

Water Utility: Marilao Water District (Marwadis)

Marilao, Central Luzon, Bulacan, Philippines

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Services Provided: Piped water, , , ,

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

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

Source of Raw Water: , , , Groundwater,

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

Water Supply System description:

Production capacity = 12,306 m3/day		Distribution network = 15 km		Storage capacity = 814 m3	
		Area of Responsibility		Present Service Area	
Area (sq km)		24		5	
Population		113,685		61,589	
		No. of Towns = 1		Population served = 54,808	
<u>No. of connections:</u>		Domestic (Households) = 8,047		Non Domestic = 385	
		Typical service connection length = 3 m		Total Connections = 8,432	
				Connections with operating meter = 8,432	
System input volumes:		Produced by W.U. = 2.7 million m3/year		Bulk water imported = zero	
Water consumption:		Metered cons. = 2.1 million m3/year		% Unmetered cons. = N/A	
				Ave. meter inaccuracy = N/A	
Water Sales:		Domestic = 2.0 million m3/year		Non Domestic = 0.1 million m3/year	
				Bulk Water sales = zero	
<u>System Performance:</u>		No. of connections with intermittent supply = N/A		Typical duration of supply = 20.0 hours / day	
		No. of pipe breaks in distribution system = 48 / year		Typical water pressure in mains = 18 m.	
Chlorine Residuals:		Tests required = 365 / year		Tests carried out = 365 / year	
				Tests passed = 365 / year	

Human Resources (Staff)

<u>Type of employment:</u> Permanent staff: salaried Government employees, , Casual/part-time: contract staff, , Contracted out to outside company/agency,			
<u>No. of staff (FTE):</u> Corporate Services = 13		Water Supply = 53	
		Other = zero	
		Total = 66	
<u>Staff Training:</u> No. Trained = 5 / year		Training days = 15 / year	
		Training costs = 0.34% of total operating budget	

Customer information

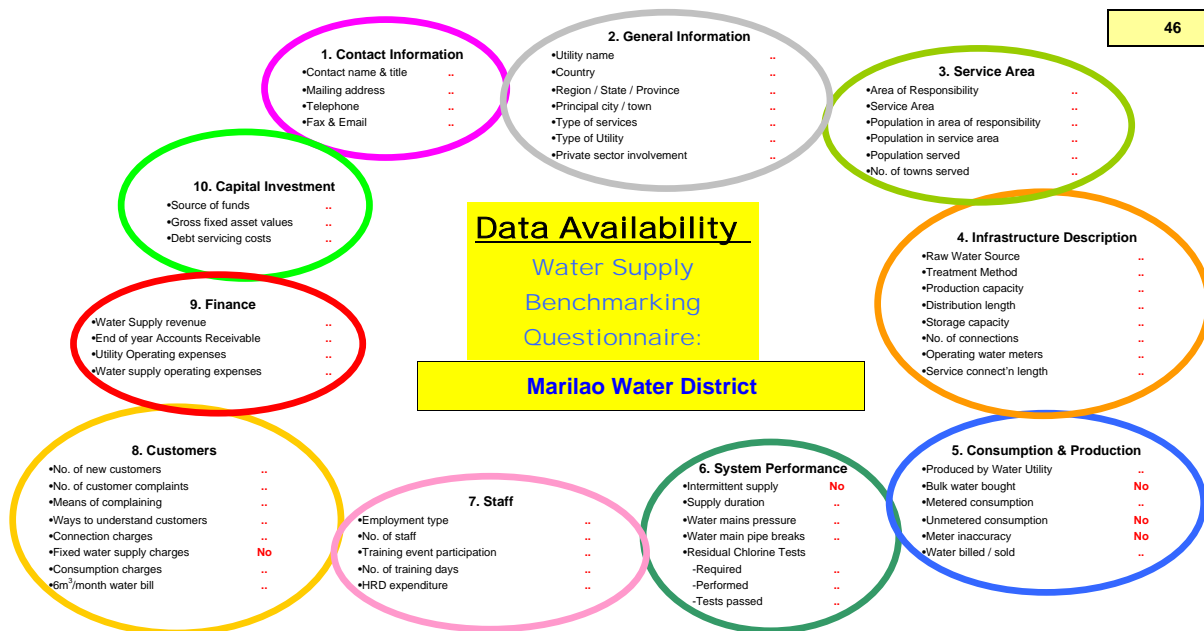
Customer interaction:		New connections = 1,087 / year		Customer complaints = 1,131 / year	
Complaint method:		In person, By telephone, , ,			
Understanding customers by:		Customer interactions, Responding to complaints, Surveys, questionnaires, etc., ,			

Charges & Fees

<u>Typical connection charge:</u>		Domestic = 2,600PHP / conn. (47 US\$ / conn.)		Non Domestic = 3,600PHP / conn. (64 US\$ / conn.)	
<u>Fixed water charge:</u>		Domestic = N/A		Non Domestic = N/A	
		N/A		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 - 10		10 - 20	
	Price (PHP / m ³)	15		18	
	(US\$ / m ³)	\$0.27		\$0.32	
Non Domestic	From - To (m ³)	0 - 10		10 - 20	
	Price (PHP / m ³)	30		36	
	(US\$ / m ³)	\$0.54		\$0.65	
Bulk Water	From - To (m ³)				
	Price (PHP / m ³)	63			
	(US\$ / m ³)	\$1.13			
		Water bill for household consuming 6 m ³ /month =		150 PHP / month (2.69 US\$ / month)	

Finances

<u>Revenue:</u>					Year end Accounts Receivable	
PHP / year		Water Sales	Other water related	Subsidies & grants	Total	3,225,502
US\$ / year		29,859,629	859,250	zero	30,718,879	\$57,784
		\$534,927	\$15,393	zero	\$550,320	
<u>Operating Expenses:</u>						
PHP / year		Water supply	Other services	Company Overhead	Total	
US\$ / year		28,728,699	zero	2,663,014	31,391,720	
		\$514,667	zero	\$47,707	\$562,374	
<u>Water Supply Operating breakup:</u>						
PHP / year		Labor	Electricity	Chemicals & materials	Contracted out	Other expenses
US\$ / year		5,146,252	13,845,985	255,414	zero	9,481,048
		\$92,194	\$248,047	\$4,576	zero	\$169,850
<u>Investment funds source:</u> Own internal funds, , Loan from Government Bank, , , ,						
<u>Fixed Assets value:</u>					Debt Servicing Costs	
PHP		Water supply	Other services	Company Overhead	Total	1,370,400
US\$		79,681,100	zero	9,512,659	89,193,759	\$24,550
		\$1,427,465	zero	\$170,417	\$1,597,882	



Calculation of Overall Performance Indicator (OPI)

Customer Indicators	Value	Rank
Service Coverage in existing service area (%)	89.0%	(16 / 45)
Meter coverage (% with operating water meter)	100.0%	(1 / 46)
Customer complaints / 1000 connections	134.1	(14 / 41)

Water Supply Systems O&M	Value	Rank
Supply Continuity (% of time water available)	83.3%	(39 / 47)
Residual Chlorine tests passed (%)	100.0%	(1 / 34)
Total Unmetered Consumption (% of metered cons.)		
Infrastructure Leakage Index [ILI]	15.9	(18 / 26)

Marilao
Philippines
Water Supply
Marilao Water District
(Marwadis)

Overall Performance Indicator (OPI) = - 0.33
 Number of Standardized Indicators available = 12
 Overall Ranking = (37 / 47)

Human Resource Indicators	Value	Rank
Total water related staff / 1000 connections	7.8	(23 / 38)
Investment in staff training (days / staff)	0.2	(25 / 33)
Ave. cost of employment / staff (% of per capita GNI)	129%	(34 / 37)

Financial Indicators	Value	Rank
Operating Cost Coverage (water sales only)	0.95	(34 / 43)
Unit water cost (US\$ / m ³ of system input)	\$0.20	(37 / 43)
Water system asset value / Prod'n capacity (US\$ / m ³ /day)	\$116	(19 / 35)
Debt servicing ratio (% of total operating revenue)		

Financial Indicators: Annual expenses & revenue			
Operating Cost Coverage		Expenses	
Operating Cost Coverage (water sales only)	0.95	Overhead expenses / Total Operating expenses ratio	0.09
Operating Cost Coverage (total revenue)	0.98	Labour costs / Water operating expenses	0.18
		Electricity costs / Water operating expenses	0.48
		Chemical & other materials costs / Water operating expenses	0.01
		Contracted out services costs / Water operating expenses	#N/A
Revenue			
Water sales revenue / Total revenue ratio	0.97	Unit water cost (US\$ / m ³ of metered cons.)	0.27
Subsidies & Grants / Total revenue ratio	0.00	(US\$ / m ³ of system input)	0.20
Revenue Collection period (months)	1.30	Debt servicing ratio (% of total operating revenue)	4.5%
Unit water price - ave. (US\$ / m ³ of metered cons.)	0.26		

Fixed Assets	
Corporate Fixed Assets / Total Fixed Assets	0.11
Water system asset values	
Asset value / Total water related assets	0.89
Asset value / Prod'n capacity (US\$ / m ³ /day)	116
Asset value / pipe length (US\$ / m. pipe)	95
Asset value / Customer (US\$ / conn.)	169

System Input	
Production capacity utilization (%)	61%
Bulk water imported (% of total system input)	0%
System Input Rate (litres/person/day)	137
(m ³ /connection/month)	27.0
System Input / Distribution ratio (m ³ /day per km pipe)	503.0
System Input / Storage ratio (m ³ /day per m ³ storage)	9.2
Supply Continuity (% customers with continuous supply)	#N/A
Supply Continuity (% of time water available)	83%

**Marilao
Philippines
Water Supply
Marilao Water District
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OPI Ranking = 37 / 47

Human Resource Indicators			
Human Resource Utilisation		Human Resource Development	
Overhead staff ratio (% of total FTE staff)	20%	Staff Training participation rate (% staff)	8%
Water supply staff ratio (% of total FTE staff)	80%	Staff Training duration rate (days / staff)	0.2
Total water related staff / 1000 connections	7.80	Investment in staff training (% of direct labour costs)	1.90%
Direct water supply staff		Investment in staff training (% of total operating costs)	0.34%
Staff / 1000 connections	6.30	Human Resources Costs	
Staff / 1000 m ³ /day system input	7.00	Ave. cost of employment / staff (% of per capita GNI)	1.29
Staff / 100 km of pipework	354.40	Contracting out services / in-house Labour costs ratio	#N/A

Distribution	
Distribution / customer (m. pipe per connection)	1.8
Storage / customer (m ³ per connection)	0.10
Residual Chlorine	
Sampling compliance (%)	100%
Tests passed (%)	100%
Non Revenue Water (UFW)	
% of System Input	24%
m ³ / km / day	121.1
m ³ / connection / day	0.21
NRW adjusted for continuous supply (% of System Input)	28%
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]	15.90
Mains failures ratio (breaks / km pipe / year)	3.20

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)	99	
	- Total Cons. (litres/person/day)	104	
	(m ³ /conn/month)	21	
Total consumption - metered & unmetered	(litres/person/day)	104.00	
	(m ³ /conn/month)	21.00	
Domestic share of total metered consumption (%)			95%
Non Domestic share of total metered consumption (%)			5%

Demography	
Average town / city size (persons / town)	113,685
Population density in area of responsibility (persons/sq.km)	4,739
Population density in existing service area (persons/sq.km)	12,831
Average Household size (persons / domestic connection)	7
Customer Interactions	
Customer complaints / 1000 connections	134

Connections	
Service Coverage in area of responsibility (%)	48%
Service Coverage in existing service area (%)	89%
Domestic / Non-Domestic connections ratio	20.9
Domestic / Non-Domestic consumption rate ratio	20.9
New connection growth rate (% / year)	13%
New domestic connection cost (US\$ / connection)	47
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

Marilao Water District

