight disadvantage. Managerially, he cannot be proactive, as he does not have sufficient resources to fulfill his function. So the concessionaire appears to be having a field day.

The concession agreement is also not very tight, leaving a lot of room for interpretation and discretion. When the regulator is weak, the concessionaire can get away with lots of room for error.

What appears to be smoothing up these problems and preventing them from surfacing is the close rapport between the concessionaire and the government leadership. Lots of teething problems are solved at a tête-a-tête; especially those at the policy level. The government is giving the concessionaire full support. Perhaps a bit too much.

It would thus appear that the big gainer in this privatization is the concessionaire. Industry and commercial operators end up having to bear the brunt of the subsidy. Would the environment benefit? Depends on the regulator and the concessionaire. And the potential consumer surplus from the water supply may be captured by the concessionaire of the privatized water supply and sewerage services.

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