

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

Kota Makassar , Sulawesi Selatan , Indonesia

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

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

**Private Sector Involvement:** , Service Contract, , , , ,

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

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

**Water Supply System description:**

Production capacity = 202,176 m3/day		Distribution network = 2,842 km		Storage capacity = 25,056 m3	
Area of Responsibility		Present Service Area			
Area (sq km)	17,577	1,230			
Population		900,812			
No. of Towns = 1		Population served = 800,312			
<u>No. of connections:</u>		Domestic (Households) = 108,019		Non Domestic = 7,605	
		Typical service connection length = 35 m		Total Connections = 115,624	
				Connections with operating meter = 115,624	
System input volumes:	Produced by W.U. = 71.0 million m3/year		Bulk water imported = zero		
Water consumption:	Metered cons. = 32.6 million m3/year		% Unmetered cons. = 12% of metered cons.		Ave. meter inaccuracy = 20% of metered cons.
Water Sales:	Domestic = 29.5 million m3/year		Non Domestic = 3.1 million m3/year		Bulk Water sales = zero
<u>System Performance:</u>		No. of connections with intermittent supply = 400		Typical duration of supply = 24.0 hours / day	
		No. of pipe breaks in distribution system = 4,459 / year		Typical water pressure in mains = 25 m.	
Chlorine Residuals:	Tests required = 4,733 / year		Tests carried out = 2,392 / year		Tests passed = 1,866 / year

**Human Resources (Staff)**

<u>Type of employment:</u> Permanent staff: salaried Government employees, Permanent staff: with contract, , , ,			
<u>No. of staff (FTE):</u>	Corporate Services = zero	Water Supply = zero	Other = zero
<u>Staff Training:</u>	No. Trained = 30 / year	Training days = 30 / year	Training costs = 0.52% of total operating budget
Total = 650			

**Customer information**

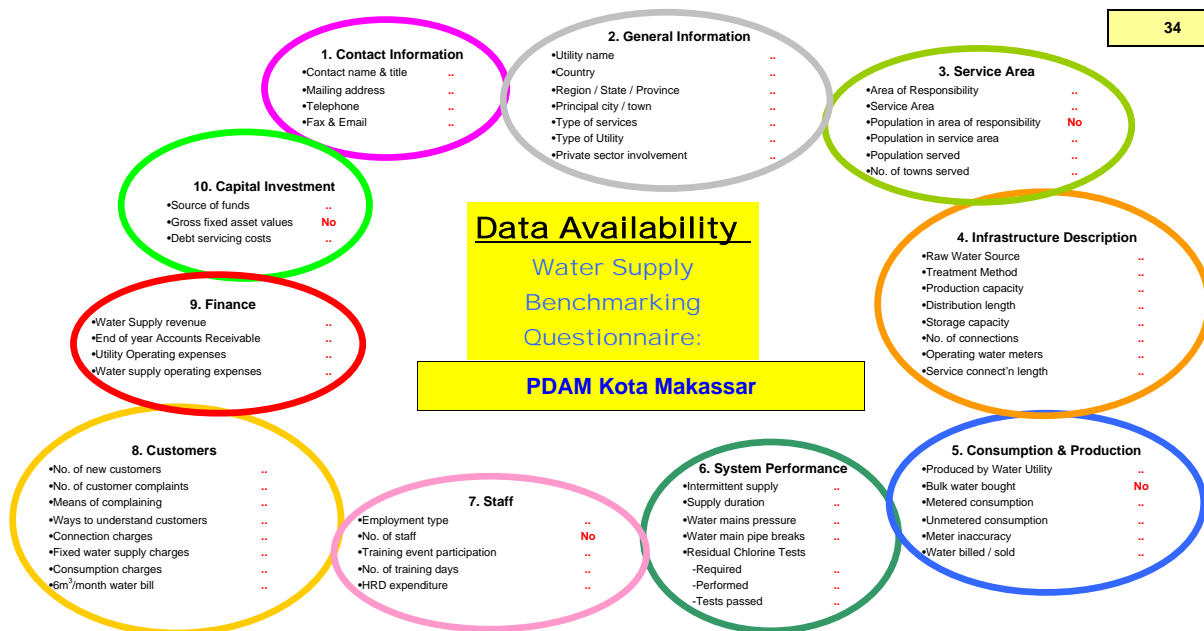
Customer interaction:	New connections = 9,660 / year	Customer complaints = 3,972 / year
Complaint method: In person, By telephone, , ,		
Understanding customers by: Customer interactions, Responding to complaints, Surveys, questionnaires, etc., ,		

**Charges & Fees**

<u>Typical connection charge:</u>		Domestic = 620,820IDR / conn. (68 US\$ / conn.)		Non Domestic = 700,000IDR / conn. (76 US\$ / conn.)	
<u>Fixed water charge:</u>		Domestic = 4,750IDR / month (1 US\$ / conn.)		Non Domestic = 67,500IDR / month (7 US\$ / conn.)	
				Bulk water sales = N/A	
<u>Water consumption tariff</u> (typical of all towns and in each category):				N/A	
Domestic	From - To (m <sup>3</sup> )	Tariff Block 1	Tariff Block 2	Tariff Block 3	Tariff Block 4
	Price (IDR / m <sup>3</sup> )	0 - 10	10 - 20	20 - 50	>50
	(US\$ / m <sup>3</sup> )	\$0.07	\$0.11	\$0.20	\$0.31
Non Domestic	From - To (m <sup>3</sup> )	0 - 10	10 - 20	20 - 50	>50
	Price (IDR / m <sup>3</sup> )	7,500	9,000	10,000	12,000
	(US\$ / m <sup>3</sup> )	\$0.82	\$0.98	\$1.09	\$1.31
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 =				9,550 IDR / month	(1.04 US\$ / month)

**Finances**

<u>Revenue:</u>	Water Sales	Other water related	Subsidies & grants	Total	Year end Accounts Receivable
	IDR / year	69,827,696,785	9,620,845,380	zero	79,448,542,165
	US\$ / year	\$7,623,194	\$1,050,322	zero	\$8,673,516
<u>Operating Expenses:</u>	Water supply	Other services	Company Overhead	Total	
	IDR / year	98,899,819,736	zero	zero	98,899,819,736
	US\$ / year	\$10,797,041	zero	zero	\$10,797,041
<u>Water Supply Operating breakup:</u>	Labor	Electricity	Chemicals & materials	Contracted out	Other expenses
	IDR / year	23,791,179,829	7,422,807,447	6,697,464,225	zero
	US\$ / year	\$2,597,319	\$810,359	\$731,172	zero
<u>Investment funds source:</u> Own internal funds, Grant from Government or ODA project, , , ,					
<u>Fixed Assets value:</u>	Water supply	Other services	Company Overhead	Total	Debt Servicing Costs
	IDR	253,255,503,176	zero	zero	253,255,503,176
	US\$	\$27,648,283	zero	zero	\$27,648,283



## Calculation of Overall Performance Indicator (OPI)

Customer Indicators	Value	Rank
Service Coverage in existing service area (%)	88.8%	(17 / 45)
Meter coverage (% with operating water meter)	100.0%	(1 / 46)
Customer complaints / 1000 connections	34.4	(29 / 41)

Water Supply Systems O&M	Value	Rank
Supply Continuity (% of time water available)	100.0%	(1 / 47)
Residual Chlorine tests passed (%)	78.0%	(29 / 34)
Total Unmetered Consumption (% of metered cons.)		
Infrastructure Leakage Index [ILI]	15.4	(16 / 26)

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**Overall Performance Indicator (OPI) = - 0.24**  
 Number of Standardized Indicators available = 10  
 Overall Ranking = (35 / 47)

Human Resource Indicators	Value	Rank
Total water related staff / 1000 connections	#N/A	
Investment in staff training (days / staff)	0	(32 / 33)
Ave. cost of employment / staff (% of per capita GNI)	#N/A	

Financial Indicators	Value	Rank
Operating Cost Coverage (water sales only)	0.71	(41 / 43)
Unit water cost (US\$ / m <sup>3</sup> of system input)	\$0.15	(27 / 43)
Water system asset value / Prod'n capacity (US\$ / m <sup>3</sup> /day)	\$137	(20 / 35)
Debt servicing ratio (% of total operating revenue)		

**Financial Indicators: Annual expenses & revenue**

Operating Cost Coverage		Expenses	
Operating Cost Coverage (water sales only)	0.71	Overhead expenses / Total Operating expenses ratio	#N/A
Operating Cost Coverage (total revenue)	0.8	Labour costs / Water operating expenses	0.24
		Electricity costs / Water operating expenses	0.08
		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	0.88	Unit water cost (US\$ / m <sup>3</sup> of metered cons.)	0.33
Subsidies & Grants / Total revenue ratio	#N/A	(US\$ / m <sup>3</sup> of system input)	0.15
Revenue Collection period (months)	3.87	Debt servicing ratio (% of total operating revenue)	9.9%
Unit water price - ave. (US\$ / m <sup>3</sup> of metered cons.)	0.23		

**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)	137
Asset value / pipe length (US\$ / m. pipe)	10
Asset value / Customer (US\$ / conn.)	239

**System Input**

Production capacity utilization (%)	96%
Bulk water imported (% of total system input)	0%
System Input Rate (litres/person/day)	243
(m <sup>3</sup> /connection/month)	51.0
System Input / Distribution ratio (m <sup>3</sup> /day per km pipe)	68.0
System Input / Storage ratio (m <sup>3</sup> /day per m <sup>3</sup> storage)	7.8
Supply Continuity (% customers with continuous supply)	100%
Supply Continuity (% of time water available)	100%

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OPI Ranking = 35 / 47

**Human Resource Indicators**

Human Resource Utilisation		Human Resource Development	
Overhead staff ratio (% of total FTE staff)	#N/A	Staff Training participation rate (% staff)	5%
Water supply staff ratio (% of total FTE staff)	#N/A	Staff Training duration rate (days / staff)	0.0
Total water related staff / 1000 connections	#N/A	Investment in staff training (% of direct labour costs)	2.16%
Direct water supply staff		Investment in staff training (% of total operating costs)	0.52%
Staff / 1000 connections	#N/A	Human Resources Costs	
Staff / 1000 m <sup>3</sup> /day system input	#N/A	Ave. cost of employment / staff (% of per capita GNI)	#N/A
Staff / 100 km of pipework	#N/A	Contracting out services / in-house Labour costs ratio	#N/A

**Distribution**

Distribution / customer (m. pipe per connection)	24.6
Storage / customer (m <sup>3</sup> per connection)	0.20
Residual Chlorine	
Sampling compliance (%)	51%
Tests passed (%)	78%
Non Revenue Water (UFW)	
% of System Input	54%
m <sup>3</sup> / km / day	37.0
m <sup>3</sup> / connection / day	0.91
NRW adjusted for continuous supply (% of System Input)	54%
Unbilled Authorized & Unauthorized Cons. (% of metered cons.)	-8%
Unmetered cons. due to meter inaccuracies (% of metered cons.)	20%
Total Unmetered Consumption (% of metered cons.)	12%
Infrastructure Leakage Index [ILI]	15.40
Mains failures ratio (breaks / km pipe / year)	1.60

**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)	101
- Total Cons. (litres/person/day)	112
(m <sup>3</sup> /conn/month)	23
Total consumption - metered & unmetered	
(litres/person/day)	125.00
(m <sup>3</sup> /conn/month)	26.00
Domestic share of total metered consumption (%)	90%
Non Domestic share of total metered consumption (%)	10%

**Demography**

Average town / city size (persons / town)	#N/A
Population density in area of responsibility (persons/sq.km)	#N/A
Population density in existing service area (persons/sq.km)	732
Average Household size (persons / domestic connection)	7
Customer Interactions	
Customer complaints / 1000 connections	34

**Connections**

Service Coverage in area of responsibility (%)	#N/A
Service Coverage in existing service area (%)	89%
Domestic / Non-Domestic connections ratio	14.2
Domestic / Non-Domestic consumption rate ratio	9.4
New connection growth rate (% / year)	8%
New domestic connection cost (US\$ / connection)	68
New domestic connections (% of per capita GNI)	1%
Meter coverage (% with operating water meter)	100%
Billed unmetered consumption (% of metered cons.)	0%

# Water Sales & Production Information

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