

Water Utility: Lam Dong Water Supply Company (LDWSC)

Dalat, Lam Dong, Vietnam

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Services Provided: Piped water, , , ,

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

Private Sector Involvement: None, , , , ,

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

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

Water Supply System description:

Production capacity = 42,000 m3/day		Distribution network = 990 km		Storage capacity = 13,500 m3	
Area of Responsibility		Present Service Area			
Area (sq km)	9,765	4,740			
Population	1,124,784	779,170			
No. of Towns = 5		Population served = 317,000			
<u>No. of connections:</u>		Domestic (Households) = 32,354		Non Domestic = 4,028	
Typical service connection length = 15 m		Total Connections = 36,382		Connections with operating meter = 36,382	
System input volumes:	Produced by W.U. = 12.5 million m3/year	Bulk water imported = zero			
Water consumption:	Metered cons. = 10.2 million m3/year	% Unmetered cons. = 18% of metered cons.		Ave. meter inaccuracy = 2% of metered cons.	
Water Sales:	Domestic = 7.1 million m3/year	Non Domestic = 3.1 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 = 2,054 / year		Typical water pressure in mains = 30 m.		
Chlorine Residuals:	Tests required = 1,125 / year	Tests carried out = 1,139 / year		Tests passed = 1,081 / 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 = 65	Water Supply = 297	Other = zero	Total = 362	
<u>Staff Training:</u>	No. Trained = 250 / year	Training days = 32,250 / year	Training costs = 0.30% of total operating budget		

Customer information

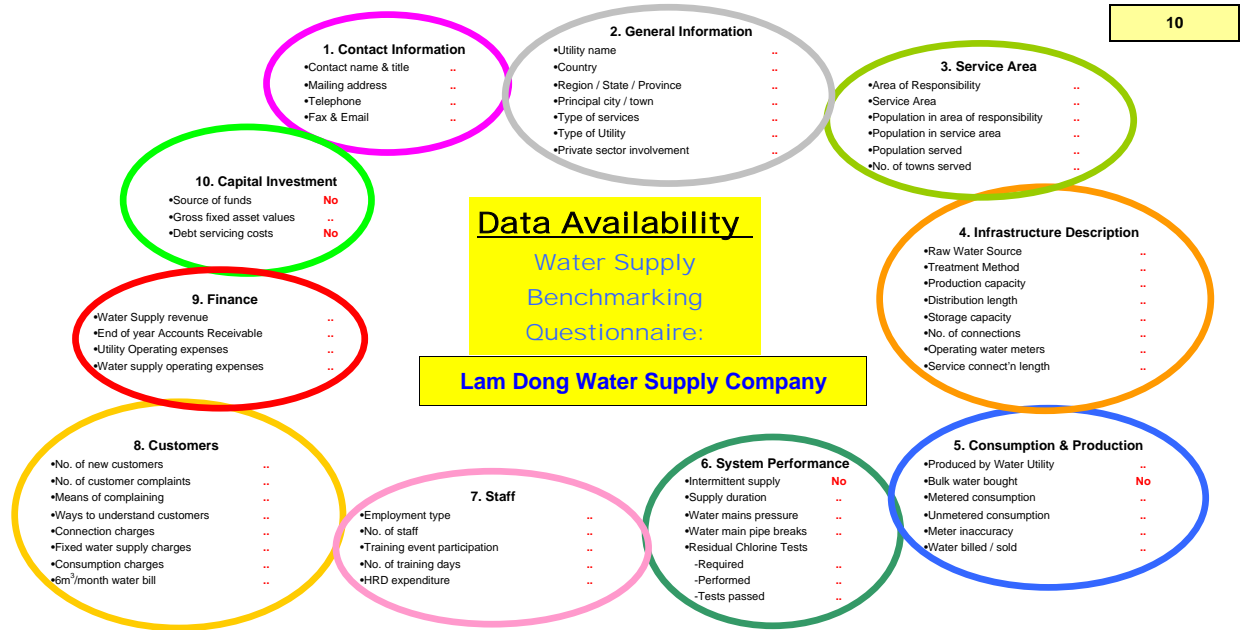
Customer interaction:	New connections = 4,668 / year	Customer complaints = 22 / year
Complaint method:	In person, By telephone, , By letter,	
Understanding customers by:	Customer interactions, Responding to complaints, Surveys, questionnaires, etc., ,	

Charges & Fees

<u>Typical connection charge:</u>	Domestic = 750,000VND / conn. (48 US\$ / conn.)		Non Domestic = 2,000,000VND / conn. (127 US\$ / conn.)		
<u>Fixed water charge:</u>	= 4,000VND / month (0 US\$ / conn.)		Non Domestic = 315VND / 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 - 4	4 - 6	6	
	Price (VND / m ³)	1,730	2,730	3,230	
	(US\$ / m ³)	\$0.11	\$0.17	\$0.21	
Non Domestic	From - To (m ³)				
	Price (VND / m ³)	4,230			
	(US\$ / m ³)	\$0.27			
Bulk Water	From - To (m ³)				
	Price (VND / m ³)				
	(US\$ / m ³)				
Water bill for household consuming 6 m ³ /month =			18,000 VND / month	(1.14 US\$ / month)	

Finances

<u>Revenue:</u>	Water Sales	Other water related	Subsidies & grants	Total	Year end Accounts Receivable	
	VND / year	23,997,000,000	6,495,000,000	zero	30,492,000,000	215,000,000
	US\$ / year	\$1,521,783	\$411,884	zero	\$1,933,667	\$13,634
<u>Operating Expenses:</u>	Water supply	Other services	Company Overhead	Total		
	VND / year	17,883,000,000	zero	2,962,000,000	24,684,000,000	
	US\$ / year	\$1,134,060	zero	\$187,837	\$1,565,350	
<u>Water Supply Operating breakup:</u>	Labor	Electricity	Chemicals & materials	Contracted out	Other expenses	
	VND / year	7,963,000,000	7,041,000,000	4,181,000	4,721,400,000	zero
	US\$ / year	\$504,978	\$446,509	\$265	\$299,410	zero
<u>Investment funds source:</u> , , , , ,						
<u>Fixed Assets value:</u>	Water supply	Other services	Company Overhead	Total	Debt Servicing Costs	
	VND	162,482,000,000	zero	1,795,000,000	164,277,000,000	zero
	US\$	\$10,303,887	zero	\$113,831	\$10,417,718	zero

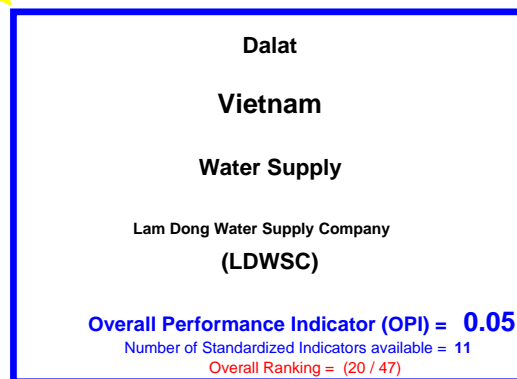


Calculation of Overall Performance Indicator (OPI)

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Customer Indicators	Value	Rank
Service Coverage in existing service area (%)	40.7%	(39 / 45)
Meter coverage (% with operating water meter)	100.0%	(1 / 46)
Customer complaints / 1000 connections	0.6	(40 / 41)

Water Supply Systems O&M	Value	Rank
Supply Continuity (% of time water available)	100.0%	(1 / 47)
Residual Chlorine tests passed (%)	94.9%	(22 / 34)
Total Unmetered Consumption (% of metered cons.)		
Infrastructure Leakage Index [ILI]	0.7	(1 / 26)



Human Resource Indicators	Value	Rank
Total water related staff / 1000 connections	9.9	(31 / 38)
Investment in staff training (days / staff)	0	
Ave. cost of employment / staff (% of per capita GNI)	291%	(12 / 37)

Financial Indicators	Value	Rank
Operating Cost Coverage (water sales only)	0.97	(33 / 43)
Unit water cost (US\$ / m ³ of system input)	\$0.13	(25 / 43)
Water system asset value / Prod'n capacity (US\$ / m ³ /day)	\$245	(28 / 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)	0.97	Overhead expenses / Total Operating expenses ratio	0.12
Operating Cost Coverage (total revenue)	1.24	Labour costs / Water operating expenses	0.45
		Electricity costs / Water operating expenses	0.39
		Chemical & other materials costs / Water operating expenses	0.00
		Contracted out services costs / Water operating expenses	0.26
<u>Revenue</u>		Unit water cost	(US\$ / m ³ of metered cons.) 0.15
Water sales revenue / Total revenue ratio	0.79		(US\$ / m ³ of system input) 0.13
Subsidies & Grants / Total revenue ratio	0.00		
Revenue Collection period (months)	0.11	Debt servicing ratio (% of total operating revenue)	0.0%
Unit water price - ave. (US\$ / m ³ of metered cons.)	0.15		

Fixed Assets

Corporate Fixed Assets / Total Fixed Assets	0.01
Water system asset values	
Asset value / Total water related assets	0.99
Asset value / Prod'n capacity (US\$ / m ³ /day)	245
Asset value / pipe length (US\$ / m. pipe)	10
Asset value / Customer (US\$ / conn.)	283

System Input

Production capacity utilization (%)	82%
Bulk water imported (% of total system input)	0%
System Input Rate (litres/person/day)	108
(m ³ /connection/month)	29.0
System Input / Distribution ratio (m ³ /day per km pipe)	35.0
System Input / Storage ratio (m ³ /day per m ³ storage)	2.5
Supply Continuity (% customers with continuous supply)	100%
Supply Continuity (% of time water available)	100%

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OPI Ranking = 20 / 47

Human Resource Indicators

<u>Human Resource Utilisation</u>		<u>Human Resource Development</u>	
Overhead staff ratio (% of total FTE staff)	18%	Staff Training participation rate (% staff)	69%
Water supply staff ratio (% of total FTE staff)	82%	Staff Training duration rate (days / staff)	#N/A
Total water related staff / 1000 connections	9.90	Investment in staff training (% of direct labour costs)	0.67%
Direct water supply staff		Investment in staff training (% of total operating costs)	0.30%
Staff / 1000 connections	8.20		
Staff / 1000 m ³ /day system input	8.70	<u>Human Resources Costs</u>	
Staff / 100 km of pipework	30.00	Ave. cost of employment / staff (% of per capita GNI)	2.91
		Contracting out services / in-house Labour costs ratio	0.60

Distribution

Distribution / customer (m. pipe per connection)	27.2
Storage / customer (m ³ per connection)	0.40
Residual Chlorine	
Sampling compliance (%)	101%
Tests passed (%)	95%
Non Revenue Water (UFW)	
% of System Input	18%
m ³ / km / day	6.4
m ³ / connection / day	0.17
NRW adjusted for continuous supply (% of System Input)	18%
Unbilled Authorized & Unauthorized Cons. (% of metered cons.)	16%
Unmetered cons. due to meter inaccuracies (% of metered cons.)	2%
Total Unmetered Consumption (% of metered cons.)	18%
Infrastructure Leakage Index [ILI]	0.70
Mains failures ratio (breaks / km pipe / year)	2.10

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)	61
- Total Cons. (litres/person/day)	88
	(m ³ /conn/month)
	23
Total consumption - metered & unmetered	
	(litres/person/day)
	104.00
	(m ³ /conn/month)
	28.00
Domestic share of total metered consumption (%)	70%
Non Domestic share of total metered consumption (%)	30%

Demography

Average town / city size (persons / town)	224,957
Population density in area of responsibility (persons/sq.km)	115
Population density in existing service area (persons/sq.km)	164
Average Household size (persons / domestic connection)	10

Customer Interactions

Customer complaints / 1000 connections	1
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Connections

Service Coverage in area of responsibility (%)	28%
Service Coverage in existing service area (%)	41%
Domestic / Non-Domestic connections ratio	8.0
Domestic / Non-Domestic consumption rate ratio	2.3
New connection growth rate (% / year)	13%
New domestic connection cost (US\$ / connection)	48
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

Lam Dong Water Supply Company

