

**Water Utility: PDAM Tirta Marta Yogyakarta (PDAM Tirta Marta )**

Kota Yogyakarta , Daerah Istimewa Yogyakarta , Indonesia

**Contact Details:** Division Head of Distribution and Transmission : , , Widyatmoko

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**Services Provided:** Piped water, , , ,

**Utility Type:** , , Statutory organisation, , , ,

**Private Sector Involvement:** None, , , , ,

**Source of Raw Water:** , , Direct river abstraction, Groundwater, Other: Spring, short well

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

**Water Supply System description:**

Production capacity = 40,780 m3/day		Distribution network = 844 km		Storage capacity = 7,750 m3
Area (sq km)		Area of Responsibility		Present Service Area
Population		525,000		510,000
No. of Towns = 1		Population served = 248,000		
<u>No. of connections:</u>		Domestic (Households) = 31,910		Non Domestic = 2,646
Typical service connection length = 6 m		Total Connections = 34,556		Connections with operating meter = 34,556
System input volumes:	Produced by W.U. = 17.4 million m3/year	Bulk water imported = zero		
Water consumption:	Metered cons. = 9.4 million m3/year	% Unmetered cons. = N/A		Ave. meter inaccuracy = 29% of metered cons.
Water Sales:	Domestic = 9.3 million m3/year	Non Domestic = 1.8 million m3/year		Bulk Water sales = zero
<u>System Performance:</u>	No. of connections with intermittent supply = 3,442		Typical duration of supply = 24.0 hours / day	
	No. of pipe breaks in distribution system = 332 / year		Typical water pressure in mains = 4 m.	
Chlorine Residuals:	Tests required = 1,158 / year	Tests carried out = 1,514 / year		Tests passed = 1,149 / 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 = zero	Water Supply = zero	Other = zero	Total = 285
<u>Staff Training:</u>	No. Trained = 54 / year	Training days = 162 / year	Training costs = N/A	

**Customer information**

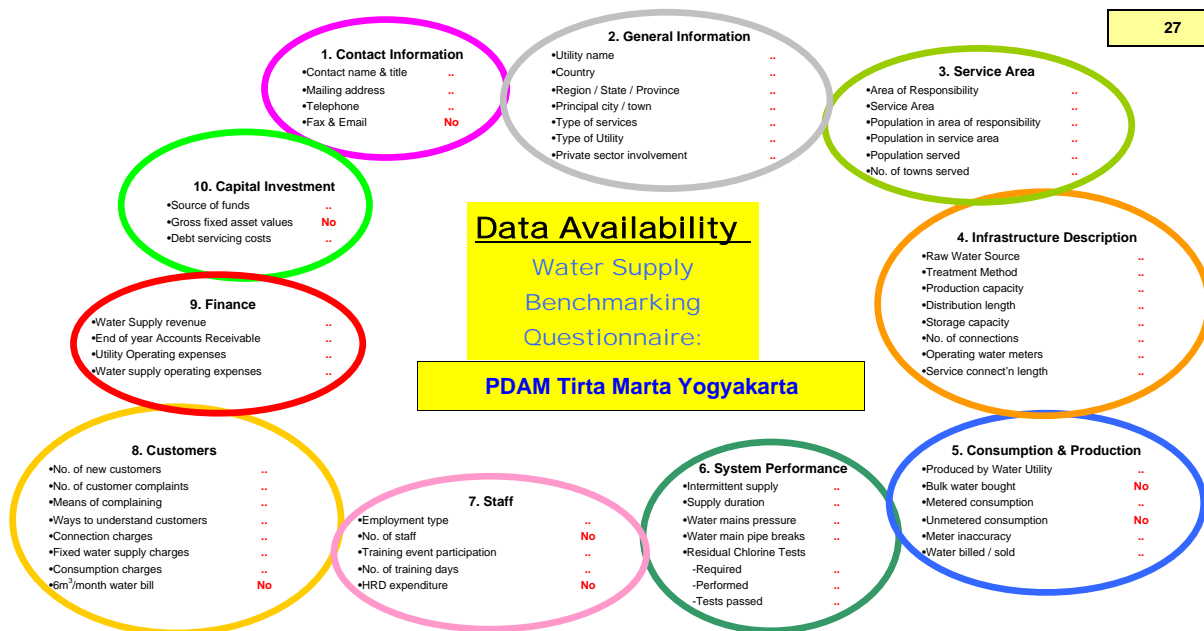
Customer interaction:	New connections = 68 / year	Customer complaints = 2,513 / year
Complaint method:	In person, By telephone, , ,	
Understanding customers by:	Customer interactions, Responding to complaints, , ,	

**Charges & Fees**

<u>Typical connection charge:</u>	Domestic = 500,000IDR / conn. (55 US\$ / conn.)		Non Domestic = 500,000IDR / conn. (55 US\$ / conn.)	
<u>Fixed water charge:</u>	ic = 1,064IDR / month (0 US\$ / conn.)		Non Domestic = N/A 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 <sup>3</sup> )	0 - 10	10 - 20	20
	Price (IDR / m <sup>3</sup> )	550	675	735
	(US\$ / m <sup>3</sup> )	\$0.06	\$0.07	\$0.08
Non Domestic	From - To (m <sup>3</sup> )	0 - 10	10 - 20	20
	Price (IDR / m <sup>3</sup> )	705	870	1,050
	(US\$ / m <sup>3</sup> )	\$0.08	\$0.10	\$0.12
Bulk Water	From - To (m <sup>3</sup> )			
	Price (IDR / m <sup>3</sup> )			
	(US\$ / m <sup>3</sup> )			
Water bill for household consuming 6 m <sup>3</sup> /month =				N/A

**Finances**

<u>Revenue:</u>	Water Sales	Other water related	Subsidies & grants	Total	Year end Accounts Receivable
IDR / year	13,333,257,050	1,015,705,222	zero	14,348,962,272	1,615,065,901
US\$ / year	\$1,455,612	\$110,886	zero	\$1,566,498	\$176,319
<u>Operating Expenses:</u>	Water supply	Other services	Company Overhead	Total	
IDR / year	6,803,472,904	zero	zero	6,803,472,904	
US\$ / year	\$742,745	zero	zero	\$742,745	
<u>Water Supply Operating breakup:</u>	Labor	Electricity	Chemicals & materials	Contracted out	Other expenses
IDR / year	2,497,190,406	1,598,421,495	442,562,759	zero	zero
US\$ / year	\$272,622	\$174,502	\$48,315	zero	zero
<u>Investment funds source:</u>	Own internal funds, Grant from Government or ODA project, , , , Other method: Local Government				
<u>Fixed Assets value:</u>	Water supply	Other services	Company Overhead	Total	Debt Servicing Costs
IDR	26,677,465,065	zero	zero	26,677,465,065	11,592,890,952
US\$	\$2,912,419	zero	zero	\$2,912,419	\$1,265,613



## Calculation of Overall Performance Indicator (OPI)

Customer Indicators	Value	Rank
Service Coverage in existing service area (%)	48.6%	(35 / 45)
Meter coverage (% with operating water meter)	100.0%	(1 / 46)
Customer complaints / 1000 connections	72.7	(22 / 41)

Water Supply Systems O&M	Value	Rank
Supply Continuity (% of time water available)	100.0%	(1 / 47)
Residual Chlorine tests passed (%)	75.9%	(30 / 34)
Total Unmetered Consumption (% of metered cons.)		
Infrastructure Leakage Index [ILI]	#N/A	

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**Overall Performance Indicator (OPI) = 0.31**  
 Number of Standardized Indicators available = 9  
 Overall Ranking = (7 / 47)

Human Resource Indicators	Value	Rank
Total water related staff / 1000 connections	#N/A	
Investment in staff training (days / staff)	0.6	(18 / 33)
Ave. cost of employment / staff (% of per capita GNI)	#N/A	

Financial Indicators	Value	Rank
Operating Cost Coverage (water sales only)	1.96	(3 / 43)
Unit water cost (US\$ / m <sup>3</sup> of system input)	\$0.04	(2 / 43)
Water system asset value / Prod'n capacity (US\$ / m <sup>3</sup> /day)	\$71	(7 / 35)
Debt servicing ratio (% of total operating revenue)		

**Financial Indicators: Annual expenses & revenue**

Operating Cost Coverage		Expenses	
Operating Cost Coverage (water sales only)	1.96	Overhead expenses / Total Operating expenses ratio	#N/A
Operating Cost Coverage (total revenue)	2.11	Labour costs / Water operating expenses	0.37
		Electricity costs / Water operating expenses	0.24
		Chemical & other materials costs / Water operating expenses	0.07
		Contracted out services costs / Water operating expenses	#N/A
Revenue			
Water sales revenue / Total revenue ratio	0.93	Unit water cost (US\$ / m <sup>3</sup> of metered cons.)	0.07
Subsidies & Grants / Total revenue ratio	#N/A	(US\$ / m <sup>3</sup> of system input)	0.04
Revenue Collection period (months)	1.45	Debt servicing ratio (% of total operating revenue)	80.8%
Unit water price - ave. (US\$ / m <sup>3</sup> 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 <sup>3</sup> /day)	71
Asset value / pipe length (US\$ / m. pipe)	3
Asset value / Customer (US\$ / conn.)	84

**System Input**

Production capacity utilization (%)	117%
Bulk water imported (% of total system input)	0%
System Input Rate (litres/person/day)	192
(m <sup>3</sup> /connection/month)	42.0
System Input / Distribution ratio (m <sup>3</sup> /day per km pipe)	56.0
System Input / Storage ratio (m <sup>3</sup> /day per m <sup>3</sup> storage)	6.1
Supply Continuity (% customers with continuous supply)	90%
Supply Continuity (% of time water available)	100%

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OPI Ranking = 7 / 47

**Human Resource Indicators**

Human Resource Utilisation		Human Resource Development	
Overhead staff ratio (% of total FTE staff)	#N/A	Staff Training participation rate (% staff)	19%
Water supply staff ratio (% of total FTE staff)	#N/A	Staff Training duration rate (days / staff)	0.6
		Investment in staff training (% of direct labour costs)	#N/A
		Investment in staff training (% of total operating costs)	#N/A
Total water related staff / 1000 connections	#N/A	Human Resources Costs	
Direct water supply staff		Ave. cost of employment / staff (% of per capita GNI)	#N/A
Staff / 1000 connections	#N/A	Contracting out services / in-house Labour costs ratio	#N/A
Staff / 1000 m <sup>3</sup> /day system input	#N/A		
Staff / 100 km of pipework	#N/A		

**Distribution**

Distribution / customer (m. pipe per connection)	24.4
Storage / customer (m <sup>3</sup> per connection)	0.20
Residual Chlorine	
Sampling compliance (%)	131%
Tests passed (%)	76%
Non Revenue Water (UFW)	
% of System Input	36%
m <sup>3</sup> / km / day	20.4
m <sup>3</sup> / connection / day	0.50
NRW adjusted for continuous supply (% of System Input)	#N/A
Unbilled Authorized & Unauthorized Cons. (% of metered cons.)	#N/A
Unmetered cons. due to meter inaccuracies (% of metered cons.)	29%
Total Unmetered Consumption (% of metered cons.)	#N/A
Infrastructure Leakage Index [ILI]	#N/A
Mains failures ratio (breaks / km pipe / year)	0.40

**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)	103
- Total Cons. (litres/person/day)	122
(m <sup>3</sup> /conn/month)	27
Total consumption - metered & unmetered	
(litres/person/day)	#N/A
(m <sup>3</sup> /conn/month)	#N/A
Domestic share of total metered consumption (%)	84%
Non Domestic share of total metered consumption (%)	16%

**Demography**

Average town / city size (persons / town)	525,000
Population density in area of responsibility (persons/sq.km)	13,125
Population density in existing service area (persons/sq.km)	15,692
Average Household size (persons / domestic connection)	8

**Customer Interactions**

Customer complaints / 1000 connections	73
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**Connections**

Service Coverage in area of responsibility (%)	47%
Service Coverage in existing service area (%)	49%
Domestic / Non-Domestic connections ratio	12.1
Domestic / Non-Domestic consumption rate ratio	5.3
New connection growth rate (% / year)	0%
New domestic connection cost (US\$ / connection)	55
New domestic connections (% of per capita GNI)	1%
Meter coverage (% with operating water meter)	100%
Billed unmetered consumption (% of metered cons.)	18%

# Water Sales & Production Information

## PDAM Tirta Marta Yogyakarta

