4. A CASE STUDY: INDAH WATER

4.1 Background of the Sewerage Privatisation

Up until 1993, the sewerage system in Malaysia has been handle by the 144 Local Authorities (LAs) nation-wide. However, the sewerage services have been much neglected since the LAs place very little emphasis into them. Not that the services weren't important or essential, they were, but due to the wide range of public services provided by the LAs only those more visible to the general public were emphasised. On top of that, there were other problems faced by the LAs such as limitations in funds, expertise and technical know-how that have affected the standard and overall progress of the sewerage development in the country. But as proper sanitation and public health became a major concern and priority to the country, the decision to privatise the sewerage services became imminent. The privatisation was necessary, as the country's sewerage system had failed to keep up with the country's rapid pace of industrialisation. The duties and cost of developing a modern and efficient sewerage system have been too heavy and expansive for the government to shoulder.

By comparison, the Government had spent close to RM 7.8 billion in developing the water infrastructure during the 3rd to the 6th Malaysia Plans but had only invested RM328 million in developing sewerage infrastructure during the same period (Berita Publishing Sdn Bhd, 1997). In order to improve and accelerate the sewerage infrastructure development, the Government had decided to privatise the sewerage services on 9th December 1993 by awarding the privatisation project to Indah Water Konsortium Sdn Bhd (IWK) for the development and management of a modern and efficient sewerage system nation-wide.

The sewerage privatisation was in the form of a concession agreement that was supposed to run for 28 years but was; however, extended to 40 years due to some problems faced early in the privatisation. Under the agreement, IWK will take over all public sewerage systems from the LAs, in stages, and to operate them according to quality and environmental standards. The private company will further provide for the proper sewerage collection, maintenance, treatment and disposal of sewage as well as carry out capital works programme to construct new sewerage system. The total sewerage project costs for the entire concession period was estimated at RM6.1 billion. And at the expiry of the concession, ownership of all the public sewerage system assets will be handed back to the Government, at no cost.

The tasks involved in the environmental cleanup have been enormous. At the end of 1997, IWK was already maintaining a total of 4,500 sewage treatment plants (STP) nation-wide compared to only 1,000 STPs when the company took over the sewerage services from the LAs. In terms of population served, there has been a 180% increase from 4 million at the start of the privatisation to 11 million in 1997 (Sewerage Services Department, 1998). These figures indicated the tasks and amount of works that IWK have undertaken in fulfilling its privatisation role. The LAs, in comparison, have not contributed as much towards the industry as what the privatisation had during the initial 4 years.

In the wake of IWK becoming a private company and the sole-provider of sewerage services in the country came the issue of monopoly power. Thus, in the effort to control any manipulation, to ensure that responsibilities are carried out diligently and to maintain consumers interests, a new regulatory body; the Sewerage Services Department (SSD) was formed under the Ministry of Housing and Local

Government. The objectives of the regulator were clear - to upgrade the sewerage sector of the country by providing appropriate sewerage systems, to meet the effluent quality standards and to ensure a more responsive and efficient service to the consumers. The stipulated new regulations also allowed IWK to impose charges on its customers. And the most logical way was in the form of sewerage tariff on a cross-subsidy basis, which will be affordable and equitable over a substantial long-term financial agreement.

The reality of private management by IWK; however, did not go down well publicly as indicated by media reports of repeated incidents of illegal dumping, improper disposal and overcharging. The sewerage privatisation was not a straightforward transition of responsibilities from the LAs as what IWK had initially anticipated. To make matters worse, during the early stages of the privatisation, a local campaign was initiated to collect one million signatures to protest the service quality and billing procedures of IWK (Greenwave, 1996). Though the public may seem to have over reacted, the actual impact of the sewerage privatisation on the government, the competition, the industry, the environment as well as the customers seems to have favourable effects.

4.2 Effect on the Government

It was argued that as sewerage is a public matter and concerns the social services to the community, then by right it should be in the hands of the government and not a private company. The government, it has been argued, should be the custodian of the country's infrastructure and should have the means to manage such high cost projects. This argument could be acceptable, perhaps 10 or 20 years ago, when the cost to run the sewerage services was not so expansive. The price of lands for sewage disposal then, for instance, was affordable.

However, the cost of maintaining existing infrastructure and development of new sewerage system to meet the country's needs has become too expansive, even for the government. With other basic needs such as highways and modern hospitals fast becoming primary importance, in line with the quest to become a developed nation, the allocation for sewerage has been quite limited. Table 2 shows the amount that has been specifically allocated for sewerage under the Malaysian Plans since 1971. Though the allocation has been increasing, yet it is not enough to cater for the overwhelming increase in the sewerage costs.

TABLE 2.

Budget Allocation for Sewerage Development By the Federal Government Since 1971

Malaysia Plan	Year	Amount (RM)
2nd	1971 – 1975	8.6 million
3rd	1976 – 1980	69.1 million
4th	1981 – 1985	237.6 million
5th	1986 – 1990	178.8 million
6th	1991 – 1995	550 million

Even though it has been a known fact that the allocation for sewerage has been the lowest among the public utilities sectors, yet the cost is still considered a financial burden to the government. The privatisation of the sewerage sector relieves the government of the financial constraints and allows the funds to be divested into other needy areas. The government is free from having to allocate the budget needed for sewerage costs though at the same time realizing that any allocation will not be enough to cover the spiraling costs for a proper and efficient system. The government and the LAs are also considering tax cuts and assessment reductions to substantiate the sewerage services, which are no longer under their jurisdiction. Thus, with the available allocation to be channeled into other public interest areas and possible tax cuts, the sewerage privatisation has set to become a political advantage for the government.

Privatisation also frees the operating company from political constraints and bureaucracy, allowing it to make more rational economic decisions and plan for future investments with greater certainty. But privatisation comes with a price as the financial burden is now transferred to IWK. Though there is assistance in the form of a RM 6 billion 'soft loan' from the federal government, there is; however, no direct allocation. This loan; furthermore, is only meant for development and refurbishment of existing assets and not for operational purposes. Based on the acceptable tariff structure, IWK charges its customers in order to support its sewerage operations.

4.3 Effect on Competition

Ironically, the sewerage industry before privatisation was a public monopoly in its own rights. The LAs were owners of their own public enterprises providing sewerage services only within their local areas, prompting no competition in the process. With the privatisation, some argued that the move was simply a replacement of the public monopolies with a private monopoly with no real changes. The privatisation did not bring competition to the industry. At least, some argued that under public ownership, the LAs were not out to maximize profits and thereby exploit the consumers. However, with privatisation, the tendency for IWK to use its monopoly position to charge exorbitant rates is higher.

But the issue of no competition is not a matter of choice. Some industries such as sewerage have entry costs that there can be room for one firm in the industry. Under this so-called natural monopoly, the existence of a single private company; however, can be beneficial and efficient when it comes to economies of scale. The cost of building treatment plants and sewer pipe network is a relatively high proportion of the total cost of providing sewerage services. But the more intensively the treatment plants are used, the lower their cost will become for every customer serviced. The 144 LAs, with their own resources and assets, could only served the population within their authorities. They were not able to maximise their resources like treatment plants and sludge tankers, thus were not able to achieve the full economies of scale.

With privatisation, IWK can maximise the use of its resources and assets to serve the entire population who were no longer segmented. Treatment plants and sewer networks became common usage with no boundaries. Potentially, as a single monopoly company within the industry, IWK is more efficient than the LAs before the privatisation, for having to achieve the economies of scale.

4.4 Effect on the Industry

To have an impact on the industry, public utilities such as electricity, water and sewerage need to be constantly improved to support the ever-increasing population. So too is the demand for bigger and better facilities, as the country moves towards industralisation and our standard of living improves. Electricity, for example, needs bigger and safer power producing plants and water needs bigger and better catchment areas. For sewerage, the need is to have a proper and improved sewerage system that has been much neglected. Some have argued that the sewerage privatisation will not help the industry considering the monopoly status of the company whereas others have questioned on the lack of evidence to support the superiority of IWK over the LAs.

No matter what the critics may argue, it is evident that the sewerage conditions before were not something that the country can be proud of. Though the government had embarked on the National Sewerage Development Program (NSDP) to implement modern sewerage system in all major urban centers in the 1980s, the bulk of the program never get under way. The LAs did not have the manpower capacity or the means to finance these projects, and neither could they service loans of such magnitude from their operating revenues. As such, the sewerage facilities in the country were mostly under-developed, as shown in Table 3.

TABLE 3.

Percentage of Various Sewerage Facilities in Malaysia (Before Privatisation)

	Percentage (Population Served)		
Type of Facility	1970	1980	1990
Central Sewerage System	3.4	4.0	5.0
Communal Sewerage System	17.2	21.8	37.3
Pour Flush System	2.6	30.3	45.0
Bucket Latrine	19.8	7.7	0.0
Pit Latrine	29.9	15.3	4.3
Hanging Latrine	9.4	4.5	2.1
No Facilities	17.7	16.4	6.3

Sources: First National Short Course on Advanced Wastewater Treatment.

As indicated above, 79.4% of the total population in 1970 were still using conventional facilities such as pour flush, bucket and pit latrines while a good portion of the population had no facilities at all. Though this figure has gone down slightly to 75.2% in 1980 and 57.7% in 1990, yet the developmental progress has been too slow for the industry.

IWK, as the private company has invested a lot to improve the conditions of the sewerage industry since its privatisation. In the industry where a single treatment plant can cost millions of ringgit to develop and millions more to maintain, the privatisation has helped to pave the way for such investment to be made. This is possible since sewerage is IWK's main and only concern, unlike the LAs. Table 4 below shows the amount that has been spent by IWK since its inception, on development works such as the building of new treatment plants and sewerage networks. This figure excludes refurbishment works of existing facilities that could run into millions of ringgit due to their previous poor maintenance under the LAs.

TABLE 4.

Amount Spent by IWK on Contracts Works since Privatisation (In Million Ringgit)

1994	1995	1996	1997	1998
17,402	54,904	38,730	92,737	39,551

Sources: IWK Procurement Progress Report.

From the figures above, IWK had spent almost RM 245 million during the first 5 years of the sewerage privatisation to develop the industry. It is likely that the investment trend will likely to continue over the entire concession period of the privatisation, which is meant to improve the overall status of the sewerage industry. Table 5 below summarizes the improvements that have been made to the industry during the first four years of the privatisation. It shows the gradual increase in the number of treatment plants maintained and operated by the company, in the number of septic tanks managed nation-wide, in the length of sewer networks completed as well as in the population served.

TABLE 5.

Improvements on Sewerage Services - Operated and Maintained by IWK Since Privatisation (1994 – 1997)

Year	STP	Septic Tanks	Network Pipeline (KM)	Population Served
1994	1,043	302,800	2,317	3,962,695
1995	3,249	749,182	3,567	7,529,129
1996	4,086	836,306	5,921	10,417,431
1997	4,539	736,797	7,052	11,100,471

Sources: Sewerage Services Report, 1994-1997

From the table above, it can be seen that the number of STP (sewerage treatment plants) operated and maintained by IWK in 1997 has increased by 335% since privatisation. Similarly, the length of sewer pipeline constructed has increased by 204% and the number of population served has grown by about 180%, a major improvement to the industry by any standards.

The sewerage privatisation also introduced standard guidelines, which directly brought about improvement in the quality of the industry that was not present before. Prior to the privatisation, developers would follow their own design standards to construct plants that has resulted in many of these plants not able to cope with the population growth and on most occasions, were not able to meet the discharge standards.

However, with the privatisation, Sewerage Policies and Guidelines were introduced in 1985 and subsequently updated in 1999, which were to be applied to all developments of new sewerage systems. It covers, for example, on the proper facilities involved in the collection of sewage, the proper conveyance to a treatment facility, the effluent discharge standards and the appropriate disposal method (Guidelines for Developers, 1999). Unlike before, it is easier to implement the guidelines after privatisation because of the nationalised status of the industry.

Another effect of the privatisation to the industry is the improvement on efficiency level. Before privatisation, not much effort has been put in to improve the level of service by the LAs since most people had the misconception that sewerage service is provided free. Any improvement on level of service should be LAs' prerogative and not to be demanded by the public. This has resulted in many instances of sewerage problems taking days to be attended to and weeks to resolved. The level of services was not properly monitored and there were no proper and efficient means of filing public complaints. In the end, whatever service levels provided were mostly considered as acceptable standards. Attitude and government bureaucracy could be attributed to this and so too, on the LAs' lack of funds and necessary skills to provide a better level of service.

As the private company, IWK has put in the effort to improve the service quality of the industry. This includes getting the necessary skills to meet the minimum service standards, which are constantly reviewed. Efficiency cannot be achieved without skills and ability. In a world of genuine free enterprise, there is no place for gatekeepers (Versi, 1997). IWK cannot expect the service quality to improve without taking steps to make such improvements. IWK has, in fact, set high service standards in trying to resolve all of its major sewerage problems.

Table 6 below indicates the percentage rates that IWK has achieved in resolving the major industry problems. The percentage is the compliance rate that IWK has achieved in resolving the problem within the stipulated level of service time frame. A consistent and high rate over the years reflects the improvement in the quality and level of service provided by IWK since the privatisation, which is a plus point to the industry.

TABLE 6.

Level of Service and Sewerage Problems Resolved by IWK (1994 – 1998)

Types of Problems	1994	1995	1996	1997	1998
1. Blockages of sewer lines (% resolved within level of service: 3 days)	2,659 (71%)	10,509 (88%)	16,509 (80%)	16,536 (93%)	13,132 (98%)
2. Pipe Collapses (% commenced repair within level of service: 3 days)	132 (70%)	263 (39%)	195 (49%)	172 (57%)	155 (92%)
3. Missing/Damaged Manhole covers (% resolved within level of service: 2 days)	194 (22%)	334 (61%)	278 (49%)	482 (82%)	575 (96%)
4. Pump Station Failures (% resolved within level of service: 3 days)	38 -	65 -	4,732 (67%)	5,766 (84%)	6,578 (93%)
Total Number of Cases (Overall Compliance with level of Service)	3,023	11,301	21,714 (76.5%)	22,956 (90.8%)	20,440 (96.1%)

Sources: Sewerage Services Report, 1998

4.5 Effect on the Environment

One of most significant impact of the sewerage privatisation is the effect it has on the environment. Sewerage has a direct impact to the health and safety of the community and by right should not be compromised for any political or social gains. However, the issues on environment were largely downplayed before privatisation and the problems were real. It was shocking to note that 65% of the five million cubic meters of sewage produced daily in Malaysia went untreated and discharged into the waterways. It was also reported than more than 70% of Malaysian rivers before the privatisation were polluted and raw sewerage was even found near the coastal areas of Perak, Penang, Pahang and Terengganu (Haniffa and Zuki, 1999).

In spite of the claims that LAs take environment issues into consideration, most never practiced it. Perhaps again, it was the lack of manpower and skills but more so because it has never been as easy task for a government agency such as DOE to be monitoring another government body- the LAs. Overall, there were no clear measurements to assess whether the LAs were meeting the acceptable standards on environmental pollution.

It was argued that if the industry was privately owned, then the question of environment might be ignored or underplayed. This is so, given that the government has had problems in the past to impose controls on LAs whom the government even had much higher level of interference. However, after privatisation, the regulator was imposing strict compliance of the Environmental Quality Act (EQA). Unlike the LAs, controls on IWK were able to take place since the regulator is an independent body to the company.

Thus, in the effort to comply with the EQA, effluent discharge such as Biochemical Oxygen Demand (BOD), Suspended Solids (SS), Oil and Grease are analysed from the water samples taken from treatment plants to ensure that the quality for each type of effluent discharge are complied. Table 7 below indicates the average compliance rate achieved by IWK for each type of effluent discharge since privatisation.

TABLE 7.

Compliance of Effluent Quality by IWK under the Environmental Quality Act (1994 – 1997)

Year	Total No. of STPs	Compliance Rate (in percentage)			
		pH	SS	BOD	Oil & Grease
1994	1,043	99%	72%	58%	80%
1995	3,249	99%	60%	44%	77%
1996	4,068	99%	63%	42%	80%
1997	4,538	99%	75%	55%	87%

Obviously, there will be fluctuations in the rate due to the reason that more treatment plants are being added to the overall numbers each year; nevertheless, the achievement rate is considered high. It will take sometime before full compliance can be attained since a large number of the treatment plants constructed prior to the privatisaton, about 72%, were not designed to comply to the current requirement of effluent standards.

4.6 Effect on the Consumers

What then is the effect of privatisation on the paying consumers? The public may argue that giving the privatisation rights to IWK may seem as unequal since it divides the society into classes where income for the company is largely derived not from their own hard work but from the privatisation they are lucky enough to own. However, there is the social aspect that makes it better for sewerage to be in the hands of a private company. By 'social' it means the costs or benefits that have real resource and welfare implications to the community, the economy or the environment, but which sometimes may be difficult to measure.

With the earlier public misperception that sewerage is provided free, the issue of consumer benefits normally does not arise. Most were contented with the services provided that matters on social issues were hardly raised. But the public does not realised that they have along contributed to the cost for sewerage services but only a small amount have benefited the consumers with the rest going into other public needs such as medical care, education and public transport. However, with the consumers visibly paying for the sewerage services since privatisation, the demand for greater social benefits and transparency has increased. No longer are consumers taking the services for granted. They want to see development and expect to benefit from it.

Table 8 shows the improvement made to the sewerage services that has benefited the public since privatisation.

TABLE 8.

Sewerage Services Before and After Privatisation

Area	Customer Service Type	Before Privatisation (%)	After Privatisation (%)
Larger Local Authorities	Unserviced	11	0
	Septic Tank	44	15
	Connected	45	85
Smaller Local Authorities	Unserviced	38	0
	Septic Tank	52	70
	Connected	10	30

The majority of the conventional sewage system (septic tanks) and those without sewerage services (unserviced) have been converted to the modern and efficient connected service. As example, the number of customers without any sewerage services before privatisation has been reduced to zero percent while the number of connected customers has almost double in the larger areas and triple in the smaller areas.

Under a rational argument, IWK as a monopoly company in a free market can use its status to set its own prices that would not benefit the consumers. This is not so as the sewerage industry, like most other public utilities, is highly regulated when it comes to tariff structure and the setting of tariff charges. In fact, with privatisation, the public has more interference when it comes to tariff charges as compared to before. This is evident in the sewerage tariff structure that has twice been revised, in 1996 and 1998. Thus, the privatisation has benefited the consumers on tariff terms by reducing their risks.

Apart from the regulation in tariff, there are other consumers' benefits from the privatisation. The sewerage operation of IWK has become more transparent to the public as compared to the same operations before privatisation. Decisions concerning consumers' interests can be made faster as IWK do not have the bureaucracy normally faced by government bodies. Any public outcry would normally generate greater media coverage then before, which normally would result in faster response from the company. It is not surprising, as a private utility company like IWK would normally be subjected to greater public interest and media coverage.

4.7 Comparison to the UK Sewerage Privatisation

Despite the progress thus far made by IWK since the sewerage privatisation and the favourable effects the privatisation has on the government, the industry, the environment and the consumers, the company is still faced with internal and external problems, which have affected its performance. Problems of non-payment and poor public perception towards the company and the privatisation are relatively high. It is not easy when IWK has to balance between satisfying consumers needs and paying for high investment costs.

To understand whether these problems are inherent or expected in the privatisation of public utility industry such as sewerage, a comparison with another company in the same industry can be helpful. However, as it is a monopoly, the closest comparison that can be made is on a similar company in another country. It will not be straightforward; though, as dimensions such as the geographical area, population density and regulations would normally be different between the private sewerage companies of different countries. Nevertheless, comparison is still possible in an attempt to better understand what makes the UK sewerage privatisation different or for that matter, more or less successful than ours.

In brief, the water and sewerage authorities in the UK were privatised in 1989. It happened during the time when the industry was in a parlous state and the river water quality was at a decline. The privatisation was based on the strong held belief that market participation is sufficient to exert efficiency-enhancing effects upon enterprises transferred into the private sector. However, the decision to privatise the water and sewerage authorities in UK resulted in the industry to has less competitors, high investment requirements and a widespread of public antipathy to privatising water; an almost similar outcome to the privatisation of IWK. However, the method, make-up and running of the privatisation are somewhat different between the two comparing companies and Table 9 summarizes these differences.

TABLE 9.

Comparison between IWK and the UK Sewerage Privatisation

	UK Sewerage	IWK
1. Privatisation Set-up	The ten water and sewerage authorities (RWAs) present in the UK were privatised into ten Water and Sewerage Companies (WSCs), without any change in structure	The sewerage services managed by the 144 Local Authorities were privatised into a single private company in IWK
2. Mode of Privatisation	Through a sales transaction where the sales or transfer price is determined by the future capital, operating	Through a concession agreement where assets are leased from the government at a nominal

	cash flows and the prevailing tariff rates at the time of privatisation. If investors pay higher then the government outstanding debt, then government will receive higher proceeds to the benefit of the tax-payers whilst consumers will pay higher tariff rates to compensate investors for the higher sale price. Likewise, a lower sales price means lower investors costs and tariffs for the consumers (Vass, 1993)	rate, which will be handed back at the end of the concession period. Thus, there is no issue of transfer price as consumers need not compensate investors for the higher or lower sale price
3. Operation	By region	The whole country
4. Responsibility	Water supply, sewerage, sewage disposal, water resource planning, pollution, fisheries, flood protection and land drainage, and environmental conversation	Sewerage and sewage disposal only
5. Regulatory Body	The Office of Water Services (OFWAT), an independent regulatory body	Sewerage and Services Department (SSD), a government-elected body
6. Regulators Function	OFWAT has no direct responsibility in setting water quality and environmental standards.	SSD sets the effluent and environment quality standards for the industry. Do not mention of

	Believes that the cost for environmental improvement should be adequately charged out to the consumers	environmental costs to be charged out to consumers
7. Tariff Rates	The tariffs charged by the WSCs are allowed to increase by five percent above the rate of inflation. This is meant to cover rising capital investments, increase in performance standards and efficiency gains.	Fixed according to the property type and water consumption with no allowance for changes unless there are reviews to be made to the tariff structure. The cost-quality effort is usually price driven and will be affected if they are price capped without any room to increase.

From the comparisons above, it can be seen that there are differences in the privatisation of the sewerage industry between Malaysia and the UK. Obviously, the differences is a lot more then what this paper has attempted to compare but as a matter of understanding, it is enough to note that differences do exist in the basic structures of the private companies, the privatisation set-up, the regulatory framework and the tariff rates. In spite of these differences, the purpose and ideology of the sewerage privatisation of the two remains clear, which is to provide a better and efficient sewerage system for the good of the industry, the country and the environment.

4.8 Consumer Perceptions toward the Company

Despite the benefits and favourable effects the sewerage privatisation has brought, the acceptance level towards the company and the privatisation in general, among the consumers has not been encouraging. This low acceptance level is usually triggered from the consumers having low perception of the company that would lead to unending complains, refusal to accept services and finally resulted in non-payment.

But what percentage of the public is not accepting the privatisation? For those who do, what then is the degree of acceptance level? These questions are difficult to answer as acceptance is relative and in the monopoly status of IWK, comparisons are difficult to make for the same industry. However, it is highly regarded that to achieve high acceptance level, the consumers need to have a high perception of the company and the privatisation. Perception that the privatisation is good for the industry, that the existence of IWK as the private company is justifiable, that the level of service is better and the tariff reasonable. Perhaps the best approach in trying to measure the consumers' perception level and indirectly, the acceptance level, is to compare IWK with the other public utility companies.

Since privatisation, surveys had been done to measure the consumers' perception level. The surveys were conducted internally as well as externally but the results have not been conclusive or evident. Reason could be due to the fact that findings of the surveys were scattered and that, there were no proper collection and collation of the results for all the surveys that were previously done. Thus, the survey results were not conclusive and empirically, there were no conclusions to the findings. This paper; however, attempts to collate all the survey findings on the consumers' perception level and together with primary interviews done with senior management for IWK, tries to come up with the results and conclusions to the findings.

The survey that had been attempted was to measure the consumers' perception levels in several key areas by comparing IWK with the other public utility companies. These key areas include perception levels towards company awareness, service, performance and effective communication. The other public utility companies used in the survey were the Penang Water Department (PBA), the National Electricity Company (TNB), the Penang Municipal Council (MPPP) and the Seberang Prai Municipal Council (MPSP).

The survey method was by face-to-face interviews and targeted at three different groups within the sewer areas of Penang i.e. (1) the domestic or household group (IWK customers), (2) the domestic group (non-IWK customers) and (3) the non-domestic group (commercial and industrial customers). Different groups were surveyed to get a better mixture of respondents. A random sample of 333 households was selected under the domestic group (both IWK and non-IWK customers) and a total of 102 quota sample of businesses were selected under the non-domestic group, which is a fair representation of the total Penang population.

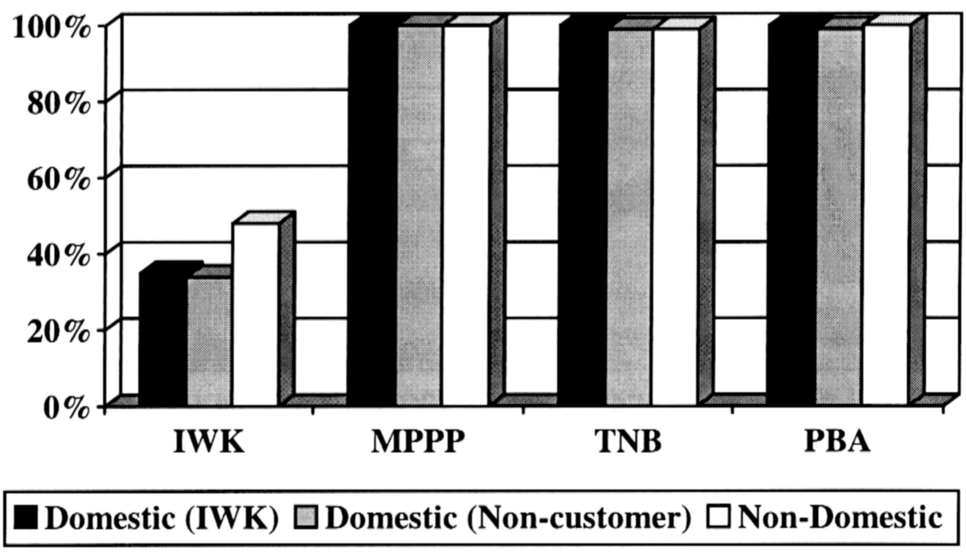
Under the domestic group, the 333 samples selected were based on the demographic profiles of age, ethnic, band (sewerage charge), location, and household income. The distribution of the samples is displayed for age (Appendix A), ethnic (Appendix B), location (Appendix C) and household income (Appendix D). For the non-domestic group, the samples were selected based on the sewerage charge, number of employees and the types of business. Since the survey method was via interviews, the respondent success rate for the study was 100%.

4.8.1 Awareness Level

The percentage level of the three sample groups' awareness levels toward IWK and the other public utility companies is shown is shown in Table 10 below (see Appendix E, for detailed results). This is how well customers are aware on the overall existence of the utility companies, their roles and functions. As indicated, the three sample groups recorded high awareness level towards the other public companies with a relatively lower percentage recorded for IWK.

TABLE 10.

Consumer Awareness Level towards Public Utility Companies



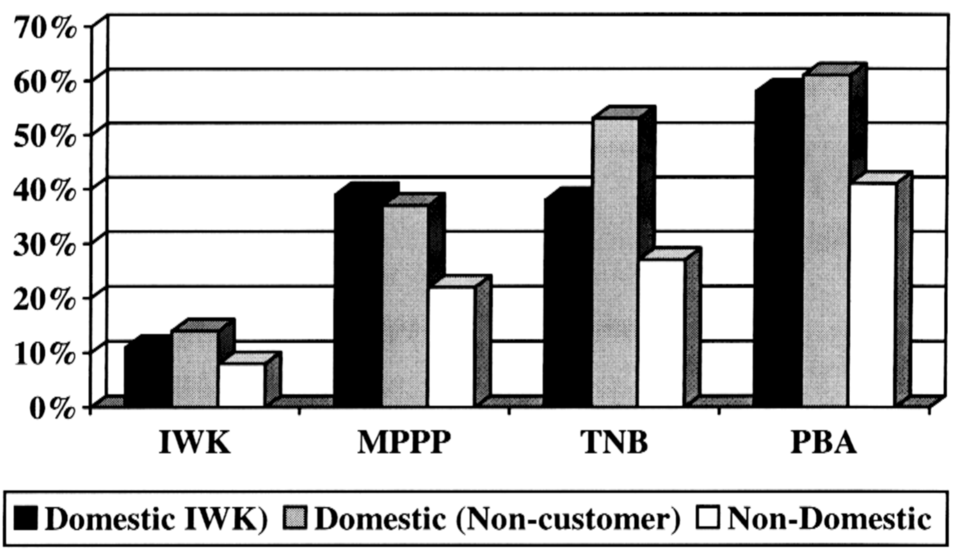
As the results have indicated, the awareness levels for the three sample groups were low towards IWK compared with the other public utility companies. From the findings, this is perhaps due to IWK being a relatively new company as compared with the others and many customers and non-customers are not well aware of IWK presence or its functions.

4.8.2 Perception towards Fair Pricing

The percentage level of the three sample groups' perception levels on the issue of fair pricing is shown is shown in Table 11 below (see Appendix F, for detailed results). This is how well customers perceived whether IWK or the other utility companies are charging a fair price for the services provided.

TABLE 11.

Consumer Perception Level towards Fair Pricing



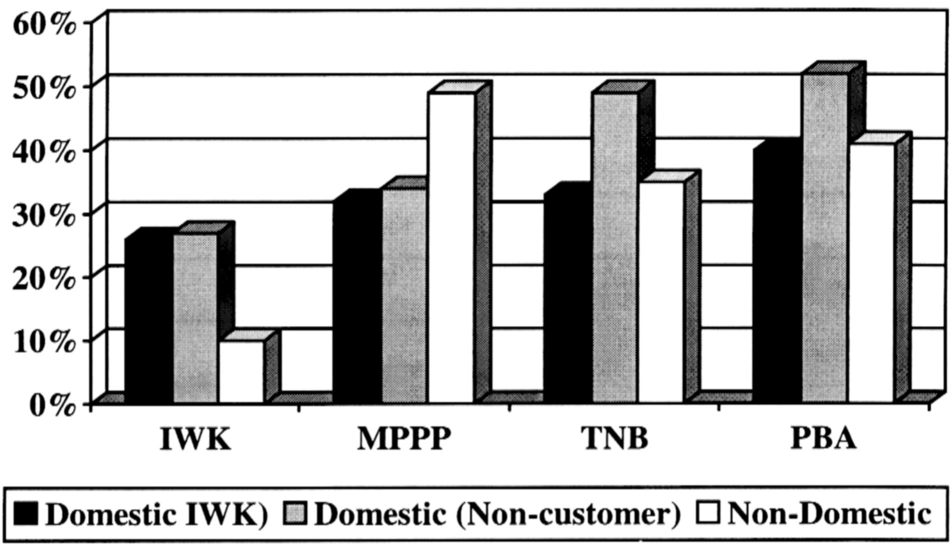
From the table above, it can be seen that the sample groups perception towards fair pricing is the lowest for IWK among the public utility companies. Though, the overall perception on fair pricing may not be relatively high overall, yet IWK scored the lowest. This low perception could be due to the fact that most consumers are not well aware of the sewerage privatisation or are they being properly informed of what IWK does. Added to the fact that unlike water or electricity, the services for IWK are mostly transparent. Thus, to be charged for the services that the consumers are not much aware of or hardly seen, is considered as unfair and not reasonable. This is true even though IWK only charges the domestic customers between RM 2 to RM 8 per month compared to the much higher amount by TNB or MPPP.

4.8.3 Perception towards Consumer Friendliness

Another area where perception is measured is on the friendliness of the public utility companies towards their customers. This includes their perception on how well the company treats them in times of crisis and the overall treatment of the companies. The result for this survey category is shown in Table 12 (see Appendix G, for detailed results).

TABLE 12.

Consumer Perception Level towards Consumer Friendliness



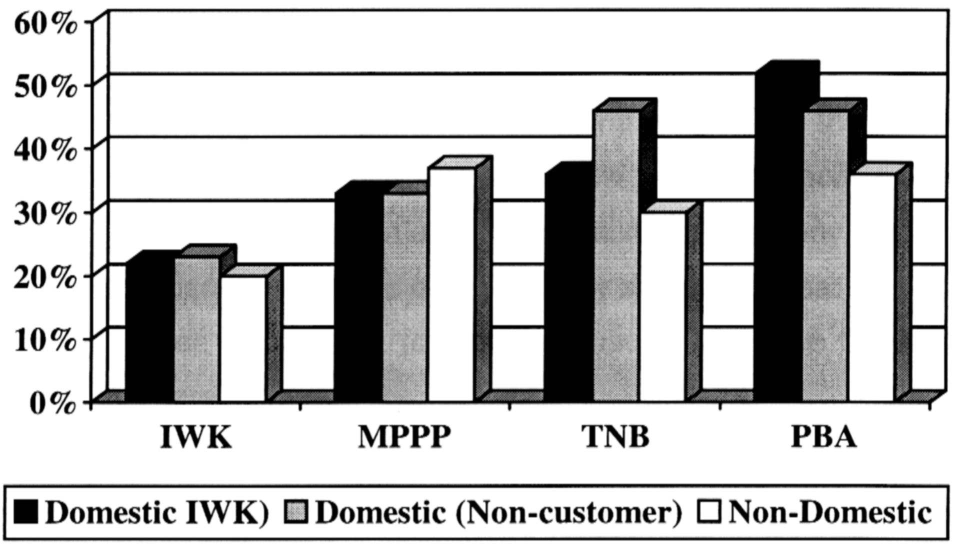
The result indicates the perception on consumer friendliness for all the utility companies is not high, with the highest achieving 52%. From their perception, IWK is rated slightly lower on consumer friendliness then the others. This could be attributed to the company being relatively new, to the consumers not aware of the functional role of IWK or to the simple reason that consumers will always be offended to any paying service. Thus, the low perception towards all public utility company, more so towards IWK.

4.8.4 Perception towards Environmental Friendliness

The perception of the sample groups on environmental issues was also measured. Here, issues on whether the companies are doing a good thing for the environment and whether they are caring or conscious enough towards the environment are being measured. Table 13 below (see Appendix H for detailed results) indicates the result for this area of concern.

TABLE 13.

Consumer Perception Level towards Environmentally Friendliness



Again, the scores for most of the surveyed companies are low. The reason for this could be straightforward. Most consumers are probably not well informed or aware of the companies' effort towards the environment. The precaution that the companies have taken or the compliance level that they have to meet, is not public knowledge. Only environmental problems or disasters are highlighted, which will create the impression and the perception of the consumers.

Still, the results show that the perception for IWK is the lowest. This can be derived from the fact that ever since the sewerage privatisation took place, IWK has generated a lot of bad publicity especially on environmental issues and no matter how small and insignificant the issues can be at times, they would always be over-reported. It does not matter whether IWK is new to the industry, as the public's mind has been set. Their opinion and perception has been tainted even though IWK had complied towards stringent environmental regulations.

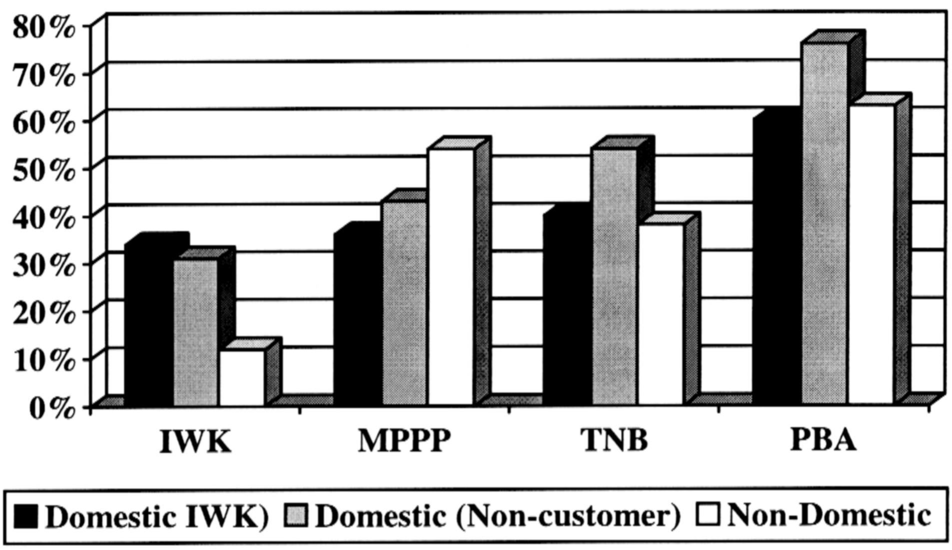
4.8.5 Perception towards Service Quality

Another dimension is the consumer perception towards the service quality of the public utility companies. This is the sample groups' perception on how well or how good the service being provided by the companies. A good rating means they perceive the company's service is of high quality and vice-versa. Table 14 below (see Appendix I, for detailed results) indicates the result for this category.

Being relatively new, the public has not truly experienced the service potential of IWK. Companies like PBA and TNB has been exposed to being private companies for many years and as such, have improved their services over the years. Any issues or problems on service quality for the said companies would have been ironed out or at least reduced over time. The same cannot be said about IWK, which only had the last 4 years to grow. Problems on services are expected especially in the services industry, more so in sewerage where service problems had existed long before IWK took over the privatisation. But most would not make such deductions, which resulted in the low consumer perception on the quality of service towards IWK.

TABLE 14.

Consumer Perception Level towards Quality of Service

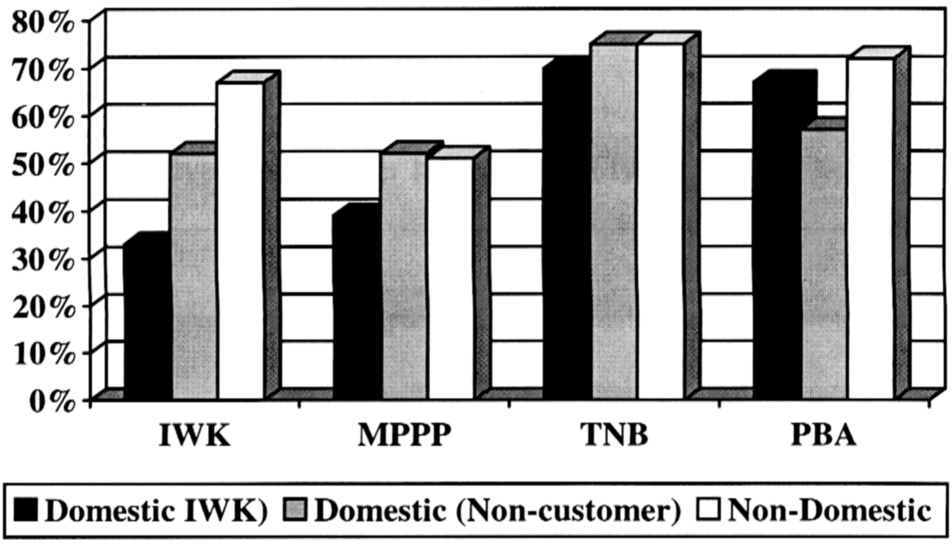


4.8.6 Perception towards Effective Communication

One other area measured is on the effectiveness of the public utility companies' communication level. Here, the sample groups' perception level is measured identifying whether the companies are being effective in reaching out to their consumers. Whether through normal human contact, media coverage or advertisements, the perception on how effective the communication is, is shown in Table 15 (see Appendix J, for detailed results).

TABLE 15.

Consumer Perception Level towards Effectiveness Communication

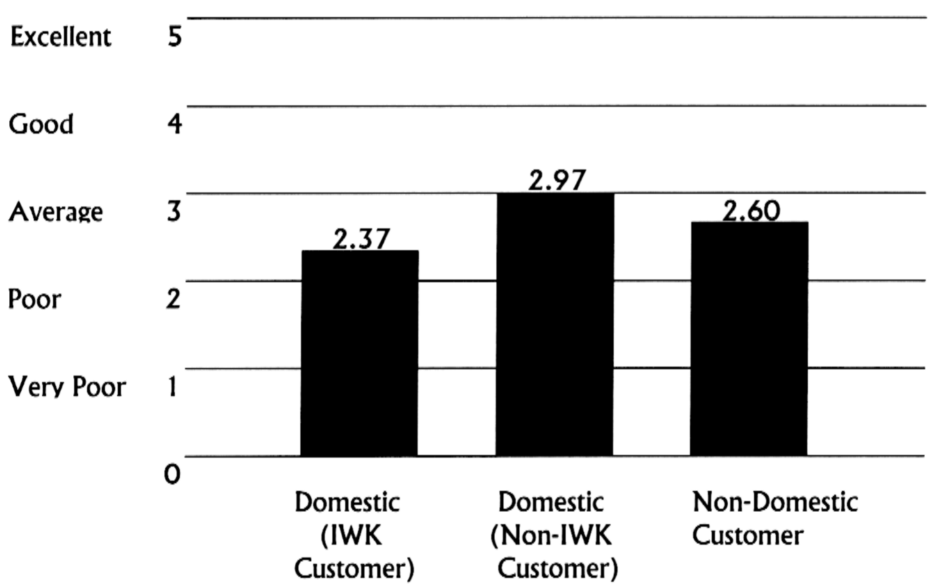


The perception level for this category is better for IWK as compared to the previous perception categories. Consumers see that IWK does communicate with the public from the media and television advertisements but it is still slightly lower than the other public utility companies. This is not surprising, as the company is new and only through feedback that better and effective communication can be presented. Companies like PBA and TNB have, over the years, invested in time and money to create a good communication level with the public and so will IWK over time.

Finally, the survey also rated the sample groups' overall impression of the company, not taking into account of the other public utility companies. The result is as shown in Table 16 below. The rating is '1' for very poor, '5' for excellent and '3', covering all aspects of the company from performance, service to environmental conscious. As indicated, all the three sample groups gave a below then average on the overall rating of the company.

TABLE 16.

Overall Customer Impression of IWK



4.9 Problems Affecting the Privatisation

Besides the above problems related to the low consumers' perception and overall impression towards IWK, there are also other problems, which have affected the success rate of the sewerage privatisation. Though privatisation has taken place and likely so that the decision would not be reversed since it is a national matter, yet the problems faced by the company has effected its performance, its progress in achieving its targets and its revenue collection.

Besides the problems of the consumers, there are also other external problems that have effected the implementation of the privatisation as well as the operation of the company. The following summarizes the major problems, which is a comprehension from ministry reports, internal company reports, from interviews with senior IWK management as well as personal observation.

4.9.1 Incomplete Data on Sewerage Assets held by LAs

In the past, most sewerage systems were built by developers and surrendered over to the LAs to operate and maintain as public systems. Due to the lack of manpower and financial resources, record keeping was poor and consequently they were missed out during the handing over of the systems from the LAs to IWK. These systems came to light only when consumers complained about malfunction and the blame would usually fall on IWK.

4.9.2 Legal Title of Treatment Plants held by Developers

The previous practice by the land office to issue land titles for the land where the treatment plants were built on resulted in many developers holding titles to many of these lands even after the sewerage systems have been handed over to the LAs and declared as public systems. While the operations of the plants have been transferred to the LAs upon completion, the transfer of the land titles was not done accordingly. In certain areas where the land value has appreciated, the developers became reluctant to surrender the land at nominal cost to the government after the sewerage privtaisation and have demanded high compensation. This has escalated the operations cost for IWK that will have an adverse effect on the sewerage tariff.

4.9.3 Lack of Experience Manpower

In most privatisation exercises, it is accustomed for staff from the government to be transferred to the private company. As sewerage is relatively a new service with the LAs, the privatisation has created some difficulty on the part of IWK to recruit the appropriate staff and was fully stretched in trying to meet its obligation under the concession agreement. This problem is further compounded when there is also a lack in personnel with operating experience in the country.

4.9.4 Lack of Acceptance on the Tariff Formula

As a result of the cross subsidy elements within the tariff formula adopted, customers have questioned the basis of the formula used such as its relation to property values and its charges based on total water consumption instead of actual discharge to sewer. This is based on the fact that charging of most other municipal services, have been based on property values. The general perception was that the concession-company had been given a license to make money but not wanting to understand that approval of the tariffs is by the government.

4.9.5 Non-payment of Sewerage Bills

Unlike the other public utilities like water, electricity and telephone, IWK does not have the option to discontinue the services for non-settlement of sewerage bills. It fact, it would not have been practical to do so as cutting the service would also effect the paying customers, not considering the effects on public health and the community as a whole. Thus, it has resulted in consumers either delaying payment or not settling the bills at all.

4.9.6 Lack of Understanding by the Public

The public at large does not fully understand the function of IWK or the services provided by the private sewerage-company. Partly stemmed from the company's ineffectiveness to communicate with the public when the privatisation first started, it has now become more of public refusal to understand and accept. One example is the desludging of septic tanks that is provided by the company once in two years. Due to the lack of understanding, many customers have refused the service when approached by IWK though it is entitlement of the customers under the concession.

4.10 Challenges Ahead

The sewerage privatisation problems mentioned in this paper are quite diversified. Some are internal, whereas, others are external to the company. Some problems were inherited from the LAs; some were expected due to the nature of the industry itself, while others were by-products of the privatisation. It is without doubt that these types of problems should be expected in any form of privatisation and for any industry but the question is how best can the problems be overcome. Apart from handling problems and issues at hand, IWK should also expect the challenges that can come is any form and at any time, that will further effect the industry, in general, and the sewerage privatisation, in particular.

This paper will try to identify the major challenges that lie ahead for IWK; challenges that are reported in ministry documents, in privatisation articles, from interviews with senior management of IWK as well as from personal observation. Some of these major challenges are:

4.10.1 Future Quality Standards

Taking the cue from other developing countries, it is expected that Malaysia will reach a stage where more stringent effluent quality will be imposed. And under the current condition where there are many old treatment plants not meeting even the basic effluent quality standards, it will be a challenge for IWK and the industry, in general, to meet the future in effluent quality standards.

4.10.2 Lack of Regulated Sewerage Standards

With the sewerage privatisation in the country considered to be only in its infant stage, there is a desperate need for more comprehensive regulated standards for the industry. Besides the EQA, MS1228 and the regulators' guidelines, there are no other standards, for example, to enforce developers in the design of proper sewerage facilities. It is hoped that the government will introduce more sewerage standards and guidelines to ensure that the industry is comparable to the recognised worldwide standards.

4.10.3 Technological Advancement

It is believed that though Malaysia is not yet ready to develop its own range of sewerage equipment, it is more capable of fabricating a variety of related products and equipment under foreign licenses. Perhaps it will soon be able to perform reverse engineering and eventually turn out some equipment of its own to suit similar requirements and conditions needed locally.

4.10.4 Research and Development

At present, the sewerage technology in the country is almost totally imported from countries where the conditions are quite different from ours. Having to suit the technology locally can result it operations and maintenance problems, which may lead to higher operational costs. As such, a proper R&D is required by IWK to enable for the selection of the most appropriate sewerage system that works best under local conditions. This would not only result in better system performance but also favourable operating economies.

4.11 Proposed Measures

In spite of the advantages that privatisation has brought to the sewerage industry, there are problems that has affected the overall performance of the company and indirectly, the industry. As much as there are internal problems in the lacking of technology, local expertise and a high number of noncompliance facilities, there are also external problems of strict regulations, non-payment and lack of understanding on the part of the consumers. Whether these are inherent problems from the pre-privatisation period or problems generated out of the privatisation, IWK has and will need to find the solutions and fast. From the problems highlighted, proposed measures are recommended.

One major area of concern is on the customers' perception and awareness levels towards IWK and the sewerage privatisation. Through the secondary research survey that was done in Penang, the overall perception level towards the company was the lowest compared to the other public utility companies. Partly due to IWK being relatively new compared to the other public utilities but mainly because of the low level in communication with the general public, as shown in the survey result highlighted in this paper. Communication is an important channel to link the company with the public. An effective and constant communication is essential - (1) to educate the public, (2) to lead to better understanding of the roles and functions of the company and (3) to provide a clearer purpose and reason for the privatisation.

Better understanding will lead to public confidence, to higher perception and to acceptance. Once the public begins to accept IWK and the privatisation, problems relating to consumers can be greatly reduced. Of course there will be a few sour grapes but with major public acceptance, the perception of these few people should not matter. IWK should not waste time and energy to satisfy this few people who will never be satisfied no matter what the company does. The time and energy should be well spent to improve the communication level with the major public who are willing to listen, understand and accept.

Tariff is another problematic area that needs attention. This is true as the charges to the consumers have so much been disputed in the past and that have led to the tariff structure being reviewed and amended a few times before. Consumers will always be unhappy to pay for services that they thought have always been provided free in the past. This understanding is not accurate, as consumers have always contributed to the sewerage in the form of assessment. It is only that most are oblivious to the fact and that IWK has also not done enough to make the public aware of this. This should again come in the form of proper and effective communication whose significance are (1) to make the public aware that they have always been paying for the sewerage in the past even before privatisation, (2) to make them understand that IWK has the right to charge and collect fees for the services provided and (3) to make them realize that the government has been the one approving the tariff structure and not IWK.

IWK should also attempt to disallow LAs to continue collecting the sewerage fees and for the LAs to justify; otherwise. More importantly, IWK should stress the importance of the fees as a small contribution towards the huge clean-up exercise for the benefit of the future generation. These explanations should greatly reduce doubts of payment issues and uncertainties.

Regulator is another aspect that needs further review. There is no doubt there that should be a regulator of policies and guidelines in a critical industry like sewerage. But as much as there are strict regulations concerning environmental standards, there should also be flexibility in some other areas as well. In the past, there have been occasions where the regulators have requested IWK to review their tariffs, for credits to be given back to consumers, for arrears to be cancelled and even bills to be stopped. As much as regulators work to the benefit of the consumers, regulators should also sometimes work for the benefit of IWK. The company is also made up of people who are trying to make the privatisation work. The regulators should be impartial and if possible, should be a non-government body independent of the authority. Only then, can a more non-biased, economic approach be taken to see the success of the privatisation. The sewerage regulators in the UK, as mentioned earlier in this paper, have even suggested that inflation and environmental improvement costs should be part of the tariff charged out to the consumers, a stand our regulators have never taken. Only with changes to the regulators and the way regulations are conducted, would we see a more positive outcome of the sewerage privatisation.

Another problem with the sewerage privatisation is the heavy dependency of IWK on the government for funds to develop the industry. Without doubt, the cost to build up the infrastructure is high. However, since the privatisation is in the form of a concession and not through public offering, IWK do not have the capital to invest in development and refurbishment works, with the government holding a golden share in the company. And being dependent of the government, political interventions and decisions are expected. There would be some level of bureaucracy unlike seen in a private company free of the government. For the good of the industry, it would be ideal for the sewerage privatisation be on similar plateau with the privatisation of the electricity and telephone companies. Decisions would then be more industry-focused, funds better-managed and less bureaucracy. IWK can also avoid the thought of having limited number of years within the concession period to invest and develop the industry and to make profit at the same time. Perhaps, with out-right privatisation, IWK can plan out its long-term progress strategically without the time boundary.