CHAPTER SIX

WATER RATES IN SELANGOR DARUL EHSAN

The main focus of this chapter is to discuss the water rates in Selangor Darul Ehsan. The current water tariff rate will be discussed in historical perspective. This will be followed by an assessment of a tariff review. It also discusses the decline in collection efficiency and financial performance indicators compared with the Water Board of Penang.

6.1 General

The mission of Jabatan Bekalan Air Selangor (JBAS) is to provide continuous water supply with the highest quality and at the most economic price (JBAS Annual Report, 1995).

The main source of revenue is water sales. Besides this, income is derived from other sources such as connection fees and interests on deposits. The revenue is used to finance the operation and maintenance costs and to repay loans.

At present the Federal Government finance two-thirds of water supply developments projects costs through grants to state governments. The amount of loan is substantial, as water supply development is capital intensive (Tay Soon Chuan, ASWSN, 1991, p.11).

During the early years, operating costs were low, capital repayment for new construction used to be adequately met from revenue collected from the sales of water (Tay Soon Chuan, ASWSN, 1991, p.11).

However due to increases in capital and operating costs and water tariff revisions not keeping pace with the upward trend in capital and operating costs, water authorities are now operating on a deficit budget and have to be

subsidised by the state governments (Tay Soon Chuan, ASWSN, 1991, p. 11).

To alleviate its own burden, the Federal Government has emphasised self-financing as a means to providing sustainable water resource development of water supply. To be sustainable, all costs should be covered (Financial Management of Water Supply and Sanitation, WHO, 1994). As mentioned earlier the main source of revenue is through water sales and that means the government has to look into ways to increase its revenue and at the same time contain the costs that it is experiencing now.

6.2 Water Rates in Selangor Darul Ehsan

The state has generally adopted a formula, which charges a low rate for lifeline consumption and higher rates for consumption above the lifeline consumption to discourage wasteful or excessive use.

All supplies except supplies for fire fighting are metered. Water consumed is charged according to the type of use. The average rate for domestic supplies is about RM0.53 per cubic metre while that for commercial or industrial supplies is RM1.20 per cubic metre (Water Rates In Malaysia, JKR, 1998). Domestic (Residential) users are charged an increasing block rates on an increasing scale while commercial or industrial users are mostly charged on a flat rate.

On average, commercial or industrial supplies are charged 75% higher than domestic supplies.

The water rates by type of users are shown below in Table 6.1.

Table 6.1 Water Rates in Selangor

Sector / Year	1976	1.1.1984	1989	1.1.1991 to present
Residential	RM0.25/m^3	0-20m^3@ RM0.32/ m^3 21-45 m^3@ RM0.48/ m^3 >45 m^3@ RM0.72/ m^3	0-20 m^3@ RM0.38/ m^3 21-45 m^3@ RM0.57/ m^3 >45 m^3@ RM0.85/ m^3	0-15 m^3@ RM0.42/ m^3 16-40 m^3@ RM0.65/ m^3 >41 m^3@ RM1.05/ m^3
Condominium (managed by the management)				RM0.75/ m^3 (minimum Charge RM100)
Residential Flats (government/ Semi government)				RM0.50/ m^3 (Minimum RM20)
Industrial	RM0.44/ m^3 (Minimum RM4)	RM0.88/ m^3 (Minimum RM20)	RM1.04/ m^3 (Minimum RM20)	RM1.20/ m^3 (Minimum RM20)

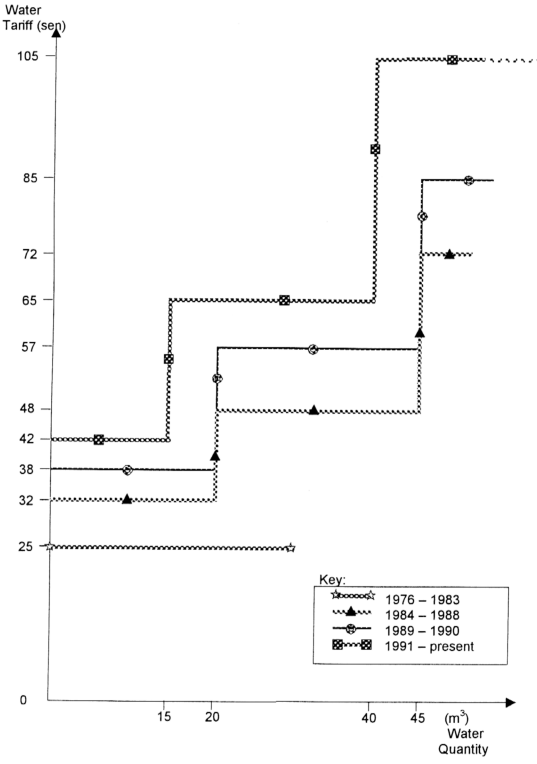
Source: Water Rates in Malaysia, JKR, 1998

Beginning from 1976 to 31.12.1983, JBAS charged a flat rate of 0.25 sen per cubic metres. Subsequently from 1.1.1984 to the present, JBAS introduced the increasing block rate according to the level of consumption. It raised the tariff rates again in 1991 and simultaneously reduced the quantity in the lowest priced block. Consumers pay more for higher consumption. The rationale for this is that water should be priced to reflect its scarcity value and to avoid wastage. JBAS imposes a higher rate of water consumption to condominium dwellers that are perceived to be from the middle to higher income group compared to the lower income group who dwell in government or semi government flats. The rate charged for water consumed by condominiums is a flat rate of RM0.75/ m^3 with a minimum charge of RM100 to the management. Lower flat rate of RM0.50/ m^3 is charged to government and semi government flats with a minimum charge of RM20 only.

The increasing block tariff may also be designed to promote equity because the unit price of the lowest block may be set very low. The steeper the increasing block tariff the more efficiently will water be used. It is usually assumed that only the first block of water will be consumed in poor households of five. Therefore the upper limit of the first block should reflect accurately the maximum consumption per month of a typical poor household. It is subsidised because water is considered a basic necessity for survival or water is considered a basic social good. The rate charged for the first block is known as the "life line" rate (G.Sivalingam, 1995, p.11). The tariff for the first 20 cubic metres was adjusted so that poor households only spent up to a maximum of 4% of their monthly household income on water. A 4% ability to pay criteria is the rule of thumb often used by the World Bank (World Bank Water Demand Study Team, 1993).

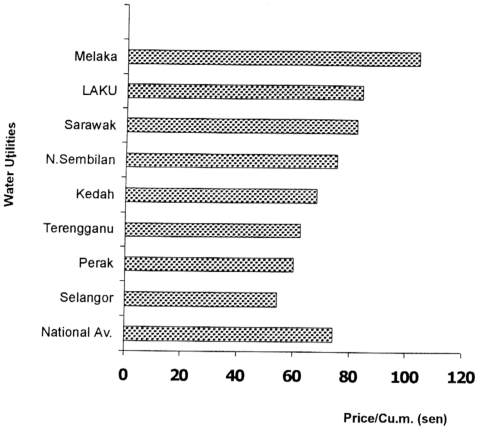
From the table above it can be deduced that the last time the water rates were reviewed was in 1991. It is more than seven years since the last water rates were revised. This means that the JBAS has not raised the water rates for a long time although the cost of supplying water has been increasing over the years (JBA Annual Report, 1995) (See Figure 6.1).

Figure 6.1 Changes in water tariffs in Selangor Darul Ehsan (1974 – present) for domestic consumers



Source: adapted from Water rates in Malaysia, JKR 1998.

Figure 6.2 Average Sale Price of Water 1996



Source: Water Industry Report 1996/1997

The average sale price of water in Selangor Darul Ehsan is the lowest compared to the few selected water authorities in the country. The average sale price of water in Selangor Darul Ehsan in 1996 is RM0.53 compared to the national average sale price for the same period which stood at above RM0.70. This is shown in Figure 6.2.

The water price imposed in Malaysia is generally low compared to prices charged in some other countries, (Bulletin European Du Moniteur, 1996). Germany, Belgium, Holland and France charged above RM3.00 per cubic metre; Great Britain, Finland, Italy, and Sweden charged above RM2.00 per cubic metre and Spain, Indonesia, Singapore, U.S.A. and South Africa charged above RM1.00 per cubic metre.

6.3 Water Rates Review

There are numerous reasons for water rates review. The demand on water is always increasing. To keep pace with the increasing needs of water arising from increase in population, accelerated industrial and tourism developments, and increasing coverage in rural areas, more funds will be required to develop new works, rehabilitate existing treatment facilities as well as to control water losses.

There is a need for increased spending on the protection of river sources from pollution. Protection of water sources would be the responsibility of the State since water is a State matter. It will enable the state to play a more active role in monitoring water resources especially from pollutants.

Water supplies are capital intensive. As demand escalate and the parallel growth with economy requires more storage facilities that need to be built or to seek new sources to meet demand. Financial viability is therefore crucial. It is unwise and imprudent to borrow heavily as interest liability will be substantial.

6.4 Purchase Rate

Another reason for the need to review the water rates is that JBAS purchases treated water from three private firms; Puncak Niaga (M) Sdn Bhd (PNSB), Taliworks Consortium Sdn Bhd (TCSB) and Perangsang Water Management Sdn Bhd (PWSB). Under the Privatisation Cum Concession Agreement JBAS is required to purchase no less than the Designated Quantity per month from these firms. The bulk supply rate from TCSB is at RM0.27/m^3 and the rate from PWSB is RM0.32/m^3 (JKR, KL, 1998 (Unpublished)). The initial bulk supply rate by PNHB at constant 1995 prices is RM0.31/m^3. This will be raised to RM0.45/m^3 upon commencement of operation for Stage I of the Sg. Selangor Project scheduled in 1999 and RM0.59/m^3 upon commencement of operations for Stage II scheduled in the year 2002. Subsequently the rate will

be reviewed on the upward trend (Prospectus PNHB). The rate of treated water from the same firm for treated water from Sg. Semenyih WTP is RM0.15/m^3.

On top of this, JBAS is required to pay a fixed monthly sum of RM1.75 million to PNHB beginning in the year 1999, with the commencement of Sg. Selangor Stage I facilities and RM3.5 million from 1 January 2002 from commencement of Sg. Selangor Stage II facilities.

It unveils that there is a great disparity between rates charged by JBAS on the consumers and the rates that it is paying for to the private firms.

6.5 Water Management Information

The following table shows the water management information of the JBAS. From Table 6.2 water sales has been increasing as well as the number of accounts. The total amount collected does not reflect a similar trend although the total revenue collected has been increasing, it is on a decreasing efficiency.

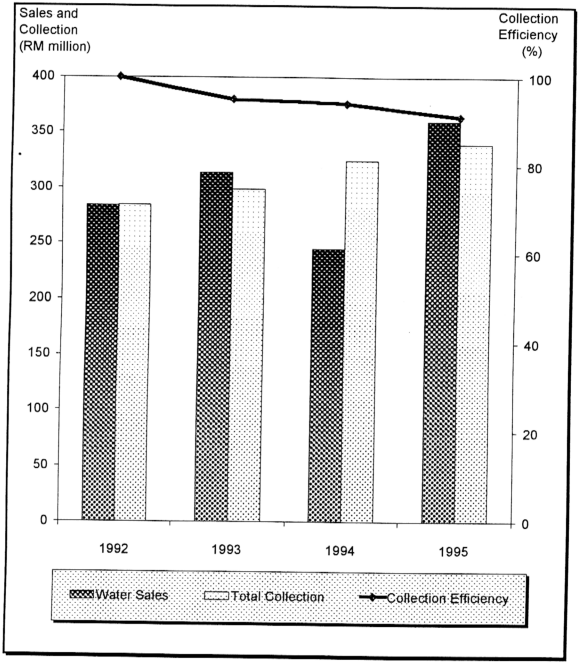
Table 6.2 Collection Efficiency (1992-1995)

	1992	1993	1994	1995
Water Production(m^3)	591,421,125	629,039,681	675,474,445	701,464,276
Metered quantity (m^3)	354,585,505	382,632,947	411,525,171	449,188,360
Non- Revenue Water	40%	39%	36%	36%
Consumer Accounts	720,986	766,750	820,371	874,754
Water Sales(RM)	283,598,739	313,793,352	244,800,525	360,350,014
Total Collected (RM)	284,671,450	298,586,512	324,763,666	339,495,665
Collection Efficiency	100.38%	95.15%	94.19%	91.20%

Source: JBAS Annual Report 1995

Figure 6.3 shows the collection efficiency against the water sales from 1992 to 1995.

Figure 6.3 Water Sales, Collection and Collection Efficiency for Selangor (1992 – 1995)



Source: adapted from JBAS Annual Report 1995

Although sales from water has been increasing but the same has not been reported for total collection except for the year 1994 and the collection efficiency as shown in Figure 6.3. The breakdown of the collection efficiency by districts is shown in Table 6.3

From the data it can be deduced that there are a few districts that need to be monitored in term of revenue collection. Kuala Lumpur, Gombak and Sabak Bernam for instance have never reached a 100% of collection efficiency. There has also been a decline in collection efficiency from the year 1994 to 1995. This is shown by Petaling, Klang, Kuala Langat and Kuala Selangor districts. Only the district of Hulu Selangor shows a marginal improvement in efficiency collection.

The decline in collection efficiency affects the average price of water. The average price of water is computed based on the formula below:

Average Price of Water = Total revenue / Total cubic metre sold

Source: JKR, KL, 1998 (Unpublished)

6.6 Financial Performance Indicators

Table 6.3 summarises the comparative financial performance indicators for Selangor Darul Ehsan and Penang for the period 1994 -1996. There was a steep decline (> 50%) in revenue per connection in Selangor from 1994 to 1995. Consequently this has the effect on the average selling price for the same period. Penang recorded a marginal increase in both for the same period.

Selangor Darul Ehsan needs to increase its revenue since its unit production cost as well as operation and maintenance cost have been increasing sharply

(an average of 12%) compared to Penang which managed to control it satisfactorily (an average increase of 6.9%).

Table 6.3 Financial Indicators of Selangor Darul Ehsan and Penang (1994-1996)

State	Selangor Darul Ehsan			Penang		
Subject/Year	1994	1995	1996	1994	1995	1996
Revenue per connection (RM)	452.0	297.0	293.9	380.0	390.0	401.3
Average price of water (sen)	89	58	53	59	59	61
Operating ratio (Total O&M/Total Revenue)	0.73	1.44	1.59	0.56	0.55	0.62
O&M Cost per 1000 connections	355	430	466	214	217	248
Energy Cost/ total O&M Cost (%)	20.0	3.1	2.3	20.6	23.8	25.1
Chemical Cost/ Total O & M cost (%)	6.5	0.2	0.1	5.2	5.2	5.6
Unit Production Cost (sen)	35	48	45	26	26	25
Total no. of Connections	932,860			279,731		

Source: Adapted from Malaysia Water Industry Report 96/97, JKR, Kuala Lumpur 1998