

Water Utility: PDAM Kota Malang (PDAM Kota Malang)

Kota Malang , East Java , Indonesia

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Services Provided: Piped water, , , ,

Utility Type: , , , State Owned Enterprise, , ,

Private Sector Involvement: , , , , , BOOT, BOT Contract,

Source of Raw Water: , Storage reservoir/impoundment, , Groundwater,

Treatment Method: , Disinfection, , , , ,

Water Supply System description:

Production capacity = 125,500 m3/day		Distribution network = 1,493 km		Storage capacity = N/A
Area (sq km)		Area of Responsibility		Present Service Area
Population		835,674		811
No. of Towns = 3		Population served = 564,116		
<u>No. of connections:</u>		Domestic (Households) = 74,510		Non Domestic = 4,955
Typical service connection length = 6 m		Connections with operating meter = 79,465		Total Connections = 79,465
System input volumes:	Produced by W.U. = 39.4 million m3/year	Bulk water imported = zero		
Water consumption:	Metered cons. = 25.1 million m3/year	% Unmetered cons. = 33% of metered cons.		Ave. meter inaccuracy = N/A
Water Sales:	Domestic = 21.8 million m3/year	Non Domestic = 5.9 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 = N/A		Typical water pressure in mains = N/A	
Chlorine Residuals:	Tests required = 2,625 / year	Tests carried out = 13 / year		Tests passed = 13 / year

Human Resources (Staff)

<u>Type of employment:</u>	Permanent staff: salaried Government employees, , Casual/part-time: contract staff, , , Other:			
<u>No. of staff (FTE):</u>	Corporate Services = 512	Water Supply = 34	Other = zero	Total = 546
<u>Staff Training:</u>	No. Trained = 25 / year	Training days = 95 / year	Training costs = 5.50% of total operating budget	

Customer information

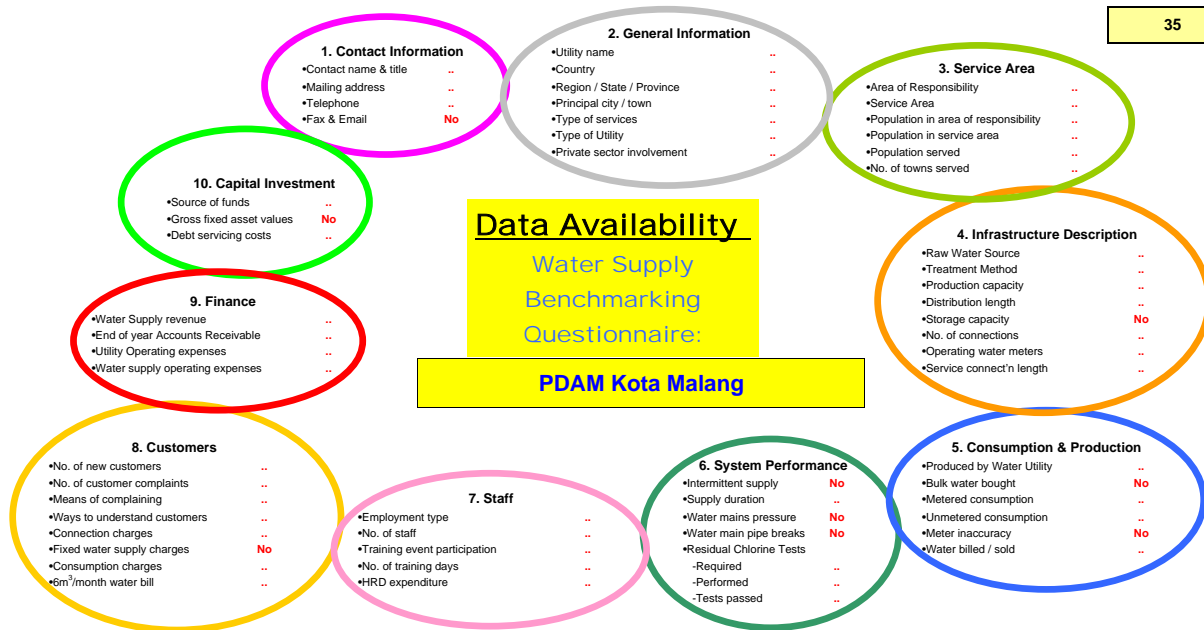
Customer interaction:	New connections = 1,016 / year	Customer complaints = 106,974 / year
Complaint method:	In person, By telephone, , By letter, Other method: Complaint to the office	
Understanding customers by:	Customer interactions, Responding to complaints, Surveys, questionnaires, etc., ,	

Charges & Fees

<u>Typical connection charge:</u>	Domestic = 1,000,000IDR / conn. (109 US\$ / conn.)		Non Domestic = 1,000,000IDR / conn. (109 US\$ / conn.)		
<u>Fixed water charge:</u>	Domestic = N/A	Non Domestic = N/A		Bulk water sales = N/A	
<u>Water consumption tariff</u> (typical of all towns and in each category):	N/A	N/A	N/A	N/A	
		Tariff Block 1	Tariff Block 2	Tariff Block 3	Tariff Block 4
Domestic	From - To (m ³)	0 - 15	15 - 30	30 - 50	>50
	Price (IDR / m3)	630	765	825	915
	(US\$ / m ³)	\$0.07	\$0.08	\$0.09	\$0.10
Non Domestic	From - To (m ³)	0 - 15	15 - 30	30 - 50	>50
	Price (IDR / m3)	1,200	1,710	2,665	3,520
	(US\$ / m ³)	\$0.13	\$0.19	\$0.29	\$0.38
Bulk Water	From - To (m ³)				
	Price (IDR / m3)				
	(US\$ / m ³)				
Water bill for household consuming 6 m ³ /month =				3,780 IDR / month	(0.41 US\$ / month)

Finances

<u>Revenue:</u>	Water Sales	Other water related	Subsidies & grants	Total	Year end Accounts Receivable
IDR / year	43,385,699,163	zero	zero	43,385,699,163	8,643,503,225
US\$ / year	\$4,736,482	zero	zero	\$4,736,482	\$943,624
<u>Operating Expenses:</u>	Water supply	Other services	Company Overhead	Total	
IDR / year	34,833,577,371	zero	zero	34,833,577,371	
US\$ / year	\$3,802,834	zero	zero	\$3,802,834	
<u>Water Supply Operating breakup:</u>	Labor	Electricity	Chemicals & materials	Contracted out	Other expenses
IDR / year	14,724,247,881	6,157,254,150	62,729,700	zero	zero
US\$ / year	\$1,607,468	\$672,197	\$6,848	zero	zero
<u>Investment funds source:</u>	Own internal funds, , , , Private sector investment,				
<u>Fixed Assets value:</u>	Water supply	Other services	Company Overhead	Total	Debt Servicing Costs
IDR	48,228,234,202	zero	zero	48,228,234,202	18,218,513,876
US\$	\$5,265,149	zero	zero	\$5,265,149	\$1,988,942



Calculation of Overall Performance Indicator (OPI)

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	1346.2	(1 / 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]	#N/A	

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Overall Performance Indicator (OPI) = 0.35
 Number of Standardized Indicators available = 11
 Overall Ranking = (5 / 47)

Human Resource Indicators	Value	Rank
Total water related staff / 1000 connections	6.9	(20 / 38)
Investment in staff training (days / staff)	0.2	(25 / 33)
Ave. cost of employment / staff (% of per capita GNI)	364%	(8 / 37)

Financial Indicators	Value	Rank
Operating Cost Coverage (water sales only)	1.25	(17 / 43)
Unit water cost (US\$ / m ³ of system input)	\$0.10	(17 / 43)
Water system asset value / Prod'n capacity (US\$ / m ³ /day)	\$42	(4 / 35)
Debt servicing ratio (% of total operating revenue)		

Financial Indicators: Annual expenses & revenue

Operating Cost Coverage		Expenses	
Operating Cost Coverage (water sales only)	1.25	Overhead expenses / Total Operating expenses ratio	#N/A
Operating Cost Coverage (total revenue)	1.25	Labour costs / Water operating expenses	0.42
		Electricity costs / Water operating expenses	0.18
		Chemical & other materials costs / Water operating expenses	0.00
		Contracted out services costs / Water operating expenses	#N/A
Revenue		Unit water cost	(US\$ / m ³ of metered cons.) 0.14
Water sales revenue / Total revenue ratio	1.00		(US\$ / m ³ of system input) 0.10
Subsidies & Grants / Total revenue ratio	#N/A	Debt servicing ratio (% of total operating revenue)	42.0%
Revenue Collection period (months)	2.39		
Unit water price - ave. (US\$ / m ³ of metered cons.)	0.17		

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)	42
Asset value / pipe length (US\$ / m. pipe)	4
Asset value / Customer (US\$ / conn.)	66

System Input

Production capacity utilization (%)	86%
Bulk water imported (% of total system input)	0%
System Input Rate (litres/person/day)	191
(m ³ /connection/month)	41.0
System Input / Distribution ratio (m ³ /day per km pipe)	72.0
System Input / Storage ratio (m ³ /day per m ³ storage)	#N/A
Supply Continuity (% customers with continuous supply)	#N/A
Supply Continuity (% of time water available)	100%

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OPI Ranking = 5 / 47

Human Resource Indicators

Human Resource Utilisation		Human Resource Development	
Overhead staff ratio (% of total FTE staff)	94%	Staff Training participation rate (% staff)	5%
Water supply staff ratio (% of total FTE staff)	6%	Staff Training duration rate (days / staff)	0.2
Total water related staff / 1000 connections	6.90	Investment in staff training (% of direct labour costs)	13.01%
Direct water supply staff		Investment in staff training (% of total operating costs)	5.50%
Staff / 1000 connections	0.40	Human Resources Costs	
Staff / 1000 m ³ /day system input	0.30	Ave. cost of employment / staff (% of per capita GNI)	3.64
Staff / 100 km of pipework	2.30	Contracting out services / in-house Labour costs ratio	#N/A

Distribution

Distribution / customer (m. pipe per connection)	18.8
Storage / customer (m ³ per connection)	#N/A
Residual Chlorine	
Sampling compliance (%)	1%
Tests passed (%)	100%
Non Revenue Water (UFW)	
% of System Input	30%
m ³ / km / day	21.4
m ³ / connection / day	0.40
NRW adjusted for continuous supply (% of System Input)	30%
Unbilled Authorized & Unauthorized Cons. (% of metered cons.)	#N/A
Unmetered cons. due to meter inaccuracies (% of metered cons.)	#N/A
Total Unmetered Consumption (% of metered cons.)	#N/A
Infrastructure Leakage Index [ILI]	#N/A
Mains failures ratio (breaks / km pipe / year)	#N/A

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)	106
- Total Cons. (litres/person/day)	135
	(m ³ /conn/month) 29
Total consumption - metered & unmetered	
(litres/person/day)	180.00
(m ³ /conn/month)	39.00
Domestic share of total metered consumption (%)	79%
Non Domestic share of total metered consumption (%)	21%

Demography

Average town / city size (persons / town)	278,558
Population density in area of responsibility (persons/sq.km)	690
Population density in existing service area (persons/sq.km)	695
Average Household size (persons / domestic connection)	8

Customer Interactions

Customer complaints / 1000 connections	1,346
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Connections

Service Coverage in area of responsibility (%)	68%
Service Coverage in existing service area (%)	100%
Domestic / Non-Domestic connections ratio	15.0
Domestic / Non-Domestic consumption rate ratio	3.7
New connection growth rate (% / year)	1%
New domestic connection cost (US\$ / connection)	109
New domestic connections (% of per capita GNI)	2%
Meter coverage (% with operating water meter)	100%
Billed unmetered consumption (% of metered cons.)	11%

Water Sales & Production Information

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Water Production
39,370,000 m3/year
100% of Water Input

Bulk Water Import
0 m3/year
0% of Water Input

Total Water Input
39,370,000 m3/year
3,280,833 m3/mth

Unaccounted for Water (UFW)
30% of Water Input

Adjusted UFW for 24/7 supply
#N/A

Metered Water Consumption
2,310,833 m3/mth

Domestic
1,818,333 m3/mth

Non Domestic
492,500 m3/mth

Bulk Water Sales
0 m3/mth

Water Connections = 74,510
X
24.4 m3/mth/conn

Water Connections = 4,955
X
99.4 m3/mth/conn

Unmetered Consumption
#N/A
#N/A

Unbilled Authorised & Unauthorized Consumption
#N/A

Meter inaccuracy
#N/A

Total Unmetered =
#N/A

Distribution System water losses (Current Annual Real Losses (CARL))
#N/A
#N/A
#N/A

Hours / month offline
0.0 hours/month
(Adjusted by)

CARL for 24/7 (continuous) supply
#N/A

Unavoidable Annual Real Losses (UARL)
#N/A
X

Infrastructure Leakage Index (ILI)
#N/A

Length of distribution mains
1,493 km

Water Connections
79,465 x 6m.
= 477 km

Average Pressure
#N/A