

Water Utility: SAJ Holdings Sdn Bhd (SAJH)

Johor Darul Ta'zim, Johor Darul Ta'zim, Malaysia

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Services Provided: Piped water, , , ,

Utility Type: , , , , , Private,

Private Sector Involvement: , , , , , Concession Contract, ,

Source of Raw Water: , Storage reservoir/impoundment, Direct river abstraction, ,

Treatment Method: , Disinfection, Filtration, Flocculation and sedimentation, Aeration, ,

Water Supply System description:

Production capacity = 318,773 m3/day		Distribution network = 12,071 km		Storage capacity = 1,468,000 m3	
Area (sq km)		Area of Responsibility		Present Service Area	
18,986		18,986		18,929	
Population		2,931,650		2,922,855	
No. of Towns = 8		Population served = 2,922,855			
<u>No. of connections:</u>		Domestic (Households) = 672,682		Non Domestic = 91,702	
		Typical service connection length = 6 m		Total Connections = 764,384	
				Connections with operating meter = 764,384	
System input volumes:		Produced by W.U. = 84.7 million m3/year		Bulk water imported = 386.3 million m3/year	
Water consumption:		Metered cons. = 291.8 million m3/year		% Unmetered cons. = 2% of metered cons.	
				Ave. meter inaccuracy = 4% of metered cons.	
Water Sales:		Domestic = 200.9 million m3/year		Non Domestic = 90.9 million m3/year	
				Bulk Water sales = zero	
<u>System Performance:</u>		No. of connections with intermittent supply = N/A		Typical duration of supply = 24.0 hours / day	
		No. of pipe breaks in distribution system = 13,921 / year		Typical water pressure in mains = 25 m.	
Chlorine Residuals:		Tests required = N/A		Tests carried out = 18,380 / year	
				Tests passed = 17,379 / year	

Human Resources (Staff)

<u>Type of employment:</u> , Permanent staff: with contract, , , Contracted out to outside company/agency,			
<u>No. of staff (FTE):</u> Corporate Services = 192		Water Supply = 1,432	
		Other = zero	
		Total = 1,624	
<u>Staff Training:</u> No. Trained = 812 / year		Training days = 1,624 / year	
		Training costs = 5.00% of total operating budget	

Customer information

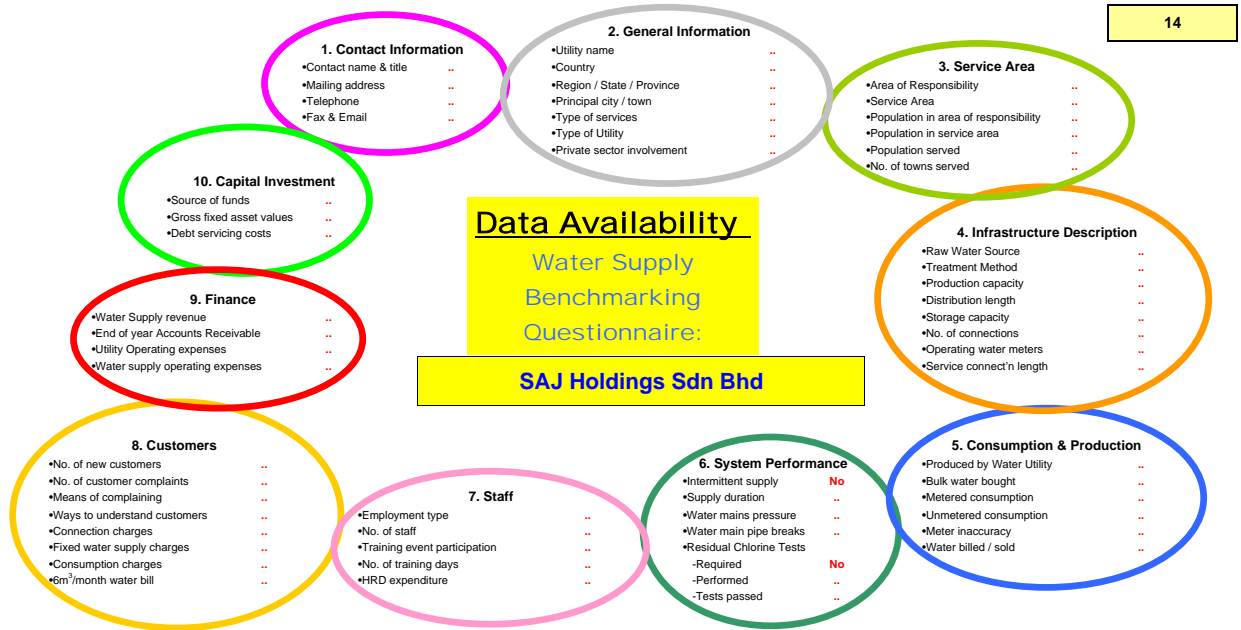
Customer interaction:		New connections = 27,595 / year		Customer complaints = 77,654 / year	
Complaint method: In person, By telephone, By email, By letter,					
Understanding customers by: Customer interactions, Responding to complaints, Surveys, questionnaires, etc., ,					

Charges & Fees

<u>Typical connection charge:</u>		Domestic = 75MYR / conn.		Non Domestic = 550MYR / conn.	
		(20 US\$ / conn.)		(145 US\$ / conn.)	
<u>Fixed water charge:</u> estic = 4MYR / month		Non Domestic = 18MYR / month		Bulk water sales = N/A	
		(1 US\$ / conn.)		(5 US\$ / conn.)	
<u>Water consumption tariff</u> (typical of all towns and in each category):		Tariff Block 1		Tariff Block 2	
		Tariff Block 3		Tariff Block 4	
Domestic	From - To (m ³)	0 - 15	15 - 30	30 - 45	>45
	Price (MYR / m ³)	0	1	2	2
		(US\$ / m ³)		\$0.10 \$0.31 \$0.43 \$0.52	
Non Domestic	From - To (m ³)	0 - 20	20		
	Price (MYR / m ³)	2	3		
		(US\$ / m ³)		\$0.58 \$0.78	
Bulk Water	From - To (m ³)				
	Price (MYR / m ³)				
		(US\$ / m ³)			
		Water bill for household consuming 6 m ³ /month =		4 MYR / month (1.05 US\$ / month)	

Finances

<u>Revenue:</u>					Year end Accounts
					Receivable
MYR / year	Water Sales	Other water related	Subsidies & grants	Total	189,499,828
US\$ / year	395,404,765	28,178,027	zero	423,582,972	\$49,879,533
US\$ / year	\$104,077,166	\$7,416,929	zero	\$111,494,143	
<u>Operating Expenses:</u>					
MYR / year	Water supply	Other services	Company Overhead	Total	
US\$ / year	94,525,647	zero	172,583,825	267,109,472	
US\$ / year	\$24,880,736	zero	\$45,426,957	\$70,307,693	
<u>Water Supply Operating breakup:</u>					
MYR / year	Labor	Electricity	Chemicals & materials	Contracted out	Other expenses
US\$ / year	57,023,972	16,143,565	5,711,954	93,704,334	zero
US\$ / year	\$15,009,666	\$4,249,257	\$1,503,482	\$24,664,552	zero
<u>Investment funds source:</u> Own internal funds, , , , Loan from Commercial Bank, Private sector investment, Other method: Capital markets					
<u>Fixed Assets value:</u>					Debt Servicing Costs
MYR	Water supply	Other services	Company Overhead	Total	12,726,880
US\$	6,366,779,675	zero	16,273,044	6,383,052,719	\$3,349,928
US\$	\$1,675,843,195	zero	\$4,283,338	\$1,680,126,533	

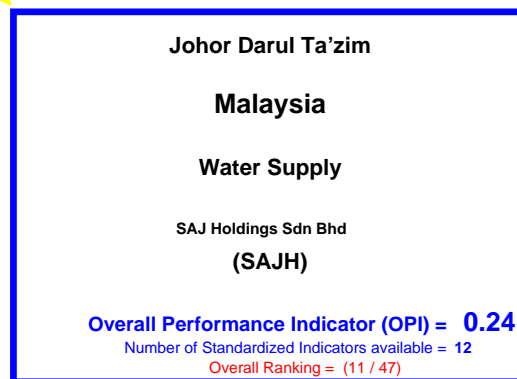


Calculation of Overall Performance Indicator (OPI)

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Customer Indicators	Value	Rank
Service Coverage in existing service area (%)	100.0%	(3 / 45)
Meter coverage (% with operating water meter)	100.0%	(1 / 46)
Customer complaints / 1000 connections	101.6	(19 / 41)

Water Supply Systems O&M	Value	Rank
Supply Continuity (% of time water available)	100.0%	(1 / 47)
Residual Chlorine tests passed (%)	94.6%	(23 / 34)
Total Unmetered Consumption (% of metered cons.)		
Infrastructure Leakage Index [ILI]	20.1	(19 / 26)



Human Resource Indicators	Value	Rank
Total water related staff / 1000 connections	2.1	(3 / 38)
Investment in staff training (days / staff)	1	(17 / 33)
Ave. cost of employment / staff (% of per capita GNI)	245%	(17 / 37)

Financial Indicators	Value	Rank
Operating Cost Coverage (water sales only)	1.48	(9 / 43)
Unit water cost (US\$ / m ³ of system input)	\$0.16	(29 / 43)
Water system asset value / Prod'n capacity (US\$ / m ³ /day)	\$5,257	(35 / 35)
Debt servicing ratio (% of total operating revenue)		

Financial Indicators: Annual expenses & revenue			
Operating Cost Coverage		Expenses	
Operating Cost Coverage (water sales only)	1.48	Overhead expenses / Total Operating expenses ratio	0.65
Operating Cost Coverage (total revenue)	1.59	Labour costs / Water operating expenses	0.60
		Electricity costs / Water operating expenses	0.17
		Chemical & other materials costs / Water operating expenses	0.06
		Contracted out services costs / Water operating expenses	0.99
Revenue			
Water sales revenue / Total revenue ratio	0.93	Unit water cost (US\$ / m ³ of metered cons.)	0.24
Subsidies & Grants / Total revenue ratio	0.00	(US\$ / m ³ of system input)	0.16
Revenue Collection period (months)	5.75	Debt servicing ratio (% of total operating revenue)	3.0%
Unit water price - ave. (US\$ / m ³ of metered cons.)	0.37		

Fixed Assets	
Corporate Fixed Assets / Total Fixed Assets	0.00
Water system asset values	
Asset value / Total water related assets	1.00
Asset value / Prod'n capacity (US\$ / m ³ /day)	5,257
Asset value / pipe length (US\$ / m. pipe)	139
Asset value / Customer (US\$ / conn.)	2,192

System Input	
Production capacity utilization (%)	73%
Bulk water imported (% of total system input)	82%
System Input Rate (litres/person/day)	
	441
System Input / Distribution ratio (m ³ /day per km pipe)	
	107.0
System Input / Storage ratio (m ³ /day per m ³ storage)	
	0.9
Supply Continuity (% customers with continuous supply)	
	100%
Supply Continuity (% of time water available)	
	100%

**Johor Darul Ta'zim
Malaysia
Water Supply
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(SAJH)
OPI Ranking = 11 / 47**

Human Resource Indicators			
Human Resource Utilisation		Human Resource Development	
Overhead staff ratio (% of total FTE staff)	12%	Staff Training participation rate (% staff)	50%
Water supply staff ratio (% of total FTE staff)	88%	Staff Training duration rate (days / staff)	1.0
Total water related staff / 1000 connections	2.10	Investment in staff training (% of direct labour costs)	8.29%
Direct water supply staff		Investment in staff training (% of total operating costs)	5.00%
Staff / 1000 connections	1.90	Human Resources Costs	
Staff / 1000 m ³ /day system input	1.10	Ave. cost of employment / staff (% of per capita GNI)	2.45
Staff / 100 km of pipework	11.90	Contracting out services / in-house Labour costs ratio	1.60

Distribution	
Distribution / customer (m. pipe per connection)	15.8
Storage / customer (m ³ per connection)	1.90
Residual Chlorine	
Sampling compliance (%)	#N/A
Tests passed (%)	95%
Non Revenue Water (UFW)	
% of System Input	38%
m ³ / km / day	40.7
m ³ / connection / day	0.64
NRW adjusted for continuous supply (% of System Input)	38%
Unbilled Authorized & Unauthorized Cons. (% of metered cons.)	-2%
Unmetered cons. due to meter inaccuracies (% of metered cons.)	4%
Total Unmetered Consumption (% of metered cons.)	2%
Infrastructure Leakage Index [ILI]	20.10
Mains failures ratio (breaks / km pipe / year)	1.20

Water consumption	
Bulk water exported (% of total metered cons.)	0%
Average domestic water charges (% of per capita GNI)	1%
Metered consumption rate	
- Domestic (litres/person/day)	188
- Total Cons. (litres/person/day)	274
	32 (m ³ /conn/month)
Total consumption - metered & unmetered	
(litres/person/day)	279.00
(m ³ /conn/month)	32.00
Domestic share of total metered consumption (%)	69%
Non Domestic share of total metered consumption (%)	31%

Demography	
Average town / city size (persons / town)	366,456
Population density in area of responsibility (persons/sq.km)	154
Population density in existing service area (persons/sq.km)	154
Average Household size (persons / domestic connection)	
	4
Customer Interactions	
Customer complaints / 1000 connections	102

Connections	
Service Coverage in area of responsibility (%)	100%
Service Coverage in existing service area (%)	100%
Domestic / Non-Domestic connections ratio	7.3
Domestic / Non-Domestic consumption rate ratio	2.2
New connection growth rate (% / year)	
	4%
New domestic connection cost (US\$ / connection)	
	20
New domestic connections (% of per capita GNI)	
	0%
Meter coverage (% with operating water meter)	100%
Billed unmetered consumption (% of metered cons.)	0%

Water Sales & Production Information

SAJ Holdings Sdn Bhd

