

**Water Utility: PDAM Kota Surakarta (PDAM Kota Surakarta )**

Surakarta, Central Java , Indonesia

**Contact Details:** Division Head of Production : Triwibowo , Singgih

Jl. LU Adisucipto No. 143, Surakarta 57145

Tel 1: 62 271 712465

Tel 2: 62 271 718779

Fax: 62 271 712536

Email: pdamslo@indo.net.id, pdamsolo@yahoo.com

**Services Provided:** Piped water, Wastewater, , , Other: Swimming pool

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

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

**Source of Raw Water:** , , , Groundwater, Other: Spring

**Treatment Method:** , Disinfection, Filtration, , Aeration, , Other: Fe and Mn Adsorption

**Water Supply System description:**

Production capacity = 70,848 m3/day		Distribution network = 658 km		Storage capacity = 9,140 m3	
Area (sq km)		Area of Responsibility		Present Service Area	
Population		604,792		567,792	
No. of Towns = 1		Population served = 307,794			
<u>No. of connections:</u>		Domestic (Households) = 45,573		Non Domestic = 5,591	
		Typical service connection length = 12 m		Total Connections = 51,164	
				Connections with operating meter = 51,164	
System input volumes:		Produced by W.U. = 23.4 million m3/year		Bulk water imported = zero	
Water consumption:		Metered cons. = 15.9 million m3/year		% Unmetered cons. = 29% of metered cons.	
Water Sales:		Domestic = 12.9 million m3/year		Non Domestic = 6.3 million m3/year	
				Bulk Water sales = zero	
<u>System Performance:</u>		No. of connections with intermittent supply = 2,100		Typical duration of supply = 24.0 hours / day	
		No. of pipe breaks in distribution system = 178 / year		Typical water pressure in mains = 15 m.	
Chlorine Residuals:		Tests required = 1,560 / year		Tests carried out = 720 / year	
				Tests passed = 648 / year	

**Human Resources (Staff)**

<u>Type of employment:</u> , Permanent staff: with contract, , ,			
<u>No. of staff (FTE):</u> Corporate Services = zero		Water Supply = zero	
		Other = zero	
		Total = 386	
<u>Staff Training:</u> No. Trained = 386 / year		Training days = 175 / year	
		Training costs = 4.00% of total operating budget	

**Customer information**

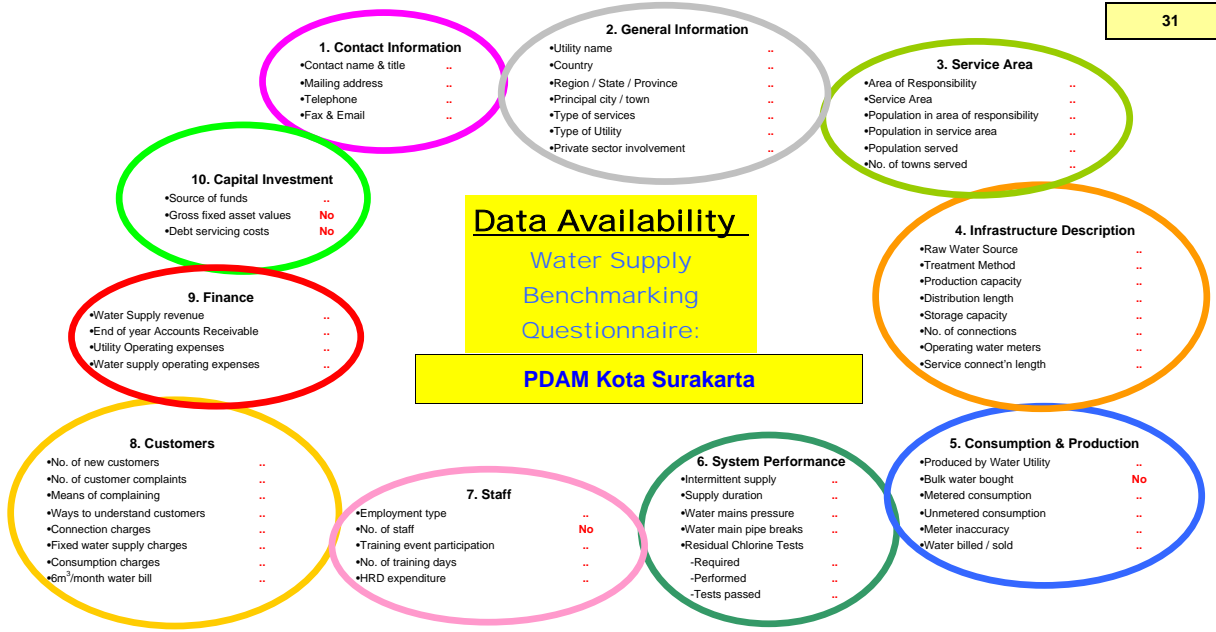
Customer interaction:		New connections = 1,369 / year		Customer complaints = 3,561 / year	
Complaint method:		In person, By telephone, , ,			
Understanding customers by:		Customer interactions, Responding to complaints, Surveys, questionnaires, etc., ,			

**Charges & Fees**

<u>Typical connection charge:</u>		Domestic = 1,050,000IDR / conn.		Non Domestic = 1,050,000IDR / conn.	
		(115 US\$ / conn.)		(115 US\$ / conn.)	
<u>Fixed water charge:</u> = 13,500IDR / month		Non Domestic = 23,000IDR / month		Bulk water sales = 18,250IDR / month	
		(1 US\$ / conn.)		(3 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 <sup>3</sup> )	0 - 10		10 - 20	
	Price (IDR / m3)	650		900	
	(US\$ / m <sup>3</sup> )	\$0.07		\$0.10	
Non Domestic	From - To (m <sup>3</sup> )	0 - 10		10 - 20	
	Price (IDR / m3)	1,600		1,900	
	(US\$ / m <sup>3</sup> )	\$0.18		\$0.21	
Bulk Water	From - To (m <sup>3</sup> )				
	Price (IDR / m3)				
	(US\$ / m <sup>3</sup> )				
		Water bill for household consuming 6 m <sup>3</sup> /month =		13,500 IDR / month (1.47 US\$ / month)	

**Finances**

<u>Revenue:</u>					Year end Accounts Receivable	
Water Sales					Other water related	
Subsidies & grants					Total	
IDR / year					27,837,009,315	
US\$ / year					\$3,039,008	
3,868,671,623					\$422,349	
<u>Operating Expenses:</u>					Water supply	
Other services					Company Overhead	
Total					Total	
IDR / year					11,433,600,000	
US\$ / year					\$1,248,223	
1,775,700,000					\$193,856	
14,744,500,000					\$1,609,679	
27,953,800,000					\$3,051,758	
<u>Water Supply Operating breakup:</u>					Labor	
Electricity					Chemicals & materials	
Contracted out					Other expenses	
IDR / year					8,327,100,000	
US\$ / year					\$909,082	
3,374,900,000					\$368,443	
1,264,700,000					\$138,069	
zero					zero	
zero					zero	
<u>Investment funds source:</u> , Grant from Government or ODA project, Loan from Government Bank, , , ,						
<u>Fixed Assets value:</u>					Water supply	
Other services					Company Overhead	
Total					Total	
IDR					zero	
US\$					zero	
zero					zero	
zero					zero	
42,033,000,000					\$4,588,806	
zero					zero	



## Calculation of Overall Performance Indicator (OPI)

Customer Indicators	Value	Rank
Service Coverage in existing service area (%)	54.2%	(33 / 45)
Meter coverage (% with operating water meter)	100.0%	(1 / 46)
Customer complaints / 1000 connections	69.6	(24 / 41)

Water Supply Systems O&M	Value	Rank
Supply Continuity (% of time water available)	100.0%	(1 / 47)
Residual Chlorine tests passed (%)	90.0%	(25 / 34)
Total Unmetered Consumption (% of metered cons.)		
Infrastructure Leakage Index [ILI]	7.7	(7 / 26)

**Surakarta**  
**Indonesia**  
**Water Supply**  
 PDAM Kota Surakarta  
 (PDAM Kota Surakarta )

**Overall Performance Indicator (OPI) = - 0.08**  
 Number of Standardized Indicators available = 7  
 Overall Ranking = (27 / 47)

Human Resource Indicators	Value	Rank
Total water related staff / 1000 connections	#N/A	
Investment in staff training (days / staff)	0.5	(19 / 33)
Ave. cost of employment / staff (% of per capita GNI)	#N/A	

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

**Financial Indicators: Annual expenses & revenue**

Operating Cost Coverage		Expenses	
Operating Cost Coverage (water sales only)	#N/A	Overhead expenses / Total Operating expenses ratio	0.53
Operating Cost Coverage (total revenue)	#N/A	Labour costs / Water operating expenses	0.73
		Electricity costs / Water operating expenses	0.30
		Chemical & other materials costs / Water operating expenses	0.11
		Contracted out services costs / Water operating expenses	#N/A
Revenue		Unit water cost	(US\$ / m <sup>3</sup> of metered cons.) #N/A
Water sales revenue / Total revenue ratio	0.98		(US\$ / m <sup>3</sup> of system input) #N/A
Subsidies & Grants / Total revenue ratio	#N/A	Debt servicing ratio (% of total operating revenue)	#N/A
Revenue Collection period (months)	1.70		
Unit water price - ave. (US\$ / m <sup>3</sup> of metered cons.)	0.16		

**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)	#N/A
Asset value / pipe length (US\$ / m. pipe)	#N/A
Asset value / Customer (US\$ / conn.)	#N/A

**System Input**

Production capacity utilization (%)	91%
Bulk water imported (% of total system input)	0%
System Input Rate (litres/person/day)	208
(m <sup>3</sup> /connection/month)	38.0
System Input / Distribution ratio (m <sup>3</sup> /day per km pipe)	97.0
System Input / Storage ratio (m <sup>3</sup> /day per m <sup>3</sup> storage)	7.0
Supply Continuity (% customers with continuous supply)	96%
Supply Continuity (% of time water available)	100%

## Surakarta Indonesia Water Supply

PDAM Kota Surakarta

(PDAM Kota Surakarta )

OPI Ranking = 27 / 47

**Human Resource Indicators**

Human Resource Utilisation		Human Resource Development	
Overhead staff ratio (% of total FTE staff)	#N/A	Staff Training participation rate (% staff)	100%
Water supply staff ratio (% of total FTE staff)	#N/A	Staff Training duration rate (days / staff)	0.5
		Investment in staff training (% of direct labour costs)	5.49%
		Investment in staff training (% of total operating costs)	4.00%
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)	12.9
Storage / customer (m <sup>3</sup> per connection)	0.20
Residual Chlorine	
Sampling compliance (%)	46%
Tests passed (%)	90%
Non Revenue Water (UFW)	
% of System Input	18%
m <sup>3</sup> / km / day	17.5
m <sup>3</sup> / connection / day	0.23
NRW adjusted for continuous supply (% of System Input)	18%
Unbilled Authorized & Unauthorized Cons. (% of metered cons.)	24%
Unmetered cons. due to meter inaccuracies (% of metered cons.)	5%
Total Unmetered Consumption (% of metered cons.)	29%
Infrastructure Leakage Index [ILI]	7.70
Mains failures ratio (breaks / km pipe / year)	0.30

**Water consumption**

Bulk water exported (% of total metered cons.)	0%
Average domestic water charges (% of per capita GNI)	#N/A
Metered consumption rate	
- Domestic (litres/person/day)	115
- Total Cons. (litres/person/day)	171
	(m <sup>3</sup> /conn/month)
	31
Total consumption - metered & unmetered	(litres/person/day) 220.00
	(m <sup>3</sup> /conn/month) 40.00
Domestic share of total metered consumption (%)	67%
Non Domestic share of total metered consumption (%)	33%

**Demography**

Average town / city size (persons / town)	604,792
Population density in area of responsibility (persons/sq.km)	12,600
Population density in existing service area (persons/sq.km)	12,904
Average Household size (persons / domestic connection)	7

**Customer Interactions**

Customer complaints / 1000 connections	70
--	----

**Connections**

Service Coverage in area of responsibility (%)	51%
Service Coverage in existing service area (%)	54%
Domestic / Non-Domestic connections ratio	8.2
Domestic / Non-Domestic consumption rate ratio	2.0
New connection growth rate (% / year)	3%
New domestic connection cost (US\$ / connection)	115
New domestic connections (% of per capita GNI)	2%
Meter coverage (% with operating water meter)	100%
Billed unmetered consumption (% of metered cons.)	21%

# Water Sales & Production Information

## PDAM Kota Surakarta

