

Water Utility: PDAM Tirta Pakuan Kota Bogor (PDAM Kota Bogor)

Bogor, West Java , Indonesia

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Services Provided: Piped water, , , ,

Utility Type: , , Statutory organisation, , , ,

Private Sector Involvement: None, , , , ,

Source of Raw Water: , , Direct river abstraction, ,

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

Water Supply System description:

Production capacity = 91,163 m3/day		Distribution network = 741 km		Storage capacity = 24,000 m3	
Area of Responsibility		Present Service Area			
Area (sq km)	119	70			
Population	820,707	592,473			
No. of Towns = 1		Population served = 388,584			
<u>No. of connections:</u>		Domestic (Households) = 61,887		Non Domestic = 4,208	
Typical service connection length = 6 m		Connections with operating meter = 66,095		Total Connections = 66,095	
System input volumes:	Produced by W.U. = 33.3 million m3/year		Bulk water imported = zero		
Water consumption:	Metered cons. = 22.6 million m3/year		% Unmetered cons. = 9% of metered cons.		Ave. meter inaccuracy = 10% of metered cons.
Water Sales:	Domestic = 18.1 million m3/year		Non Domestic = 4.5 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		
Chlorine Residuals:		Tests required = 2,219 / year		Tests carried out = 1,300 / year	
		Tests passed = 1,300 / year			

Human Resources (Staff)

<u>Type of employment:</u> , Permanent staff: with contract, Casual/part-time: contract staff, , ,			
<u>No. of staff (FTE):</u>	Corporate Services = 229	Water Supply = 129	Other = 74
Total = 432			
<u>Staff Training:</u>	No. Trained = 432 / year	Training days = 100 / year	Training costs = 1.27% of total operating budget

Customer information

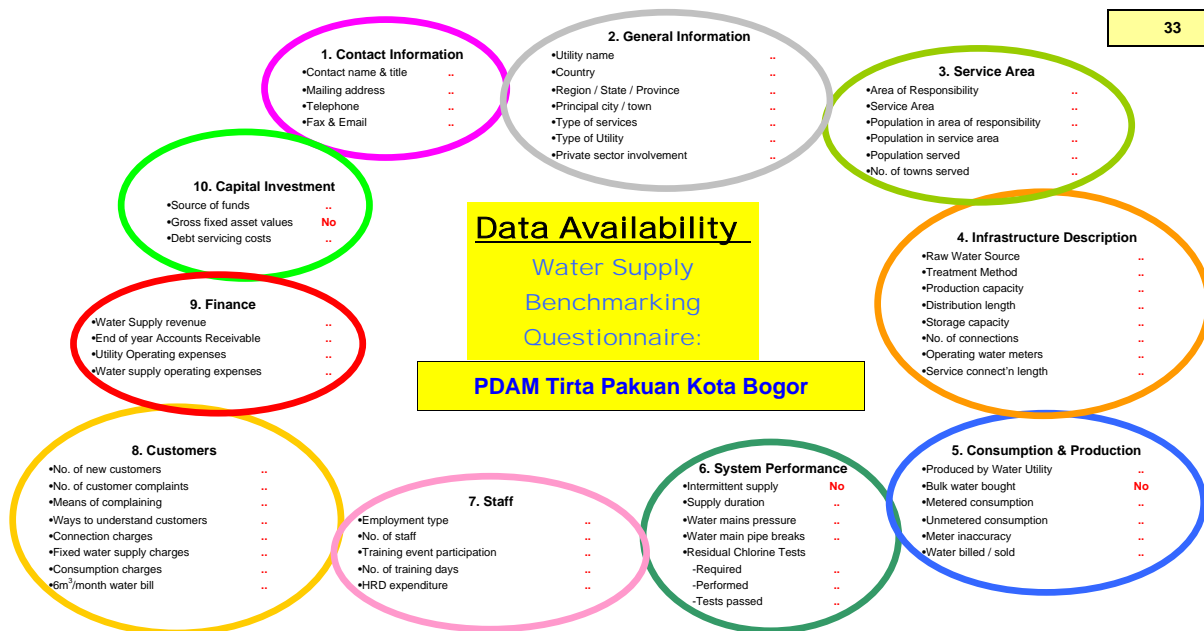
Customer interaction:	New connections = 3,373 / year	Customer complaints = 11,604 / year
Complaint method: In person, By telephone, , By letter, Other method: Newspaper		
Understanding customers by: Customer interactions, Responding to complaints, Surveys, questionnaires, etc., ,		

Charges & Fees

<u>Typical connection charge:</u>		Domestic = 1,200,000IDR / conn. (131 US\$ / conn.)		Non Domestic = 1,900,000IDR / conn. (207 US\$ / conn.)	
<u>Fixed water charge:</u>		Domestic = 1,178IDR / month (0 US\$ / conn.)		Non Domestic = 2,803IDR / month (0 US\$ / conn.)	
Bulk water sales = N/A					
<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 - 10	10 - 20	20	
	Price (IDR / m ³)	500	750	1,466	
	(US\$ / m ³)	\$0.06	\$0.08	\$0.16	
Non Domestic	From - To (m ³)	0 - 10	10 - 20	20	
	Price (IDR / m ³)	870	1,280	1,680	
	(US\$ / m ³)	\$0.10	\$0.14	\$0.18	
Bulk Water	From - To (m ³)				
	Price (IDR / m ³)				
	(US\$ / m ³)				
Water bill for household consuming 6 m ³ /month =		3,000 IDR / month		(0.33 US\$ / month)	

Finances

<u>Revenue:</u>	Water Sales	Other water related	Subsidies & grants	Total	Year end Accounts Receivable	
	IDR / year	26,929,533,500	5,994,334,150	zero	32,923,867,650	
	US\$ / year	\$2,939,937	\$654,410	zero	\$3,594,348	\$387,149
<u>Operating Expenses:</u>	Water supply	Other services	Company Overhead	Total		
	IDR / year	25,048,142,746	zero	zero	25,048,142,746	
	US\$ / year	\$2,734,543	zero	zero	\$2,734,543	
<u>Water Supply Operating breakup:</u>	Labor	Electricity	Chemicals & materials	Contracted out	Other expenses	
	IDR / year	10,788,215,876	3,282,230,816	1,253,213,830	zero	zero
	US\$ / year	\$1,177,766	\$358,326	\$136,815	zero	zero
<u>Investment funds source:</u> Own internal funds, , , , Loan from Commercial Bank, Private sector investment,						
<u>Fixed Assets value:</u>	Water supply	Other services	Company Overhead	Total	Debt Servicing Costs	
	IDR	60,276,799,346	zero	zero	60,276,799,346	2,829,056,220
	US\$	\$6,580,508	zero	zero	\$6,580,508	\$308,852



Calculation of Overall Performance Indicator (OPI)

Customer Indicators	Value	Rank
Service Coverage in existing service area (%)	65.6%	(27 / 45)
Meter coverage (% with operating water meter)	100.0%	(1 / 46)
Customer complaints / 1000 connections	175.6	(11 / 41)

Water Supply Systems O&M	Value	Rank
Supply Continuity (% of time water available)	100.0%	(1 / 47)
Residual Chlorine tests passed (%)	100.0%	(1 / 34)
Total Unmetered Consumption (% of metered cons.)		
Infrastructure Leakage Index [ILI]	15.5	(17 / 26)

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Overall Performance Indicator (OPI) = 0.24
Number of Standardized Indicators available = 12
Overall Ranking = (10 / 47)

Human Resource Indicators	Value	Rank
Total water related staff / 1000 connections	4.2	(8 / 38)
Investment in staff training (days / staff)	0.2	(25 / 33)
Ave. cost of employment / staff (% of per capita GNI)	530%	(2 / 37)

Financial Indicators	Value	Rank
Operating Cost Coverage (water sales only)	1.08	(25 / 43)
Unit water cost (US\$ / m ³ of system input)	\$0.08	(12 / 43)
Water system asset value / Prod'n capacity (US\$ / m ³ /day)	\$72	(8 / 35)
Debt servicing ratio (% of total operating revenue)		

Financial Indicators: Annual expenses & revenue

<u>Operating Cost Coverage</u>		<u>Expenses</u>	
Operating Cost Coverage (water sales only)	1.08	Overhead expenses / Total Operating expenses ratio	#N/A
Operating Cost Coverage (total revenue)	1.31	Labour costs / Water operating expenses	0.43
		Electricity costs / Water operating expenses	0.13
		Chemical & other materials costs / Water operating expenses	0.05
		Contracted out services costs / Water operating expenses	#N/A
<u>Revenue</u>		Unit water cost	(US\$ / m ³ of metered cons.) 0.12
Water sales revenue / Total revenue ratio	0.82		(US\$ / m ³ of system input) 0.08
Subsidies & Grants / Total revenue ratio	#N/A	Debt servicing ratio (% of total operating revenue)	8.6%
Revenue Collection period (months)	1.58		
Unit water price - ave. (US\$ / m ³ of metered cons.)	0.13		

Fixed Assets

Corporate Fixed Assets / Total Fixed Assets	#N/A
Water system asset values	
Asset value / Total water related assets	#N/A
Asset value / Prod'n capacity (US\$ / m ³ /day)	72
Asset value / pipe length (US\$ / m. pipe)	9
Asset value / Customer (US\$ / conn.)	100

System Input

Production capacity utilization (%)	100%
Bulk water imported (% of total system input)	0%
System Input Rate (litres/person/day)	235
(m ³ /connection/month)	42.0
System Input / Distribution ratio (m ³ /day per km pipe)	123.0
System Input / Storage ratio (m ³ /day per m ³ storage)	3.8
Supply Continuity (% customers with continuous supply)	#N/A
Supply Continuity (% of time water available)	100%

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OPI Ranking = 10 / 47

Human Resource Indicators

<u>Human Resource Utilisation</u>		<u>Human Resource Development</u>	
Overhead staff ratio (% of total FTE staff)	53%	Staff Training participation rate (% staff)	100%
Water supply staff ratio (% of total FTE staff)	30%	Staff Training duration rate (days / staff)	0.2
Total water related staff / 1000 connections	4.20	Investment in staff training (% of direct labour costs)	2.95%
Direct water supply staff		Investment in staff training (% of total operating costs)	1.27%
Staff / 1000 connections	2.00	<u>Human Resources Costs</u>	
Staff / 1000 m ³ /day system input	1.40	Ave. cost of employment / staff (% of per capita GNI)	5.30
Staff / 100 km of pipework	17.40	Contracting out services / in-house Labour costs ratio	#N/A

Distribution

Distribution / customer (m. pipe per connection)	11.2
Storage / customer (m ³ per connection)	0.40
Residual Chlorine	
Sampling compliance (%)	59%
Tests passed (%)	100%
Non Revenue Water (UFW)	
% of System Input	32%
m ³ / km / day	39.5
m ³ / connection / day	0.44
NRW adjusted for continuous supply (% of System Input)	32%
Unbilled Authorized & Unauthorized Cons. (% of metered cons.)	-1%
Unmetered cons. due to meter inaccuracies (% of metered cons.)	10%
Total Unmetered Consumption (% of metered cons.)	9%
Infrastructure Leakage Index [ILI]	15.50
Mains failures ratio (breaks / km pipe / year)	1.10

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)	127
- Total Cons. (litres/person/day)	159
(m ³ /conn/month)	28
Total consumption - metered & unmetered	
(litres/person/day)	174.00
(m ³ /conn/month)	31.00
Domestic share of total metered consumption (%)	80%
Non Domestic share of total metered consumption (%)	20%

Demography

Average town / city size (persons / town)	820,707
Population density in area of responsibility (persons/sq.km)	6,926
Population density in existing service area (persons/sq.km)	8,474
Average Household size (persons / domestic connection)	6

Customer Interactions

Customer complaints / 1000 connections	176
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Connections

Service Coverage in area of responsibility (%)	47%
Service Coverage in existing service area (%)	66%
Domestic / Non-Domestic connections ratio	14.7
Domestic / Non-Domestic consumption rate ratio	4.0
New connection growth rate (% / year)	5%
New domestic connection cost (US\$ / connection)	131
New domestic connections (% of per capita GNI)	3%
Meter coverage (% with operating water meter)	100%
Billed unmetered consumption (% of metered cons.)	0%

Water Sales & Production Information

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