S6.5-1 無収水率

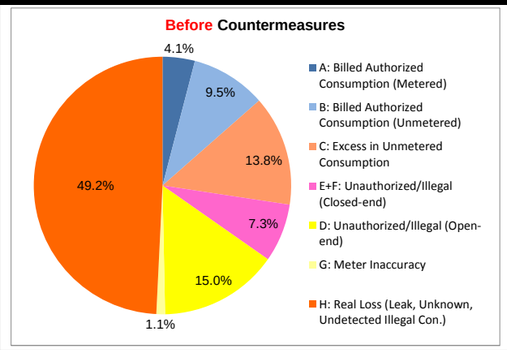
1 No.9 Namo Ruka

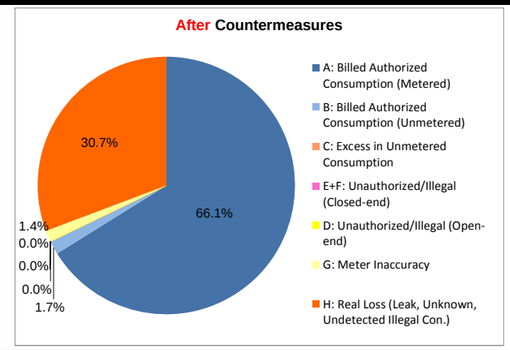
Connection Identification and Water Usage Clarification

Category of connection and other items				Before Countermeasures HH	Before Countermeasures Q (m3/d)	Before Countermeasures Remarks	After Countermeasures HH	After Countermeasures Q (m3/d)	After Countermeasures Remarks	Change in HH
Registered	Metered		A	13	14.10	Metered consumption	50	82.84	Metered consumption	37
	Unmetered/DL		B	31	32.86	1.06 m3/HH/d	2	2.12	1.06 m3/HH/d	-29
		Open-end/Excess	C	(5)	47.98	Manually-measured flow (excess only)	(0)	0.00	Manually-measured flow (excess only)	5
Unregistered (Illegal)	Direct	Open-end	D	4	51.84	Manually-measured flow	0	0.00	Manually-measured flow	-4
		Closed-end	E	13	13.78	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d *See the remarks.	-13
	Indirect/Parasite	Closed-end	F	11	11.66	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-11
Meter Inaccuracy			G	-	3.81	21.29% Average inaccuracy	-	1.78	2.10% Average inaccuracy	
Real Loss	* incl. leak, unknown, undetected illegal con.		H	-	170.70	346.73 m3/d: SIV - (A to G)	-	38.50	125.24 m3/d: SIV - (A to G)	
Unconnection			I	11	-		31	-		20
Total Connection and System Input Volume (SIV)				**83**	**346.73**		**83**	**125.24**		0

Water Audit

Component				Before Countermeasures Q (m3/d)	Before Countermeasures Proportion			After Countermeasures Q (m3/d)	After Countermeasures Proportion			Change in Proportion
RW	Billed Authorized Consumption	Metered	A	14.10	4.1%	13.5%	**13.5%**	82.84	66.1%	67.8%	**67.8%**	**54.3**
		Unmetered	B	32.86	9.5%			2.12	1.7%			
NRW	Unbilled Authorized Consumption	Metered			0.0%	13.8%			0.0%	0.0%		
		Unmetered (Excess)	C	47.98	13.8%			0.00	0.0%			
	Apparent Losses	Closed-end (Unauthorized (Illegal))	E+F	25.44	7.3%	23.4%	**86.5%**	0.00	0.0%	1.4%	**32.2%**	**-54.3**
		Open-end	D	51.84	15.0%			0.00	0.0%			
		Meter Inaccu. Meter	G	3.81	1.1%			1.78	1.4%			
	Real Losses	Leak, unknown, undetected illegal con.	H	170.70	49.2%	49.2%		38.50	30.7%	30.7%		
Total System Input Volume (SIV)				**346.73**	100.0%	100.0%	**100.0%**	**125.24**	100.0%	100.0%	**100.0%**	





Performance Indicators

Project Period: 1/3/2013- 10/7/2013

Major Leakage Point (Nos)	13
Meter Replacement (Nos.)	12
Newly-installed Meter (Nos.)	37
Participant in Public Awareness	50
Distributed Awareness Pamphlet	-
Distributed Notification Letter	11
Newly/Re-Registered Household	2
Legalized Users	6
Disconnected Illegal Users	11
Eliminated Parasite Users	11
Disconnected Customers	0

Remarks

Three households are the unbilled authorized users having consumed water freely since Water Unit authorized them, based on verbal agreement. Provisionally, they are categorized as RW for reasons of expediency. SW needs to elliminate them.

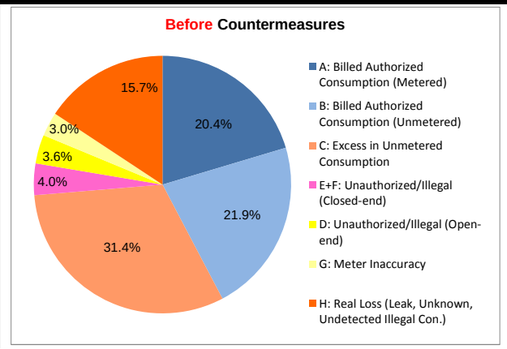
2 No.10 Independence Valley

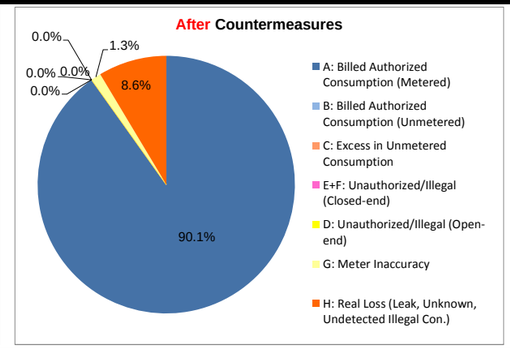
Connection Identification and Water Usage Clarification

Category of connection and other items				Before Countermeasures HH	Before Countermeasures Q (m3/d)	Before Countermeasures Remarks	After Countermeasures HH	After Countermeasures Q (m3/d)	After Countermeasures Remarks	Change in HH
Registered	Metered		A	35	32.56	Metered consumption	72	103.52	Metered consumption	37
	Unmetered/DL		B	33	34.98	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-33
		Open-end/Excess	C	(5)	50.14	Manually-measured flow (excess only)	(0)	0.00	Manually-measured flow (excess only)	5
Unregistered (Illegal)	Direct	Open-end	D	1	5.76	Manually-measured flow	0	0.00	Manually-measured flow	-1
		Closed-end	E	1	1.06	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-1
	Indirect/Parasite	Closed-end	F	5	5.30	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-5
Meter Inaccuracy			G	-	4.82	12.90% Average inaccuracy	-	1.46	1.39% Average inaccuracy	
Real Loss	* incl. leak, unknown, undetected illegal con.		H	-	25.10	159.73 m3/d: SIV - (A to G)	-	9.86	114.83 m3/d: SIV - (A to G)	
Unconnection			I	16	-		19	-		3
Total Connection and System Input Volume (SIV)				**91**	**159.73**		**91**	**114.83**		0

Water Audit

Component				Before Countermeasures Q (m3/d)	Before Countermeasures Proportion			After Countermeasures Q (m3/d)	After Countermeasures Proportion			Change in Proportion
RW	Billed Authorized Consumption	Metered	A	32.56	20.4%	42.3%	**42.3%**	103.52	90.1%	90.1%	**90.1%**	**47.9**
		Unmetered	B	34.98	21.9%			0.00	0.0%			
NRW	Unbilled Authorized Consumption	Metered			0.0%	31.4%			0.0%	0.0%		
		Unmetered (Excess)	C	50.14	31.4%			0.00	0.0%			
	Apparent Losses	Unauthorized (Illegal) Closed-end	E+F	6.36	4.0%	10.6%	**57.7%**	0.00	0.0%	1.3%	**9.9%**	**-47.9**
		Open-end	D	5.76	3.6%			0.00	0.0%			
		Meter Inaccu. Meter	G	4.82	3.0%			1.46	1.3%			
	Real Losses	Leak, unknown, undetected illegal con.	H	25.10	15.7%	15.7%		9.86	8.6%	8.6%		
Total System Input Volume (SIV)				**159.73**	100.0%	100.0%	**100.0%**	**114.83**	100.0%	100.0%	**100.0%**	





Performance Indicators

Project Period: 20/4/2013 - 20/7/2013

Major Leakage Point (Nos)	12
Meter Replacement (Nos.)	35
Newly-installed Meter (Nos.)	37
Participant in Public Awareness	-
Distributed Awareness Pamphlet	75
Distributed Notification Letter	2
Newly/Re-Registered Household	3
Legalized Users	1
Disconnected Illegal Users	1
Eliminated Parasite Users	5
Disconnected Customers	0

Remarks

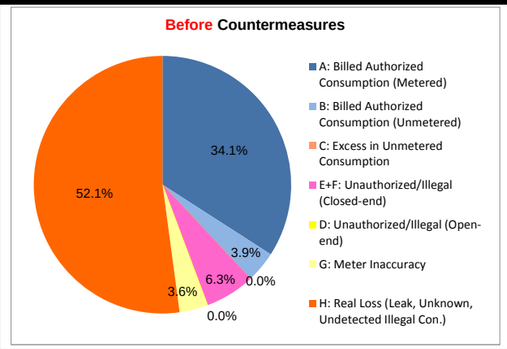
3 No. 3 Lenggakiki

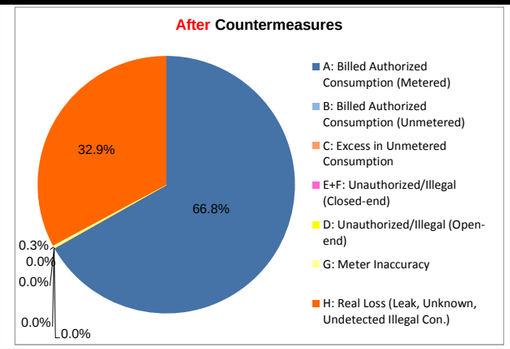
Connection Identification and Water Usage Clarification

Category of connection and other items				Before Countermeasures HH	Before Countermeasures Q (m3/d)	Before Countermeasures Remarks	After Countermeasures HH	After Countermeasures Q (m3/d)	After Countermeasures Remarks	Change in HH
Registered	Metered		A	93	201.57	Metered consumption	116	328.36	Metered consumption	23
	Unmetered/DL		B	22	23.32	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-22
		Open-end/Excess	C	(0)	0.00	Manually-measured flow (excess only)	(0)	0.00	Manually-measured flow (excess only)	0
Unregistered (Illegal)	Direct	Open-end	D	0	0.00	Manually-measured flow	0	0.00	Manually-measured flow	0
		Closed-end	E	6	6.36	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-6
	Indirect/Parasite	Closed-end	F	29	30.74	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-29
Meter Inaccuracy			G	-	21.06	9.46% Average inaccuracy	-	1.58	0.48% Average inaccuracy	
Real Loss	* incl. leak, unknown, undetected illegal con.		H	-	308.41	591.46 m3/d: SIV - (A to G)	-	161.48	491.43 m3/d: SIV - (A to G)	
Unconnection			I	11	-		45	-		34
Total Connection and System Input Volume (SIV)				**161**	**591.46**		**161**	**491.43**		0

Water Audit

Component				Before Countermeasures Q (m3/d)	Before Countermeasures Proportion			After Countermeasures Q (m3/d)	After Countermeasures Proportion			Change in Proportion
RW	Billed Authorized Consumption	Metered	A	201.57	34.1%	38.0%	**38.0%**	328.36	66.8%	66.8%	**66.8%**	**28.8**
		Unmetered	B	23.32	3.9%			0.00	0.0%			
NRW	Unbilled Authorized Consumption	Metered			0.0%	0.0%			0.0%	0.0%		
		Unmetered (Excess)	C	0.00	0.0%			0.00	0.0%			
	Apparent Losses	Unauthorized (Illegal) Closed-end	E+F	37.10	6.3%	9.8%	**62.0%**	0.00	0.0%	0.3%	**33.2%**	**-28.8**
		Open-end	D	0.00	0.0%			0.00	0.0%			
		Meter Inaccu. Meter	G	21.06	3.6%			1.58	0.3%			
	Real Losses	Leak, unknown, undetected illegal con.	H	308.41	52.1%	52.1%		161.48	32.9%	32.9%		
Total System Input Volume (SIV)				**591.46**	100.0%	100.0%	**100.0%**	**491.43**	100.0%	100.0%	**100.0%**	





Performance Indicators

Project Period: 1/6/2013 - 31/8/2013

Major Leakage Point (Nos)	24
Meter Replacement (Nos.)	90
Newly-installed Meter (Nos.)	24
Participant in Public Awareness	-
Distributed Awareness Pamphlet	153
Distributed Notification Letter	4
Newly/Re-Registered Household	1
Legalized Users	1
Disconnected Illegal Users	5
Eliminated Parasite Users	29
Disconnected Customers	1

Remarks

King Solomon Hotel, a registered metered customer was disconnected as a way of countermeasures because of no willingness to pay for arrear. But we suspect that the hotel reconnected 2 inches service pipe illegally just after the disconnection.

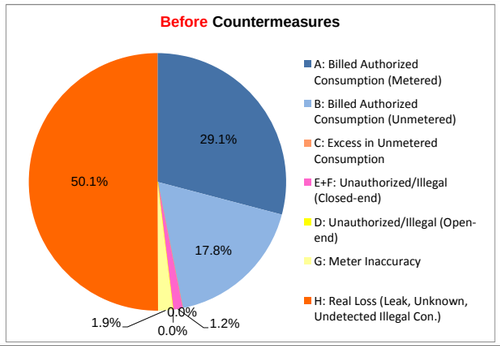
4 No. 5 Mbokonavera-1

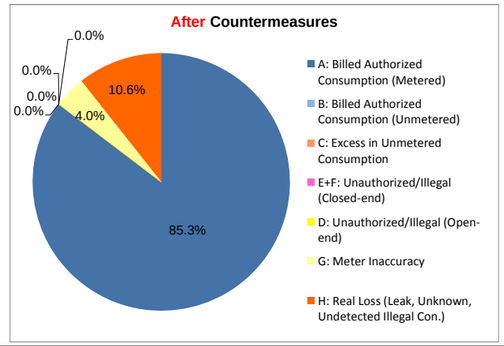
Connection Identification and Water Usage Clarification

Category of connection and other items				Before Countermeasures HH	Before Countermeasures Q (m3/d)	Before Countermeasures Remarks	After Countermeasures HH	After Countermeasures Q (m3/d)	After Countermeasures Remarks	Change in HH
Registered	Metered		A	34	51.94	Metered consumption	64	118.02	Metered consumption	30
	Unmetered/DL		B	30	31.80	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-30
		Open-end/Excess	C	(0)	0.00	Manually-measured flow (excess only)	(0)	0.00	Manually-measured flow (excess only)	0
Unregistered (Illegal)	Direct	Open-end	D	0	0.00	Manually-measured flow	0	0.00	Manually-measured flow	0
		Closed-end	E	2	2.12	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-2
	Indirect/Parasite	Closed-end	F	0	0.00	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	0
Meter Inaccuracy			G	-	3.32	6.00% Average inaccuracy	-	5.57	4.51% Average inaccuracy	
Real Loss	* incl. leak, unknown, undetected illegal con.		H	-	89.49	178.67 m3/d: SIV - (A to G)	-	14.72	138.32 m3/d: SIV - (A to G)	
Unconnection			I	10	-		12	-		2
Total Connection and System Input Volume (SIV)				**76**	**178.67**		**76**	**138.32**		0

Water Audit

Component				Before Countermeasures Q (m3/d)	Before Countermeasures Proportion			After Countermeasures Q (m3/d)	After Countermeasures Proportion			Change in Proportion
RW	Billed Authorized Consumption	Metered	A	51.94	29.1%	46.9%	**46.9%**	118.02	85.3%	85.3%	**85.3%**	**38.5**
		Unmetered	B	31.80	17.8%			0.00	0.0%			
NRW	Unbilled Authorized Consumption	Metered			0.0%	0.0%			0.0%	0.0%		
		Unmetered (Excess)	C	0.00	0.0%			0.00	0.0%			
	Apparent Losses	Unauthorized (Illegal) Closed-end	E+F	2.12	1.2%	3.0%	**53.1%**	0.00	0.0%	4.0%	**14.7%**	**-38.5**
		Open-end	D	0.00	0.0%			0.00	0.0%			
		Meter Inaccu. Meter	G	3.32	1.9%			5.57	4.0%			
	Real Losses	Leak, unknown, undetected illegal con.	H	89.49	50.1%	50.1%		14.72	10.6%	10.6%		
Total System Input Volume (SIV)				**178.67**	100.0%	100.0%	**100.0%**	**138.32**	100.0%	100.0%	**100.0%**	





Performance Indicators

Project Period: 1/8/2013 - 20/9/2013

Major Leakage Point (Nos)	13
Meter Replacement (Nos.)	32
Newly-installed Meter (Nos.)	30
Participant in Public Awareness	-
Distributed Awareness Pamphlet	73
Distributed Notification Letter	3
Newly/Re-Registered Household	0
Legalized Users	0
Disconnected Illegal Users	2
Eliminated Parasite Users	0
Disconnected Customers	0

Remarks

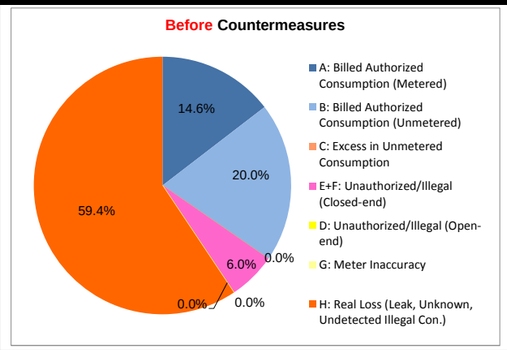
5 No. 14 Tuvaruhu-1

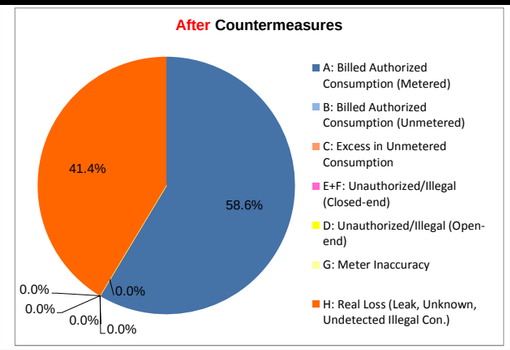
Connection Identification and Water Usage Clarification

Category of connection and other items				Before Countermeasures HH	Q (m3/d)	Remarks	After Countermeasures HH	Q (m3/d)	Remarks	Change in HH
Registered	Metered		A	18	15.44	Metered consumption	26	37.67	Metered consumption	8
	Unmetered/DL		B	20	21.20	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-20
		Open-end/Excess	C	(0)	0.00	Manually-measured flow (excess only)	(0)	0.00	Manually-measured flow (excess only)	0
Unregistered (Illegal)	Direct	Open-end	D	0	0.00	Manually-measured flow	0	0.00	Manually-measured flow	0
		Closed-end	E	6	6.36	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-6
	Indirect/Parasite	Closed-end	F	0	0.00	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	0
Meter Inaccuracy			G	-	0.00	0.02% Average inaccuracy	-	0.00	0.00% Average inaccuracy	
Real Loss	* incl. leak, unknown, undetected illegal con.		H	-	62.82	105.82 m3/d: SIV - (A to G)	-	26.59	64.26 m3/d: SIV - (A to G)	
Unconnection			I	3	-		21	-		18
Total Connection and System Input Volume (SIV)				**47**	**105.82**		**47**	**64.26**		0

Water Audit

Component				Before Countermeasures	Q (m3/d)	Proportion		After Countermeasures	Q (m3/d)	Proportion		Change in Proportion
RW	Billed Authorized Consumption	Metered	A	15.44	14.6%	34.6%	**34.6%**	A	37.67	58.6%	**58.6%**	**24.0**
		Unmetered	B	21.20	20.0%			B	0.00	0.0%		
NRW	Unbilled Authorized Consumption	Metered			0.0%	0.0%	**65.4%**			0.0%	**41.4%**	-24.0
		Unmetered (Excess)	C	0.00	0.0%			C	0.00	0.0%		
	Apparent Losses	Closed-end (Unauthorized (Illegal))	E+F	6.36	6.0%	6.0%		E+F	0.00	0.0%		
		Open-end	D	0.00	0.0%			D	0.00	0.0%		
		Meter Inaccu. Meter	G	0.00	0.0%			G	0.00	0.0%		
	Real Losses	Leak, unknown, undetected illegal con.	H	62.82	59.4%	59.4%		H	26.59	41.4%	41.4%	
Total System Input Volume (SIV)				**105.82**	100.0%	100.0%	**100.0%**		**64.26**	100.0%	100.0%	**100.0%**





Performance Indicators

Project Period:20/8/2013 - 10/10/2013

Major Leakage Point (Nos)	9
Meter Replacement (Nos.)	12
Newly-installed Meter (Nos.)	14
Participant in Public Awareness	-
Distributed Awareness Pamphlet	40
Distributed Notification Letter	
Newly/Re-Registered Household	2
Legalized Users	2
Disconnected Illegal Users	4
Eliminated Parasite Users	0
Disconnected Customers	16

Remarks

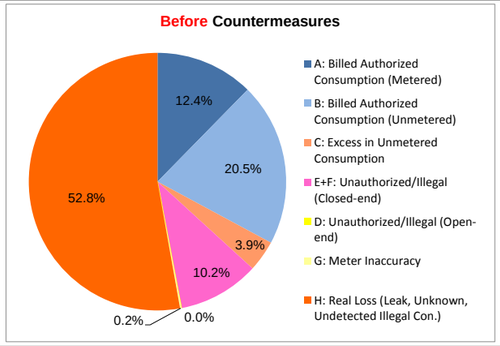
6 No. 15 Tuvaruhu-2

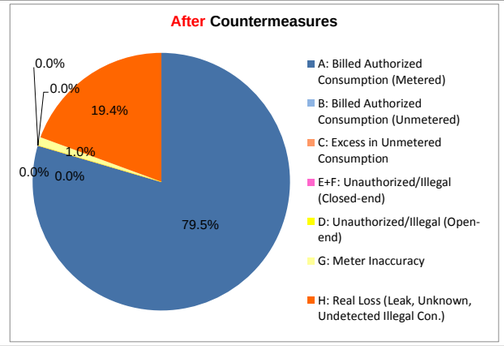
Connection Identification and Water Usage Clarification

Category of connection and other items				Before Countermeasures HH	Q (m3/d)	Remarks	After Countermeasures HH	Q (m3/d)	Remarks	Change in HH
Registered	Metered		A	19	14.07	Metered consumption	32	43.95	Metered consumption	13
	Unmetered/DL		B	22	23.32	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-22
		Open-end/Excess	C	(1)	4.46	Manually-measured flow (excess only)	(0)	0.00	Manually-measured flow (excess only)	1
Unregistered (Illegal)	Direct	Open-end	D	0	0.00	Manually-measured flow	0	0.00	Manually-measured flow	0
		Closed-end	E	11	11.66	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-11
	Indirect/Parasite	Closed-end	F	0	0.00	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	0
Meter Inaccuracy			G	-	0.21	1.49% Average inaccuracy	-	0.58	1.30% Average inaccuracy	
Real Loss	* incl. leak, unknown, undetected illegal con.		H	-	60.14	113.86 m3/d: SIV - (A to G)	-	10.72	55.25 m3/d: SIV - (A to G)	
Unconnection			I	10	-		30	-		20
Total Connection and System Input Volume (SIV)				**62**	**113.86**		**62**	**55.25**		0

Water Audit

Component				Before Countermeasures	Q (m3/d)	Proportion		After Countermeasures	Q (m3/d)	Proportion		Change in Proportion
RW	Billed Authorized Consumption	Metered	A	14.07	12.4%	32.8%	**32.8%**	A	43.95	79.5%	**79.5%**	**46.7**
		Unmetered	B	23.32	20.5%			B	0.00	0.0%		
NRW	Unbilled Authorized Consumption	Metered			0.0%	3.9%	**67.2%**			0.0%	**20.5%**	-46.7
		Unmetered (Excess)	C	4.46	3.9%			C	0.00	0.0%		
	Apparent Losses	Closed-end (Unauthorized (Illegal))	E+F	11.66	10.2%	10.4%		E+F	0.00	0.0%		
		Open-end	D	0.00	0.0%			D	0.00	0.0%		
		Meter Inaccu. Meter	G	0.21	0.2%			G	0.58	1.0%		
	Real Losses	Leak, unknown, undetected illegal con.	H	60.14	52.8%	52.8%		H	10.72	19.4%	19.4%	
Total System Input Volume (SIV)				**113.86**	100.0%	100.0%	**100.0%**		**55.25**	100.0%	100.0%	**100.0%**





Performance Indicators

Project Period:20/8/2013 - 10/10/2013

Major Leakage Point (Nos)	9
Meter Replacement (Nos.)	16
Newly-installed Meter (Nos.)	16
Participant in Public Awareness	-
Distributed Awareness Pamphlet	62
Distributed Notification Letter	11
Newly/Re-Registered Household	1
Legalized Users	3
Disconnected Illegal Users	8
Eliminated Parasite Users	0
Disconnected Customers	13

Remarks

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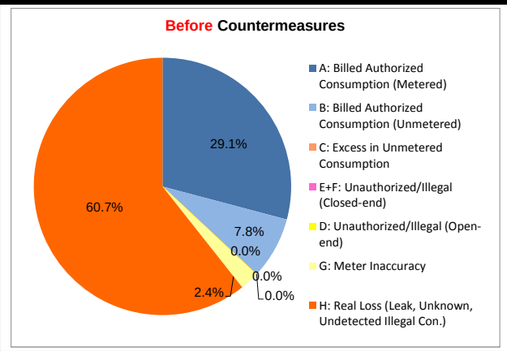
7 No. 6 Vavaea Ridge

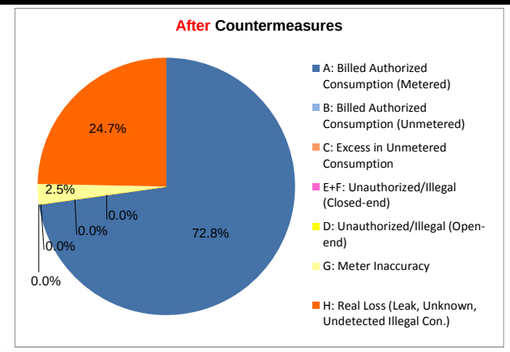
Connection Identification and Water Usage Clarification

Category of connection and other items				Before Countermeasures HH	Q (m3/d)	Remarks	After Countermeasures HH	Q (m3/d)	Remarks	Change in HH
Registered	Metered		A	57	146.35	Metered consumption	93	361.96	Metered consumption	36
	Unmetered/DL		B	37	39.22	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-37
		Open-end/Excess	C	(0)	0.00	Manually-measured flow (excess only)	(0)	0.00	Manually-measured flow (excess only)	0
Unregistered (Illegal)	Direct	Open-end	D	0	0.00	Manually-measured flow	0	0.00	Manually-measured flow	0
		Closed-end	E	0	0.00	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	0
	Indirect/Parasite	Closed-end	F	0	0.00	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	0
Meter Inaccuracy			G	-	12.07	7.62% Average inaccuracy	-	12.66	3.38% Average inaccuracy	
Real Loss	* incl. leak, unknown, undetected illegal con.		H	-	304.71	502.35 m3/d: SIV - (A to G)	-	122.85	497.47 m3/d: SIV - (A to G)	
Unconnection			I	69	-		70	-		1
Total Connection and System Input Volume (SIV)				**163**	**502.35**		**163**	**497.47**		0

Water Audit

Component				Before Countermeasures	Q (m3/d)	Proportion		After Countermeasures	Q (m3/d)	Proportion		Change in Proportion
RW	Billed Authorized Consumption	Metered	A	146.35	29.1%	36.9%	**36.9%**	A	361.96	72.8%	**72.8%**	**35.8**
		Unmetered	B	39.22	7.8%			B	0.00	0.0%		
NRW	Unbilled Authorized Consumption	Metered			0.0%	0.0%	**63.1%**			0.0%	**27.2%**	-35.8
		Unmetered (Excess)	C	0.00	0.0%			C	0.00	0.0%		
	Apparent Losses	Closed-end (Unauthorized (Illegal))	E+F	0.00	0.0%	2.4%		E+F	0.00	0.0%		
		Open-end	D	0.00	0.0%			D	0.00	0.0%		
		Meter Inaccu. Meter	G	12.07	2.4%			G	12.66	2.5%		
	Real Losses	Leak, unknown, undetected illegal con.	H	304.71	60.7%	60.7%		H	122.85	24.7%	24.7%	
Total System Input Volume (SIV)				**502.35**	100.0%	100.0%	**100.0%**		**497.47**	100.0%	100.0%	**100.0%**





Performance Indicators

Project Period: 9/9/2013 - 7/11/2013

Major Leakage Point (Nos)	11
Meter Replacement (Nos.)	57
Newly-installed Meter (Nos.)	36
Participant in Public Awareness	-
Distributed Awareness Pamphlet	163
Distributed Notification Letter	0
Newly/Re-Registered Household	8
Legalized Users	0
Disconnected Illegal Users	0
Eliminated Parasite Users	0
Disconnected Customers	9

Remarks

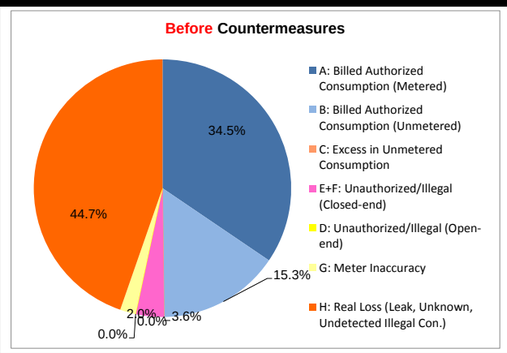
8 No.4 Mbokona

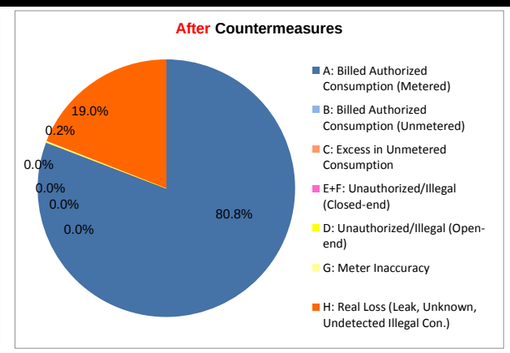
Connection Identification and Water Usage Clarification

Category of connection and other items				Before Countermeasures HH	Q (m3/d)	Remarks	After Countermeasures HH	Q (m3/d)	Remarks	Change in HH
Registered	Metered		A	45	42.80	Metered consumption	86	134.37	Metered consumption	41
	Unmetered/DL		B	43	18.99	0.44 m3/HH/d	0	0.00	1.06 m3/HH/d	-43
		Open-end/Excess	C	(0)	0.00	Manually-measured flow (excess only)	(0)	0.00	Manually-measured flow (excess only)	0
Unregistered (Illegal)	Direct	Open-end	D	0	0.00	Manually-measured flow	0	0.00	Manually-measured flow	0
		Closed-end	E	10	4.42	0.44 m3/HH/d	0	0.00	1.06 m3/HH/d	-10
	Indirect/Parasite	Closed-end	F	0	0.00	0.44 m3/HH/d	0	0.00	1.06 m3/HH/d	
Meter Inaccuracy			G	-	2.45	5.42% Average inaccuracy	-	0.26	0.19% Average inaccuracy	
Real Loss	* incl. leak, unknown, undetected illegal con.		H	-	55.44	124.10 m3/d: SIV - (A to G)	-	31.61	166.24 m3/d: SIV - (A to G)	
Unconnection			I	12			24			12
Total Connection and System Input Volume (SIV)				**110**	**124.10**		**110**	**166.24**		0

Water Audit

Component				Before Countermeasures	Q (m3/d)	Proportion		After Countermeasures	Q (m3/d)	Proportion		Change in Proportion
RW	Billed Authorized Consumption	Metered	A	42.80	34.5%	49.8%	**49.8%**	A	134.37	80.8%	**80.8%**	**31.0**
		Unmetered	B	18.99	15.3%			B	0.00	0.0%		
NRW	Unbilled Authorized Consumption	Metered			0.0%	0.0%	**50.2%**			0.0%	**19.2%**	-31.0
		Unmetered (Excess)	C	0.00	0.0%			C	0.00	0.0%		
	Apparent Losses	Closed-end (Unauthorized (Illegal))	E+F	4.42	3.6%	5.5%		E+F	0.00	0.0%		
		Open-end	D	0.00	0.0%			D	0.00	0.0%	0.2%	
		Meter Inaccu. Meter	G	2.45	2.0%			G	0.26	0.2%		
	Real Losses	Leak, unknown, undetected illegal con.	H	55.44	44.7%	44.7%		H	31.61	19.0%	19.0%	
Total System Input Volume (SIV)				**124.10**	100.0%	100.0%	**100.0%**		**166.24**	100.0%	100.0%	**100.0%**





Performance Indicators

Project Period:7/10/2013 - 18/12/2013

Major Leakage Point (Nos)	25
Meter Replacement (Nos.)	28
Newly-installed Meter (Nos.)	45
Participant in Public Awareness	-
Distributed Awareness Pamphlet	110
Distributed Notification Letter	8
Newly/Re-Registered Household	6
Legalized Users	5
Disconnected Illegal Users	5
Eliminated Parasite Users	0
Disconnected Customers	13

Remarks

Note:
In night time only, 10 hours suppy to D/L users who stay in higher
In night time only, 10 hours suppy to illegal users who stay in higher

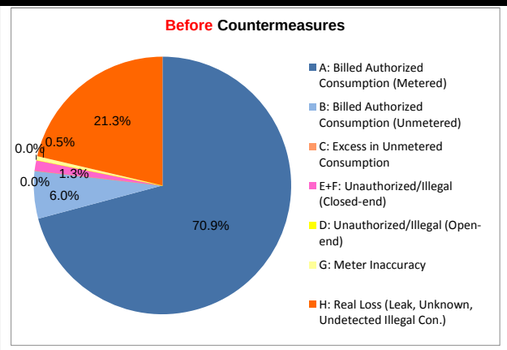
9 No.8 Mbaranamba

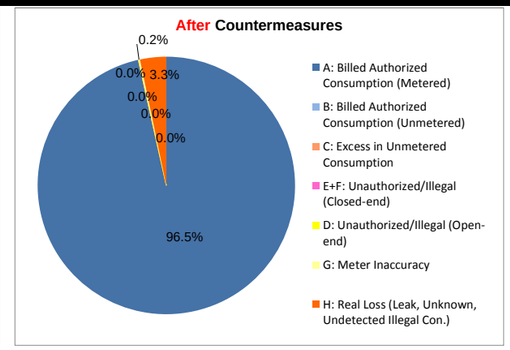
Connection Identification and Water Usage Clarification

Category of connection and other items				Before Countermeasures HH	Q (m3/d)	Remarks	After Countermeasures HH	Q (m3/d)	Remarks	Change in HH
Registered	Metered		A	69	112.95	Metered consumption	80	123.25	Metered consumption	11
	Unmetered/DL		B	9	9.54	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-9
		Open-end/Excess	C	(0)	0.00	Manually-measured flow (excess only)	(0)	0.00	Manually-measured flow (excess only)	0
Unregistered (Illegal)	Direct	Open-end	D	0	0.00	Manually-measured flow	0	0.00	Manually-measured flow	0
		Closed-end	E	2	2.12	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-2
	Indirect/Parasite	Closed-end	F	0	0.00	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	0
Meter Inaccuracy			G	-	0.78	0.69% Average inaccuracy	-	0.23	0.19% Average inaccuracy	
Real Loss	* incl. leak, unknown, undetected illegal con.		H	-	34.00	159.40 m3/d: SIV - (A to G)	-	4.21	127.69 m3/d: SIV - (A to G)	
Unconnection			I	20	-		20	-		0
Total Connection and System Input Volume (SIV)				**100**	**159.40**		**100**	**127.69**		0

Water Audit

Component				Before Countermeasures	Q (m3/d)	Proportion			After Countermeasures	Q (m3/d)	Proportion			Change in Proportion
RW	Billed Authorized Consumption	Metered	A		112.95	70.9%	76.8%	**76.8%**	A	123.25	96.5%	96.5%	**96.5%**	**19.7**
		Unmetered	B		9.54	6.0%			B	0.00	0.0%			
NRW	Unbilled Authorized Consumption	Metered				0.0%	0.0%	**23.2%**			0.0%	0.0%	**3.5%**	-19.7
		Unmetered (Excess)	C		0.00	0.0%			C	0.00	0.0%			
	Apparent Losses (Illegal)	Closed-end	E+F		2.12	1.3%	1.8%		E+F	0.00	0.0%	0.2%		
		Open-end	D		0.00	0.0%			D	0.00	0.0%			
		Meter Inaccu.	G		0.78	0.5%			G	0.23	0.2%			
	Real Losses	Leak, unknown, undetected illegal con.	H		34.00	21.3%	21.3%		H	4.21	3.3%	3.3%		
Total System Input Volume (SIV)					**159.40**	100.0%	100.0%	**100.0%**		**127.69**	100.0%	100.0%	**100.0%**	





Performance Indicators

Project Period:7/11/2013 - 4/1/2014

Major Leakage Point (Nos)	12
Meter Replacement (Nos.)	39
Newly-installed Meter (Nos.)	11
Participant in Public Awareness	-
Distributed Awareness Pamphlet	98
Distributed Notification Letter	2
Newly/Re-Registered Household	0
Legalized Users	2
Disconnected Illegal Users	0
Eliminated Parasite Users	0
Disconnected Customers	0

Remarks

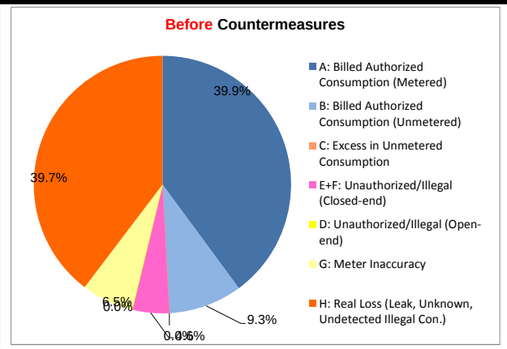
10 No.2 Mbua Valley

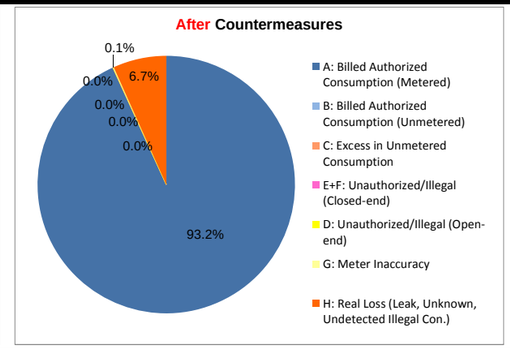
Connection Identification and Water Usage Clarification

Category of connection and other items				Before Countermeasures HH	Q (m3/d)	Remarks	After Countermeasures HH	Q (m3/d)	Remarks	Change in HH
Registered	Metered		A	67	118.64	Metered consumption	100	213.45	Metered consumption	33
	Unmetered/DL		B	26	27.56	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-26
		Open-end/Excess	C	(0)	0.00	Manually-measured flow (excess only)	(0)	0.00	Manually-measured flow (excess only)	0
Unregistered (Illegal)	Direct	Open-end	D	0	0.00	Manually-measured flow	0	0.00	Manually-measured flow	0
		Closed-end	E	13	13.78	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-13
	Indirect/Parasite	Closed-end	F	0	0.00	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	0
Meter Inaccuracy			G	-	19.44	14.08% Average inaccuracy	-	0.19	0.09% Average inaccuracy	
Real Loss	* incl. leak, unknown, undetected illegal con.		H	-	118.07	297.5 m3/d: SIV - (A to G)	-	15.36	229 m3/d: SIV - (A to G)	
Unconnection			I	16	-		22	-		6
Total Connection and System Input Volume (SIV)				**122**	**297.50**		**122**	**229.00**		0

Water Audit

Component				Before Countermeasures	Q (m3/d)	Proportion			After Countermeasures	Q (m3/d)	Proportion			Change in Proportion
RW	Billed Authorized Consumption	Metered	A		118.64	39.9%	49.1%	**49.1%**	A	213.45	93.2%	93.2%	**93.2%**	**44.1**
		Unmetered	B		27.56	9.3%			B	0.00	0.0%			
NRW	Unbilled Authorized Consumption	Metered				0.0%	0.0%	**50.9%**			0.0%	0.0%	**6.8%**	-44.1
		Unmetered (Excess)	C		0.00	0.0%			C	0.00	0.0%			
	Apparent Losses (Illegal)	Closed-end	E+F		13.78	4.6%	11.2%		E+F	0.00	0.0%	0.1%		
		Open-end	D		0.00	0.0%			D	0.00	0.0%			
		Meter Inaccu.	G		19.44	6.5%			G	0.19	0.1%			
	Real Losses	Leak, unknown, undetected illegal con.	H		118.07	39.7%	39.7%		H	15.36	6.7%	6.7%		
Total System Input Volume (SIV)					**297.50**	100.0%	100.0%	**100.0%**		**229.00**	100.0%	100.0%	**100.0%**	





Performance Indicators

Project Period: 20/ 01 /2014 - 17 / 07 /20

Major Leakage Point (Nos)	18
Meter Replacement (Nos.)	58
Newly-installed Meter (Nos.)	34
Participant in Public Awareness	-
Distributed Awareness Pamphlet	93
Distributed Notification Letter	13
Newly/Re-Registered Household	1
Legalized Users	7
Disconnected Illegal Users	6
Eliminated Parasite Users	0
Disconnected Customers	1

Remarks

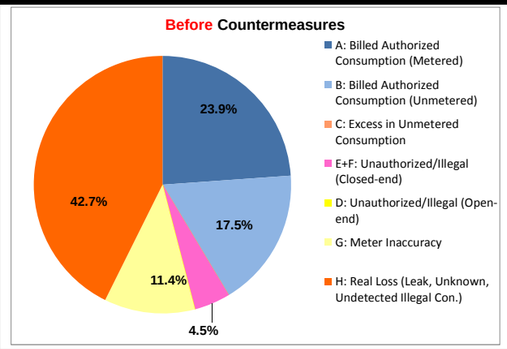
11 No.11 Bahai Kukum

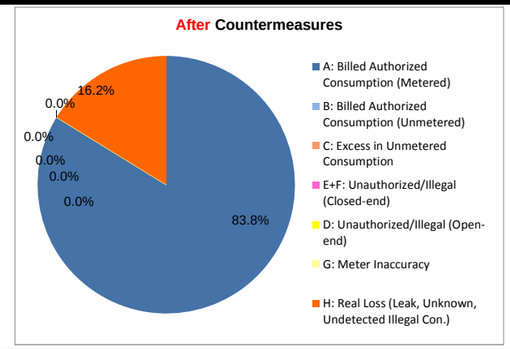
Connection Identification and Water Usage Clarification

Category of connection and other items				Before Countermeasures HH	Q (m3/d)	Remarks	After Countermeasures HH	Q (m3/d)	Remarks	Change in HH
Registered	Metered		A	61	77.93	Metered consumption	97	201.01	Metered consumption	36
	Unmetered/DL		B	54	57.24	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-54
		Open-end/Excess	C	(0)	0.00	Manually-measured flow (excess only)	(0)	0.00	Manually-measured flow (excess only)	0
Unregistered (Illegal)	Direct	Open-end	D	0	0.00	Manually-measured flow	0	0.00	Manually-measured flow	0
		Closed-end	E	14	14.84	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-14
	Indirect/Parasite	Closed-end	F	0	0.00	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	0
Meter Inaccuracy			G	-	37.22	32.32% Average inaccuracy	-	0.00	0.00% Average inaccuracy	
Real Loss	* incl. leak, unknown, undetected illegal con.		H	-	139.37	326.6 m3/d: SIV - (A to G)	-	38.93	239.94 m3/d: SIV - (A to G)	
Unconnection			I	53	-		85	-		32
Total Connection and System Input Volume (SIV)				**182**	**326.60**		**182**	**239.94**		0

Water Audit

Component				Before Countermeasures	Q (m3/d)	Proportion			After Countermeasures	Q (m3/d)	Proportion			Change in Proportion
RW	Billed Authorized Consumption	Metered	A		77.93	23.9%	41.4%	**41.4%**	A	201.01	83.8%	83.8%	**83.8%**	**42.4**
		Unmetered	B		57.24	17.5%			B	0.00	0.0%			
NRW	Unbilled Authorized Consumption	Metered				0.0%	0.0%	**58.6%**			0.0%	0.0%	**16.2%**	-42.4
		Unmetered (Excess)	C		0.00	0.0%			C	0.00	0.0%			
	Apparent Losses (Illegal)	Closed-end	E+F		14.84	4.5%	15.9%		E+F	0.00	0.0%	0.0%		
		Open-end	D		0.00	0.0%			D	0.00	0.0%			
		Meter Inaccu.	G		37.22	11.4%			G	0.00	0.0%			
	Real Losses	Leak, unknown, undetected illegal con.	H		139.37	42.7%	42.7%		H	38.93	16.2%	16.2%		
Total System Input Volume (SIV)					**326.60**	100.0%	100.0%	**100.0%**		**239.94**	100.0%	100.0%	**100.0%**	





Performance Indicators

Project Period: / /2014 - / /2014

Major Leakage Point (Nos)	18
Meter Replacement (Nos.)	53
Newly-installed Meter (Nos.)	44
Participant in Public Awareness	-
Distributed Awareness Pamphlet	115
Distributed Notification Letter	14
Newly/Re-Registered Household	1
Legalized Users	8
Disconnected Illegal Users	6
Eliminated Parasite Users	0
Disconnected Customers	27

Remarks

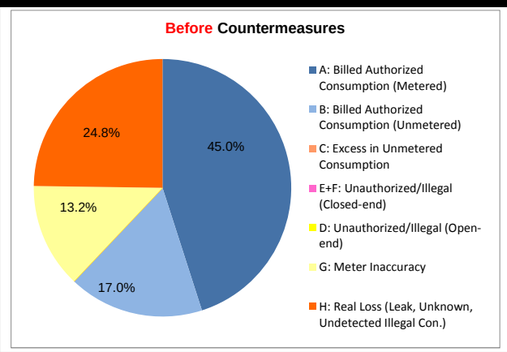
12 No.7 Panatina Valley

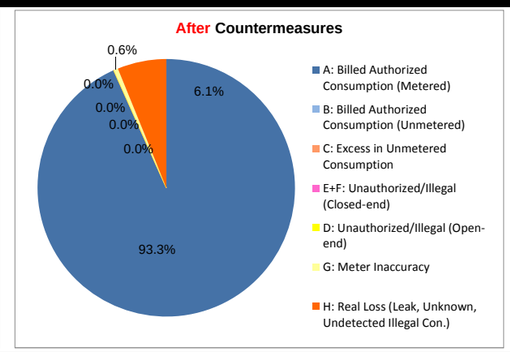
Connection Identification and Water Usage Clarification

Category of connection and other items				Before Countermeasures HH	Q (m3/d)	Remarks	After Countermeasures HH	Q (m3/d)	Remarks	Change in HH
Registered	Metered		A	36	42.06	Metered consumption	50	103.66	Metered consumption	14
	Unmetered/DL		B	15	15.90	1.06 m3/HH/d 12 hrs only supply	0	0.00	1.06 m3/HH/d	-15
		Open-end/Excess	C	(0)	0.00	Manually-measured flow (excess only)	(0)	0.00	Manually-measured flow (excess only)	0
Unregistered (Illegal)	Direct	Open-end	D	0	0.00	Manually-measured flow	0	0.00	Manually-measured flow	0
		Closed-end	E	0	0.00	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	0
	Indirect/Parasite	Closed-end	F	0	0.00	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	0
Meter Inaccuracy			G	-	12.29	22.61% Average inaccuracy	-	0.62	0.59% Average inaccuracy	
Real Loss	* incl. leak, unknown, undetected illegal con.		H	-	23.14	93.396 m3/d: SIV - (A to G)	-	6.82	111.089 m3/d: SIV - (A to G)	
Unconnection			I	9	-		10	-		1
Total Connection and System Input Volume (SIV)				**60**	**93.40**	3.8915	**60**	**111.09**		0

Water Audit

Component				Before Countermeasures	Q (m3/d)	Proportion			After Countermeasures	Q (m3/d)	Proportion			Change in Proportion
RW	Billed Authorized Consumption	Metered	A		42.06	45.0%	62.1%	**62.1%**	A	103.66	93.3%	93.3%	**93.3%**	**31.2**
		Unmetered	B		15.90	17.0%			B	0.00	0.0%			
NRW	Unbilled Authorized Consumption	Metered				0.0%	0.0%	**37.9%**			0.0%	0.0%	**6.7%**	-31.2
		Unmetered (Excess)	C		0.00	0.0%			C	0.00	0.0%			
	Apparent Losses (Illegal)	Closed-end	E+F		0.00	0.0%	13.2%		E+F	0.00	0.0%	0.6%		
		Open-end	D		0.00	0.0%			D	0.00	0.0%			
		Meter Inaccu.	G		12.29	13.2%			G	0.62	0.6%			
	Real Losses	Leak, unknown, undetected illegal con.	H		23.14	24.8%	24.8%		H	6.82	6.1%	6.1%		
Total System Input Volume (SIV)					**93.40**	100.0%	100.0%	**100.0%**		**111.09**	100.0%	100.0%	**100.0%**	





Performance Indicators

Project Period: / /2014 - / /2014

Major Leakage Point (Nos)	3
Meter Replacement (Nos.)	35
Newly-installed Meter (Nos.)	15
Participant in Public Awareness	-
Distributed Awareness Pamphlet	51
Distributed Notification Letter	-
Newly/Re-Registered Household	0
Legalized Users	0
Disconnected Illegal Users	0
Eliminated Parasite Users	0
Disconnected Customers	1

Remarks

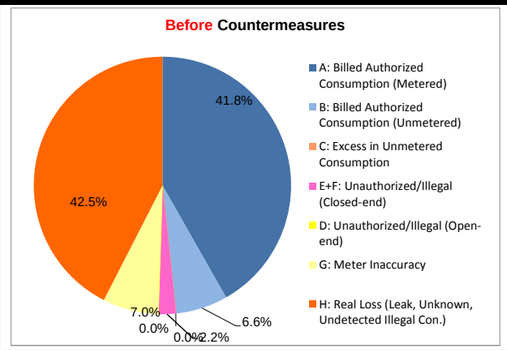
13 No.12 Naha-2

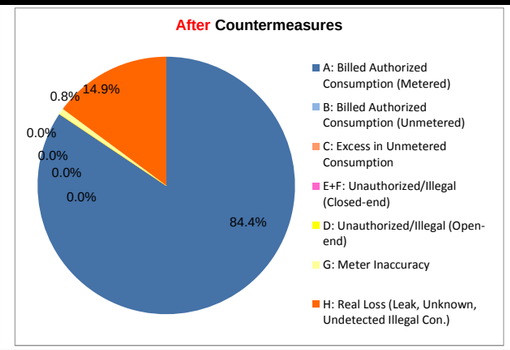
Connection Identification and Water Usage Clarification

Category of connection and other items				Before Countermeasures HH	Q (m3/d)	Remarks	After Countermeasures HH	Q (m3/d)	Remarks	Change in HH
Registered	Metered		A	36	40.48	Metered consumption	42	63.96	Metered consumption	6
	Unmetered/DL		B	6	6.36	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-6
		Open-end/Excess	C	(0)	0.00	Manually-measured flow (excess only)	(0)	0.00	Manually-measured flow (excess only)	0
Unregistered (Illegal)	Direct	Open-end	D	0	0.00	Manually-measured flow	0	0.00	Manually-measured flow	0
		Closed-end	E	2	2.12	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-2
	Indirect/Parasite	Closed-end	F	0	0.00	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	0
Meter Inaccuracy			G	-	6.81	14.40% Average inaccuracy	-	0.57	0.89% Average inaccuracy	
Real Loss	* incl. leak, unknown, undetected illegal con.		H	-	41.16	96.932 m3/d: SIV - (A to G)	-	11.26	75.8 m3/d: SIV - (A to G)	
Unconnection			I	13	-		15	-		2
Total Connection and System Input Volume (SIV)				**57**	**96.93**		**57**	**75.80**		0

Water Audit

Component				Before Countermeasures Q (m3/d)	Proportion			After Countermeasures Q (m3/d)	Proportion			Change in Proportion
RW	Billed Authorized Consumption	Metered	A	40.48	41.8%	48.3%	**48.3%**	63.96	84.4%	84.4%	**84.4%**	**36.1**
		Unmetered	B	6.36	6.6%			0.00	0.0%			
NRW	Unbilled Authorized Consumption	Metered			0.0%	0.0%	**51.7%**		0.0%	0.0%	**15.6%**	**-36.1**
		Unmetered (Excess)	C	0.00	0.0%			0.00	0.0%			
	Apparent Losses (Unauthorized (Illegal))	Closed-end	E+F	2.12	2.2%	9.2%		0.00	0.0%	0.8%		
		Open-end	D	0.00	0.0%			0.00	0.0%			
		Meter Inaccu.	G	6.81	7.0%			0.57	0.8%			
	Real Losses	Leak, unknown, undetected illegal con.	H	41.16	42.5%	42.5%		11.26	14.9%	14.9%		
Total System Input Volume (SIV)				**96.93**	100.0%	100.0%	**100.0%**	**75.80**	100.0%	100.0%	**100.0%**	





Performance Indicators

Project Period: / /2014 - / /2014

Major Leakage Point (Nos)	2
Meter Replacement (Nos.)	36
Newly-installed Meter (Nos.)	6
Participant in Public Awareness	50
Distributed Awareness Pamphlet	52
Distributed Notification Letter	2
Newly/Re-Registered Household	0
Legalized Users	0
Disconnected Illegal Users	2
Eliminated Parasite Users	0
Disconnected Customers	0

Remarks

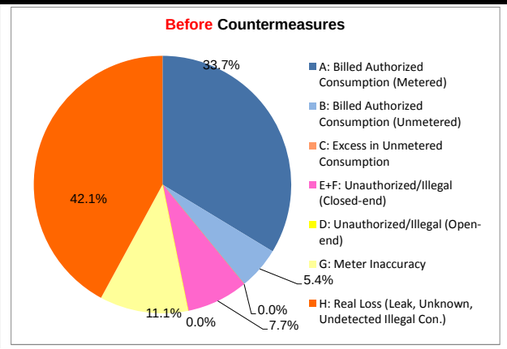
14 No.13 Naha-3

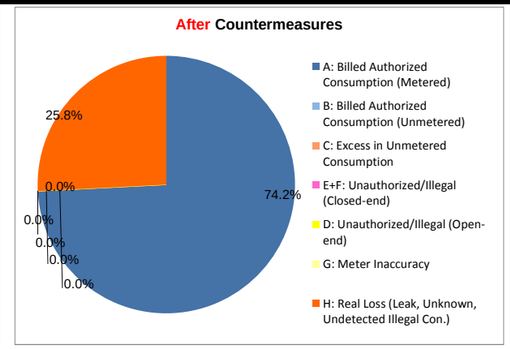
Connection Identification and Water Usage Clarification

Category of connection and other items				Before Countermeasures HH	Q (m3/d)	Remarks	After Countermeasures HH	Q (m3/d)	Remarks	Change in HH
Registered	Metered		A	48	46.22	Metered consumption	56	65.88	Metered consumption	8
	Unmetered/DL		B	7	7.42	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-7
		Open-end/Excess	C	(0)	0.00	Manually-measured flow (excess only)	(0)	0.00	Manually-measured flow (excess only)	0
Unregistered (Illegal)	Direct	Open-end	D	0	0.00	Manually-measured flow	0	0.00	Manually-measured flow	0
		Closed-end	E	10	10.60	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-10
	Indirect/Parasite	Closed-end	F	0	0.00	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	0
Meter Inaccuracy			G	-	15.27	24.83% Average inaccuracy	-	0.01	0.02% Average inaccuracy	
Real Loss	* incl. leak, unknown, undetected illegal con.		H	-	57.79	137.3 m3/d: SIV - (A to G)	-	22.91	88.8 m3/d: SIV - (A to G)	
Unconnection			I	2	-		11	-		9
Total Connection and System Input Volume (SIV)				**67**	**137.30**	5.7208333	**67**	**88.80**		0

Water Audit

Component				Before Countermeasures Q (m3/d)	Proportion			After Countermeasures Q (m3/d)	Proportion			Change in Proportion
RW	Billed Authorized Consumption	Metered	A	46.22	33.7%	39.1%	**39.1%**	65.88	74.2%	74.2%	**74.2%**	**35.1**
		Unmetered	B	7.42	5.4%			0.00	0.0%			
NRW	Unbilled Authorized Consumption	Metered			0.0%	0.0%	**60.9%**		0.0%	0.0%	**25.8%**	**-35.1**
		Unmetered (Excess)	C	0.00	0.0%			0.00	0.0%			
	Apparent Losses (Unauthorized (Illegal))	Closed-end	E+F	10.60	7.7%	18.8%		0.00	0.0%	0.0%		
		Open-end	D	0.00	0.0%			0.00	0.0%			
		Meter Inaccu.	G	15.27	11.1%			0.01	0.0%			
	Real Losses	Leak, unknown, undetected illegal con.	H	57.79	42.1%	42.1%		22.91	25.8%	25.8%		
Total System Input Volume (SIV)				**137.30**	100.0%	100.0%	**100.0%**	**88.80**	100.0%	100.0%	**100.0%**	





Performance Indicators

Project Period: / /2014 - / /2014

Major Leakage Point (Nos)	10
Meter Replacement (Nos.)	46
Newly-installed Meter (Nos.)	9
Participant in Public Awareness	50
Distributed Awareness Pamphlet	55
Distributed Notification Letter	10
Newly/Re-Registered Household	0
Legalized Users	2
Disconnected Illegal Users	8
Eliminated Parasite Users	0
Disconnected Customers	1

Remarks

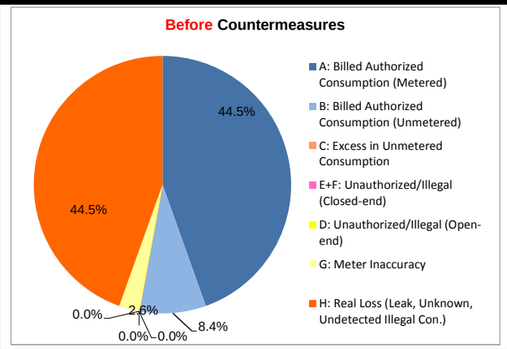
15 No.1 FFA Kola Road

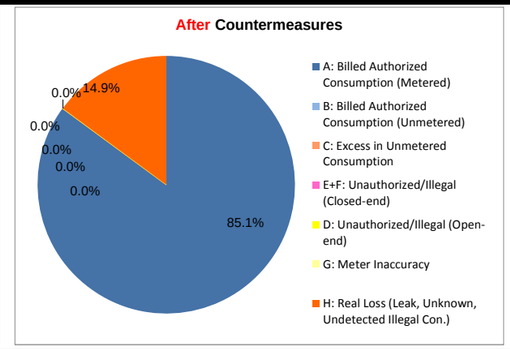
Connection Identification and Water Usage Clarification

Category of connection and other items				Before Countermeasures HH	Q (m3/d)	Remarks	After Countermeasures HH	Q (m3/d)	Remarks	Change in HH
Registered	Metered		A	53	95.73	Metered consumption	64	149.77	Metered consumption	11
	Unmetered/DL		B	17	18.02	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-17
		Open-end/Excess	C	(0)	0.00	Manually-measured flow (excess only)	(0)	0.00	Manually-measured flow (excess only)	0
Unregistered (Illegal)	Direct	Open-end	D	0	0.00	Manually-measured flow	0	0.00	Manually-measured flow	0
		Closed-end	E	0	0.00	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	0
	Indirect/Parasite	Closed-end	F	0	0.00	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	0
Meter Inaccuracy			G	-	5.49	5.42% Average inaccuracy	-	0.01	0.01% Average inaccuracy	
Real Loss	* incl. leak, unknown, undetected illegal con.		H	-	95.76	215 m3/d: SIV - (A to G)	-	26.20	175.983 m3/d: SIV - (A to G)	
Unconnection			I	12	-		18	-		6
Total Connection and System Input Volume (SIV)				**82**	**215.00**		**82**	**175.98**		0

Water Audit

Component				Before Countermeasures Q (m3/d)	Proportion			After Countermeasures Q (m3/d)	Proportion			Change in Proportion
RW	Billed Authorized Consumption	Metered	A	95.73	44.5%	52.9%	**52.9%**	149.77	85.1%	85.1%	**85.1%**	**32.2**
		Unmetered	B	18.02	8.4%			0.00	0.0%			
NRW	Unbilled Authorized Consumption	Metered			0.0%	0.0%	**47.1%**		0.0%	0.0%	**14.9%**	**-32.2**
		Unmetered (Excess)	C	0.00	0.0%			0.00	0.0%			
	Apparent Losses (Unauthorized (Illegal))	Closed-end	E+F	0.00	0.0%	2.6%		0.00	0.0%	0.0%		
		Open-end	D	0.00	0.0%			0.00	0.0%			
		Meter Inaccu.	G	5.49	2.6%			0.01	0.0%			
	Real Losses	Leak, unknown, undetected illegal con.	H	95.76	44.5%	44.5%		26.20	14.9%	14.9%		
Total System Input Volume (SIV)				**215.00**	100.0%	100.0%	**100.0%**	**175.98**	100.0%	100.0%	**100.0%**	





Performance Indicators

Project Period: / /2014 - / /2014

Major Leakage Point (Nos)	5
Meter Replacement (Nos.)	49
Newly-installed Meter (Nos.)	13
Participant in Public Awareness	
Distributed Awareness Pamphlet	78
Distributed Notification Letter	2
Newly/Re-Registered Household	0
Legalized Users	0
Disconnected Illegal Users	0
Eliminated Parasite Users	0
Disconnected Customers	6

Remarks

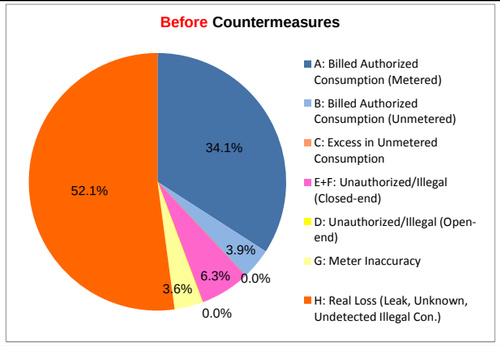
3 No. 3 Lenggakiki (Re-test)

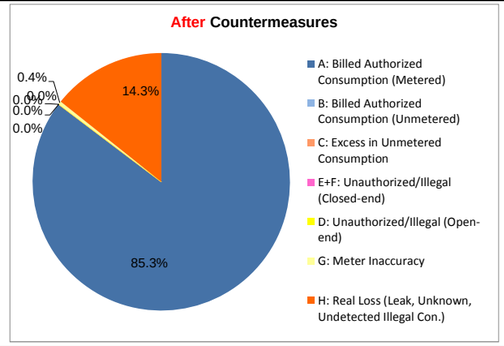
Connection Identification and Water Usage Clarification

Category of connection and other items				Before Countermeasures HH	Q (m3/d)	Remarks	After Countermeasures HH	Q (m3/d)	Remarks	Change in HH
Registered	Metered		A	93	201.57	Metered consumption	120	301.56	Metered consumption	27
	Unmetered/DL		B	22	23.32	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-22
		Open-end/Excess	C	(0)	0.00	Manually-measured flow (excess only)	(0)	0.00	Manually-measured flow (excess only)	0
Unregistered (Illegal)	Direct	Open-end	D	0	0.00	Manually-measured flow	0	0.00	Manually-measured flow	0
		Closed-end	E	6	6.36	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-6
	Indirect/Parasite	Closed-end	F	29	30.74	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-29
Meter Inaccuracy			G	-	21.06	9.46% Average inaccuracy	-	1.45	0.48% Average inaccuracy	
Real Loss	* incl. leak, unknown, undetected illegal con.		H	-	308.41	591.46 m3/d: SIV - (A to G)	-	50.49	353.5 m3/d: SIV - (A to G)	
Unconnection			I	11	-		41	-		30
Total Connection and System Input Volume (SIV)				**161**	**591.46**		**161**	**353.50**		0

Water Audit

Component				Before Countermeasures Q (m3/d)	Proportion			After Countermeasures Q (m3/d)	Proportion			Change in Proportion
RW	Billed Authorized Consumption	Metered	A	201.57	34.1%	38.0%	**38.0%**	301.56	85.3%	85.3%	**85.3%**	**47.3**
		Unmetered	B	23.32	3.9%			0.00	0.0%			
NRW	Unbilled Authorized Consumption	Metered			0.0%	0.0%	**62.0%**		0.0%	0.0%	**14.7%**	**-47.3**
		Unmetered (Excess)	C	0.00	0.0%			0.00	0.0%			
	Apparent Losses (Unauthorized (Illegal))	Closed-end	E+F	37.10	6.3%	9.8%		0.00	0.0%	0.4%		
		Open-end	D	0.00	0.0%			0.00	0.0%			
		Meter Inaccu.	G	21.06	3.6%			1.45	0.4%			
	Real Losses	Leak, unknown, undetected illegal con.	H	308.41	52.1%	52.1%		50.49	14.3%	14.3%		
Total System Input Volume (SIV)				**591.46**	100.0%	100.0%	**100.0%**	**353.50**	100.0%	100.0%	**100.0%**	





Performance Indicators

Project Period: 1/6/2013 - 31/8/2013

Major Leakage Point (Nos)	31
Meter Replacement (Nos.)	89
Newly-installed Meter (Nos.)	29
Participant in Public Awareness	-
Distributed Awareness Pamphlet	153
Distributed Notification Letter	4
Newly/Re-Registered Household	6
Legalized Users	1
Disconnected Illegal Users	5
Eliminated Parasite Users	29
Disconnected Customers	2

Remarks

King Solomon Hotel, a registered metered customer was disconnected as a way of countermeasures because of no willingness to pay for arrear. But we suspect that the hotel reconnected 2 inches service pipe illegally just after the disconnection.

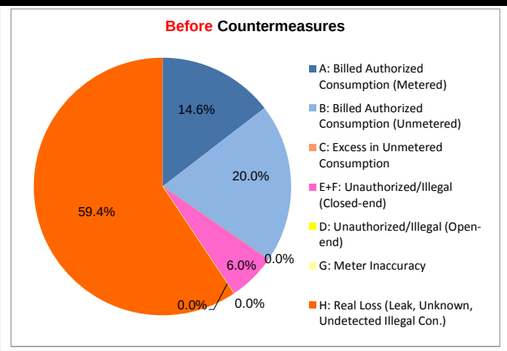
5 No. 14 Tuvaruhu-1 (Re-test)

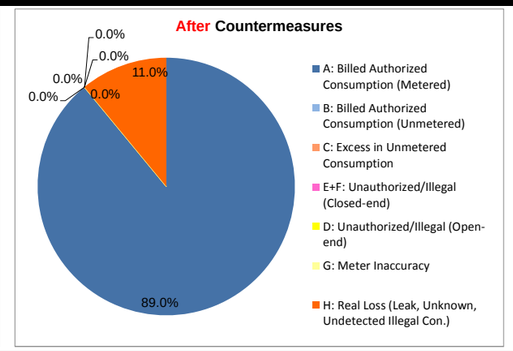
Connection Identification and Water Usage Clarification

Category of connection and other items				Before Countermeasures HH	Q (m3/d)	Remarks	After Countermeasures HH	Q (m3/d)	Remarks	Change in HH
Registered	Metered		A	18	15.44	Metered consumption	28	41.83	Metered consumption	10
	Unmetered/DL		B	20	21.20	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-20
		Open-end/Excess	C	(0)	0.00	Manually-measured flow (excess only)	(0)	0.00	Manually-measured flow (excess only)	0
Unregistered (Illegal)	Direct	Open-end	D	0	0.00	Manually-measured flow	0	0.00	Manually-measured flow	0
		Closed-end	E	6	6.36	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-6
	Indirect/Parasite	Closed-end	F	0	0.00	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	0
Meter Inaccuracy			G	-	0.00	0.02% Average inaccuracy	-	0.00	0.00% Average inaccuracy	
Real Loss	* incl. leak, unknown, undetected illegal con.		H	-	62.82	105.82 m3/d: SIV - (A to G)	-	5.15	46.98 m3/d: SIV - (A to G)	
Unconnection			I	4	-		20	-		16
Total Connection and System Input Volume (SIV)				**48**	**105.82**		**48**	**46.98**		0

Water Audit

Component				Before Countermeasures Q (m3/d)	Proportion			After Countermeasures Q (m3/d)	Proportion			Change in Proportion
RW	Billed Authorized Consumption	Metered	A	15.44	14.6%	34.6%	**34.6%**	41.83	89.0%	89.0%	**89.0%**	**54.4**
		Unmetered	B	21.20	20.0%			0.00	0.0%			
NRW	Unbilled Authorized Consumption	Metered			0.0%	0.0%	**65.4%**		0.0%	0.0%	**11.0%**	-54.4
		Unmetered (Excess)	C	0.00	0.0%			0.00	0.0%			
	Apparent Losses	Unauthorized (Illegal) Closed-end	E+F	6.36	6.0%	6.0%		0.00	0.0%	0.0%		
		Open-end	D	0.00	0.0%			0.00	0.0%			
		Meter Inaccu. Meter	G	0.00	0.0%			0.00	0.0%			
	Real Losses	Leak, unknown, undetected illegal con.	H	62.82	59.4%	59.4%		5.15	11.0%	11.0%		
Total System Input Volume (SIV)				**105.82**	100.0%	100.0%	**100.0%**	**46.98**	100.0%	100.0%	**100.0%**	





Performance Indicators

Project Period:20/8/2013 - 10/10/2013

Major Leakage Point (Nos)	9
Meter Replacement (Nos.)	11
Newly-installed Meter (Nos.)	16
Participant in Public Awareness	-
Distributed Awareness Pamphlet	40
Distributed Notification Letter	
Newly/Re-Registered Household	3
Legalized Users	3
Disconnected Illegal Users	3
Eliminated Parasite Users	0
Disconnected Customers	16

Remarks

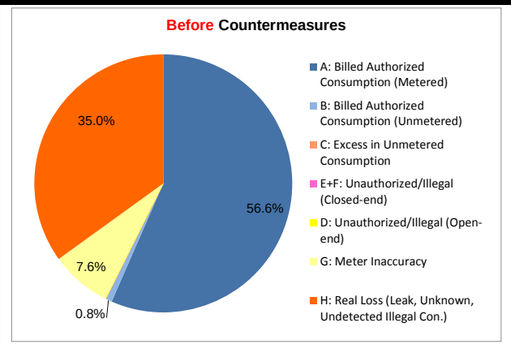
1 No.10 Lenggakiki DMA

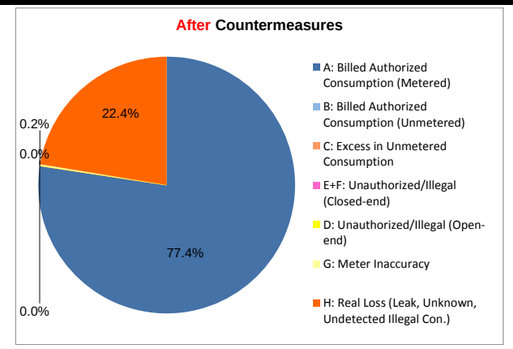
Connection Identification and Water Usage Clarification

Category of connection and other items				Before Countermeasures HH	Q (m3/d)	Remarks	After Countermeasures HH	Q (m3/d)	Remarks	Change in HH
Registered	Metered		A	204	440.56	Metered consumption	210	629.54	Metered consumption	6
	Unmetered/DL		B	6	6.36	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-6
		Open-end/Excess	C	(0)	0.00	Manually-measured flow (excess only)	(0)	0.00	Manually-measured flow (excess only)	0
Unregistered (Illegal)	Direct	Open-end	D	0	0.00	Manually-measured flow	0	0.00	Manually-measured flow	0
		Closed-end	E	0	0.00	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d *See the remarks.	0
	Indirect/Parasite	Closed-end	F	0	0.00	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	0
Meter Inaccuracy			G	-	59.57	11.91% Average inaccuracy	-	1.58	0.25% Average inaccuracy	
Real Loss	* incl. leak, unknown, undetected illegal con.		H	-	272.41	778.9 m3/d: SIV - (A to G)	-	182.19	813.3 m3/d: SIV - (A to G)	
Unconnection			I	5	-		5	-		0
Total Connection and System Input Volume (SIV)				**215**	**778.90**		**215**	**813.30**		0

Water Audit

Component				Before Countermeasures Q (m3/d)	Proportion			After Countermeasures Q (m3/d)	Proportion			Change in Proportion	Change in HH
RW	Billed Authorized Consumption	Metered	A	440.56	56.6%	57.4%	**57.4%**	629.54	77.4%	77.4%	**77.4%**	**20.0**	
		Unmetered	B	6.36	0.8%			0.00	0.0%				
NRW	Unbilled Authorized Consumption	Metered			0.0%	0.0%			0.0%	0.0%			
		Unmetered (Excess)	C	0.00	0.0%			0.00	0.0%				
	Apparent Losses	Closed-end	E+F	0.00	0.0%	7.6%	**42.6%**	0.00	0.0%	0.2%	**22.6%**	**-20.0**	
		Open-end	D	0.00	0.0%			0.00	0.0%				
		Meter Inaccu.	G	59.57	7.6%			1.58	0.2%				
	Real Losses	Leak, unknown, undetected illegal con.	H	272.41	35.0%	35.0%		182.19	22.4%	22.4%			
Total System Input Volume (SIV)				**778.90**	100.0%	100.0%	**100.0%**	**813.30**	100.0%	100.0%	**100.0%**		





Performance Indicators

Project Period: 1/3/2013- 10/7/2013

Leakage from Main & Service (Nos)	13
Meter Replacement (Nos.)	69
Newly-installed Meter (Nos.)	6
Participant in Public Awareness	50
Distributed Awareness Pamphlet	-
Distributed Notification Letter	11
Newly/Re-Registered Household	0
Legalized Users	0
Disconnected Illegal Users	0
Eliminated Parasite Users	0
Disconnected Customers	0

Remarks

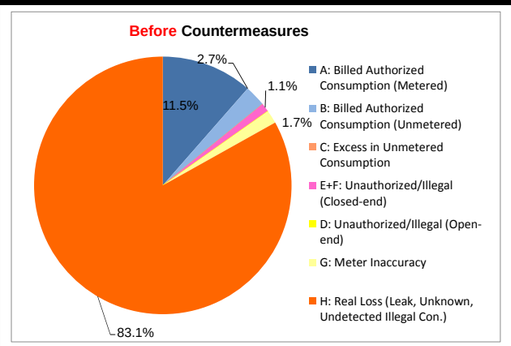
2 No.06 Tasahe A&B DMA without PRV

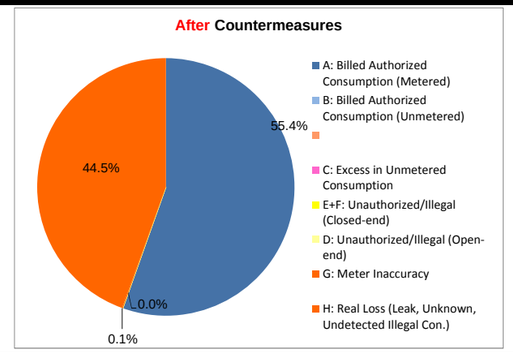
Connection Identification and Water Usage Clarification

Category of connection and other items				Before Countermeasures HH	Q (m3/d)	Remarks	After Countermeasures HH	Q (m3/d)	Remarks	Change in HH
Registered	Metered		A	112	195.86	Metered consumption	151	366.04	Metered consumption	39
	Unmetered/DL		B	43	45.58	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-43
		Open-end/Excess	C	(0)	0.00	Manually-measured flow (excess only)	(0)	0.00	Manually-measured flow (excess only)	0
Unregistered (Illegal)	Direct	Open-end	D	0	0.00	Manually-measured flow	0	0.00	Manually-measured flow	0
		Closed-end	E	17	18.02	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-17
	Indirect/Parasite	Closed-end	F	0	0.00	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	0
Meter Inaccuracy			G	-	29.01	12.90% Average inaccuracy	-	0.75	0.20% Average inaccuracy	
Real Loss	* incl. leak, unknown, undetected illegal con.		H	-	1,417.53	1706 m3/d: SIV - (A to G)	-	293.66	660.45435 m3/d: SIV - (A to G)	
Unconnection			I	30	-		51	-		21
Total Connection and System Input Volume (SIV)				**202**	**1,706.00**		**202**	**660.45**		0

Water Audit

Component				Before Countermeasures Q (m3/d)	Proportion			After Countermeasures Q (m3/d)	Proportion			Change in Proportion	Change in HH
RW	Billed Authorized Consumption	Metered	A	195.86	11.5%	14.2%	**14.2%**	366.04	55.4%	55.4%	**55.4%**	**41.3**	
		Unmetered	B	45.58	2.7%			0.00	0.0%				
NRW	Unbilled Authorized Consumption	Metered			0.0%	0.0%			0.0%	0.0%			
		Unmetered (Excess)	C	0.00	0.0%			0.00	0.0%				
	Apparent Losses	Closed-end	E+F	18.02	1.1%	2.8%	**85.8%**	0.00	0.0%	0.1%	**44.6%**	**-41.3**	
		Open-end	D	0.00	0.0%			0.00	0.0%				
		Meter Inaccu.	G	29.01	1.7%			1.69	0.1%				
	Real Losses	Leak, unknown, undetected illegal con.	H	1,417.53	83.1%	83.1%		293.66	44.5%	44.5%			
Total System Input Volume (SIV)				**1,706.00**	100.0%	100.0%	**100.0%**	**660.45**	100.0%	100.0%	**100.0%**		





Performance Indicators

Project Period: 20/4/2013 - 20/7/2013

Leakage from Main & Service (Nos)	24
Meter Replacement (Nos.)	40
Newly-installed Meter (Nos.)	44
Participant in Public Awareness	-
Distributed Awareness Pamphlet	131
Distributed Notification Letter	22
Newly/Re-Registered Household	0
Legalized Users	5
Disconnected Illegal Users	12
Eliminated Parasite Users	0
Disconnected Customers	9

Remarks

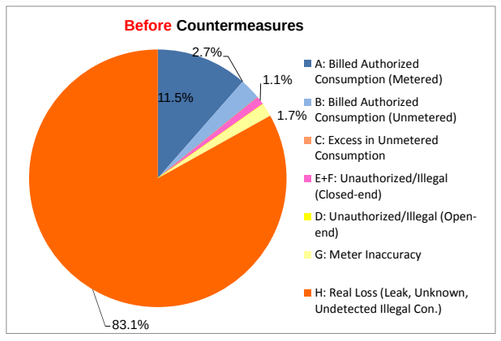
2 No.06 Tasahe A&B DMA with PRV

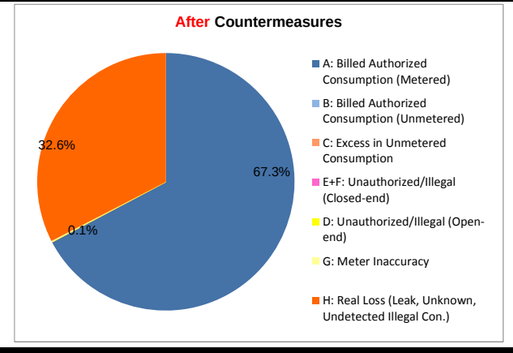
Connection Identification and Water Usage Clarification

Category of connection and other items				Before Countermeasures HH	Q (m3/d)	Remarks	After Countermeasures HH	Q (m3/d)	Remarks	Change in HH
Registered	Metered		A	112	195.86	Metered consumption	179	372.38	Metered consumption	67
	Unmetered/DL		B	43	45.58	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-43
		Open-end/Excess	C	(0)	0.00	Manually-measured flow (excess only)	(0)	0.00	Manually-measured flow (excess only)	0
Unregistered (Illegal)	Direct	Open-end	D	0	0.00	Manually-measured flow	0	0.00	Manually-measured flow	0
		Closed-end	E	17	18.02	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-17
	Indirect/Parasite	Closed-end	F	0	0.00	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	0
Meter Inaccuracy			G	-	29.01	12.90% Average inaccuracy	-	0.76	0.20% Average inaccuracy	
Real Loss	* incl. leak, unknown, undetected illegal con.		H	-	1,417.53	1706 m3/d: SIV - (A to G)	-	180.49	553.63 m3/d: SIV - (A to G)	
Unconnection			I	30	-		51	-		21
Total Connection and System Input Volume (SIV)				**202**	**1,706.00**		**230**	**553.63**		28

Water Audit

Component				Before Countermeasures Q (m3/d)	Proportion			After Countermeasures Q (m3/d)	Proportion			Change in Proportion	Change in HH
RW	Billed Authorized Consumption	Metered	A	195.86	11.5%	14.2%	**14.2%**	372.38	67.3%	67.3%	**67.3%**	**53.1**	
		Unmetered	B	45.58	2.7%			0.00	0.0%				
NRW	Unbilled Authorized Consumption	Metered			0.0%	0.0%			0.0%	0.0%			
		Unmetered (Excess)	C	0.00	0.0%			0.00	0.0%				
	Apparent Losses	Closed-end	E+F	18.02	1.1%	2.8%	**85.8%**	0.00	0.0%	0.1%	**32.7%**	**-53.1**	
		Open-end	D	0.00	0.0%			0.00	0.0%				
		Meter Inaccu.	G	29.01	1.7%			0.76	0.1%				
	Real Losses	Leak, unknown, undetected illegal con.	H	1,417.53	83.1%	83.1%		180.49	32.6%	32.6%			
Total System Input Volume (SIV)				**1,706.00**	100.0%	100.0%	**100.0%**	**553.63**	100.0%	100.0%	**100.0%**		





Performance Indicators

Project Period: 20/4/2013 - 20/7/2013

Leakage from Main & Service (Nos)	24
Meter Replacement (Nos.)	40
Newly-installed Meter (Nos.)	72
Participant in Public Awareness	-
Distributed Awareness Pamphlet	131
Distributed Notification Letter	22
Newly/Re-Registered Household	0
Legalized Users	5
Disconnected Illegal Users	12
Eliminated Parasite Users	0
Disconnected Customers	9

Remarks

3 No.17 West Kola Ridge A DMA

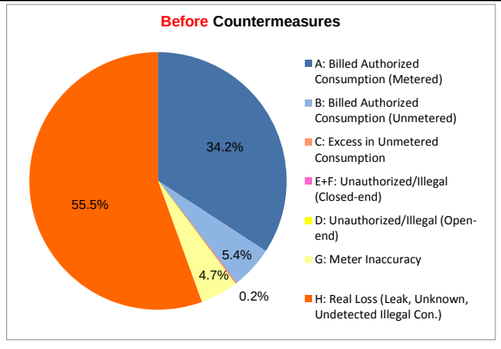
Connection Identification and Water Usage Clarification

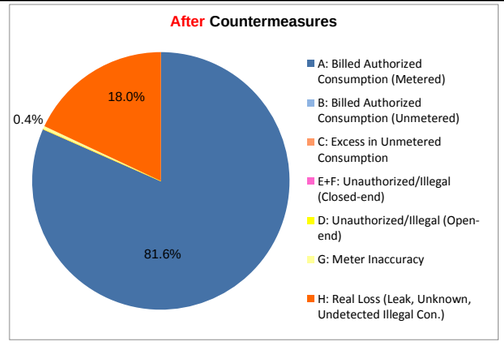
Category of connection and other items				Before Countermeasures HH	Q (m3/d)	Remarks	After Countermeasures HH	Q (m3/d)	Remarks	Change in HH
Registered	Metered		A	178	221.38	Metered consumption	198	350.41	Metered consumption	20
	Unmetered/DL		B	33	34.98	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-33
		Open-end/Excess	C	(0)	0.00	Manually-measured flow (excess only)	(0)	0.00	Manually-measured flow (excess only)	0
Unregistered (Illegal)	Direct	Open-end	D	0	0.00	Manually-measured flow	0	0.00	Manually-measured flow	0
		Closed-end	E	1	1.06	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-1
	Indirect/Parasite	Closed-end	F	0	0.00	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	0
Meter Inaccuracy			G	-	30.62	12.15% Average inaccuracy	-	1.69	0.48% Average inaccuracy	
Real Loss	* incl. leak, unknown, undetected illegal con.		H	-	359.81	647.85 m3/d: SIV - (A to G)(5757.85-511	-	77.30	429.4 m3/d: SIV - (A to G)	
Unconnection			I	13	-		27	-		14
Total Connection and System Input Volume (SIV)				**225**	**647.85**		**225**	**429.40**		0

Water Audit

99.948055 4.1645023

Component				Before Countermeasures Q (m3/d)	Proportion			After Countermeasures Q (m3/d)	Proportion			Change in Proportion	Change in HH
RW	Billed Authorized Consumption	Metered	A	221.38	34.2%	39.6%	**39.6%**	350.41	81.6%	81.6%	**81.6%**	**42.0**	
		Unmetered	B	34.98	5.4%			0.00	0.0%				
NRW	Unbilled Authorized Consumption	Metered			0.0%	0.0%			0.0%	0.0%			
		Unmetered (Excess)	C	0.00	0.0%			0.00	0.0%				
	Apparent Losses	Closed-end	E+F	1.06	0.2%	4.9%	**60.4%**	0.00	0.0%	0.4%	**18.4%**	**-42.0**	
		Open-end	D	0.00	0.0%			0.00	0.0%				
		Meter Inaccu.	G	30.62	4.7%			1.69	0.4%				
	Real Losses	Leak, unknown, undetected illegal con.	H	359.81	55.5%	55.5%		77.30	18.0%	18.0%			
Total System Input Volume (SIV)				**647.85**	100.0%	100.0%	**100.0%**	**429.40**	100.0%	100.0%	**100.0%**		





Performance Indicators

Project Period: 1/6/2013 - 31/8/2013

Leakage from Main & Service (Nos)	16
Meter Replacement (Nos.)	56
Newly-installed Meter (Nos.)	36
Participant in Public Awareness	-
Distributed Awareness Pamphlet	153
Distributed Notification Letter	4
Newly/Re-Registered Household	5
Legalized Users	1
Disconnected Illegal Users	0
Eliminated Parasite Users	0
Disconnected Customers	19

Remarks

4 No.7 Tasahe C DMA

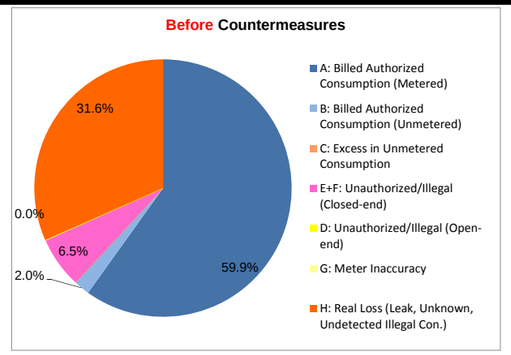
Connection Identification and Water Usage Clarification

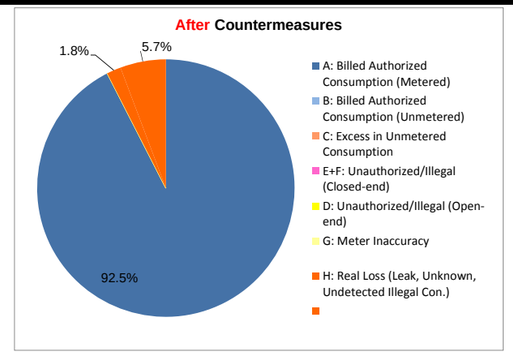
Category of connection and other items				Before Countermeasures HH	Q (m3/d)	Remarks	After Countermeasures HH	Q (m3/d)	Remarks	Change in HH
Registered	Metered		A	140	284.86	Metered consumption	179	376.33	Metered consumption	39
	Unmetered/DL		B	9	9.54	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-9
		Open-end/Excess	C	(0)	0.00	Manually-measured flow (excess only)	(0)	0.00	Manually-measured flow (excess only)	0
Unregistered (Illegal)	Direct	Open-end	D	0	0.00	Manually-measured flow	0	0.00	Manually-measured flow	0
		Closed-end	E	29	30.74	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	-29
	Indirect/Parasite	Closed-end	F	0	0.00	1.06 m3/HH/d	0	0.00	1.06 m3/HH/d	0
Meter Inaccuracy			G	-	0.14	0.05% Average inaccuracy	-	7.29	1.90% Average inaccuracy	
Real Loss	* incl. leak, unknown, undetected illegal con.		H	-	150.42	475.7 m3/d: SIV - (A to G)(475.70-307.3	-	23.39	407 m3/d: SIV - (A to G)	
Unconnection			I	9	-		8	-		-1
Total Connection and System Input Volume (SIV)				**187**	**475.70**		**187**	**407.00**		0

Water Audit

41.783084 1.7409618

Component				Before Countermeasures Q (m3/d)	Proportion			After Countermeasures Q (m3/d)	Proportion			Change in Proportion
RW	Billed Authorized Consumption	Metered	A	284.86	59.9%	61.9%	**61.9%**	376.33	92.5%	92.5%	**92.5%**	**30.6**
		Unmetered	B	9.54	2.0%			0.00	0.0%			
NRW	Unbilled Authorized Consumption	Metered		-	0.0%	0.0%	**38.1%**		0.0%	0.0%	**7.5%**	-30.6
		Unmetered (Excess)	C	0.00	0.0%			0.00	0.0%			
	Apparent Losses (Illegal)	Unauthorized Closed-end	E+F	30.74	6.5%	6.5%		0.00	0.0%	1.8%		
		Open-end	D	0.00	0.0%			0.00	0.0%			
		Meter Inaccu. Meter inaccuracy	G	0.14	0.0%			7.29	1.8%			
	Real Losses	Leak, unknown, undetected illegal con.	H	150.42	31.6%	31.6%		23.39	5.7%	5.7%		
Total System Input Volume (SIV)				**475.70**	100.0%	100.0%	**100.0%**	**407.00**	100.0%	100.0%	**100.0%**	





Performance Indicators

Project Period: 21/7/2015 -31 /11/2015

Leakage from Main & Service (Nos)	31
Meter Replacement (Nos.)	33
Newly-installed Meter (Nos.)	23
Participant in Public Awareness	-
Distributed Awareness Pamphlet	183
Distributed Notification Letter	29
Newly/Re-Registered Household	3
Legalized Users	27
Disconnected Illegal Users	2
Eliminated Parasite Users	0
Disconnected Customers	0

Remarks

第 7 章　成果-4 の活動:「検針・料金請求に係る管理手法が改善される。」

S7.1-1 標準手順書（SOP）

-検針および請求チーム

Standard of Procedure

- Meter Reading & Billing Team -

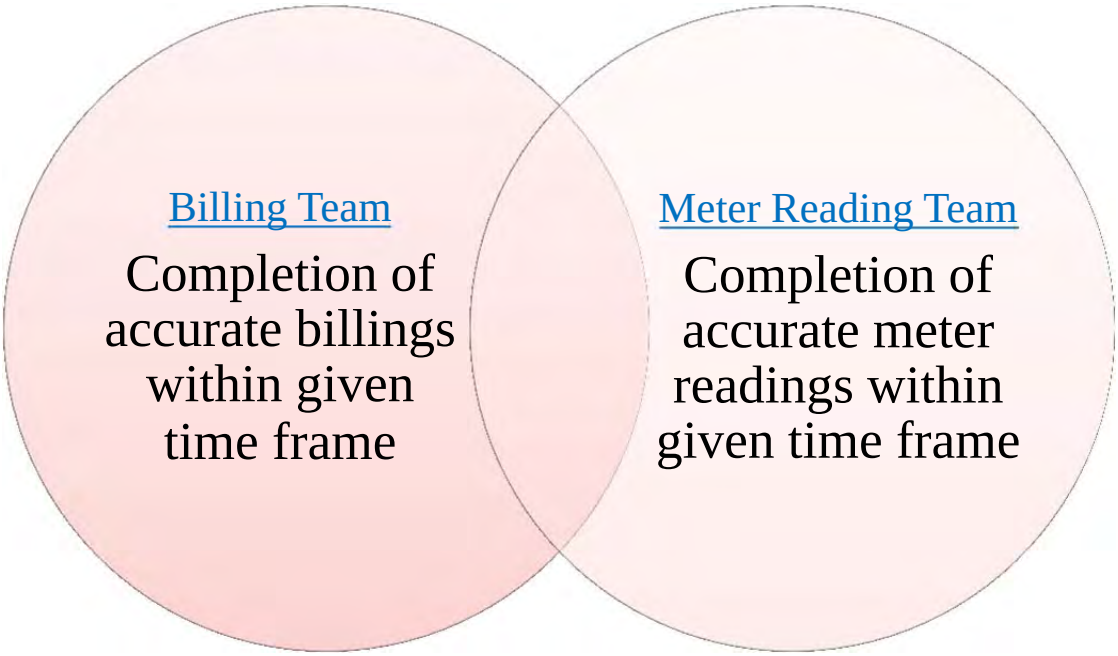
We are the Front Liners!

We work for customers, we care for customers

- Table of Contents -

1. Mission

2. Responsibility



3. Scope of works

(1) Meter Reading Team

Leader

- Time and quality control of entire reading activities

1. Preparation of monthly assignment schedule of meter readers.
2. Preparation of monthly meter replacement schedule.
3. Provision of necessary transportation (vehicles) for meter readers.
4. Proper management of handheld devices (proper storage of devices and charging of batteries).
5. Uploading of reading data by zone into the NCS. ＊
6. Updating of data (replaced meter IDs and readings) in the NCS.
7. Report to the Accountant weekly progress and monthly achievement of readings activities.
8. Control and monitoring of meter reader's daily tasks (performance) and monthly progress of reading activities.

＊ In case of her absence, the leader of billing team is authorized to do the work.

Meter Readers

- Completion of meter readings in assigned zones within given time frame

≪Accounts with water meter≫

1. Conducting of meter readings.
2. Informing of current units and water charges.
3. Informing of sudden increase/decrease in water consumption.
4. Checking of water meters whether they are working properly or not.
5. Checking of leaks.
6. Delivery of invoices to customers who have no P.O.

7. Encouraging customers to pay their unpaid bills.
8. Other PR activities (water conservation, new water tariff and water outage etc.).

≪Accounts with direct connection≫

1. Checking of leaks.
2. Delivery of invoices to customers who have no P.O.
3. Encouraging customers to pay their unpaid bills.
4. Notifying customers to install water meter.
5. Other PR activities (water conservation, new water tariff and water outage etc.).

≪Others≫

1. Confirming of the status of "D" & "V" customers.
2. Identifying of illegal connections.

(2) Billing Team

Leader

- Time and quality control of entire billing activities

1. Preparation of monthly billing schedule.
2. Final checking of Pbr, which are checked and printed out by billing clerks.
3. Final checking of invoices, which are checked and printed out by billing clerks.
4. Final checking of updated data in the NCS by billing clerks.
5. Updating of information of individual accounts in the NCS before rollover.
6. Report to the Accountant weekly progress and monthly achievement of billings activities.
7. Control and monitoring of Billing Clark's daily tasks and monthly progress of billing against monthly billing schedule.

Billing Clerks

- Completion of sending out of invoices within given time frame

1. Printing and checking of Pbr and give instructions to meter readers for re-checks, if necessary.
2. Updating of data (illegal connections to be reactivated and the status of "D" and "V" customers) in the NCS.
3. Creation of new accounts for all stations (Honiara, Auki, Tulagi & Noro).
4. Printing and sending out of invoices to domestic customers.
5. Printing and delivery of invoices to government and commercial customers.
6. Customer care activities (answering of reading and billing and water tariff inquiries from customers).

4. Monthly Schedule of Reading & Billing Activities

Monthly Schedule of Activities for Readings & Billings

for March, 2013

Date		Meter Reading	Billing
1	Fri	Start of readings	Printing & checking of Pbr
2	Sat		
3	Sun		
4	Mon	Start of re-checks	Preparation of invoices
5	Tue		
6	Wed		
7	Thr		
8	Fri		Send ... f invoices
9	Sat		
10	Sun		
11	Mon		Preparation of invoices
12	Tue		
13	Wed		
14	Thu		
15	Fri		Send ... f invoices
16	Sat		
17	Sun		
18	Mon		Preparation of invoices
19	Tue		
20	Wed		
21	Thu	d of reading including re-... s (within 15 business days)	End of printi... & checki... Pbr
22	Fri		End of send ... f invoices
23	Sat		
24	Sun		
25	Mon		
26	Tue		
27	Wed		
28	Thu		
29	Fri		
30	Sat		
31	Sun		Rollover

Number of business days can be adjusted based on number of meters and the length of month

- Left over works should be done in this period.
- OJT activities for new meter readers can be done in this period.

- Left over works should be done in this period.
- OJT activities for new billing clerks can be done in this period.

5. Monthly Tasks Procedure

(1) Meter Reading Team

Leader

* By the end of every month, prepare meter reader's assignment schedule and meter replacement schedule for the following month.
* At the end of month, prepare monthly report *(see attachment 1, as an example of reporting from)* to Accountant regarding the achievement of reading activities.

Meter Readers

* Once they received monthly assignment schedule from the leader (in the first day of the month), prepare their own strategic reading route for the timely completion of assigned readings. The reading route can be adjusted in consultation with the leader whenever necessary.

(2) Billing Team

Leader

* By the end of every month, prepare billing schedule for the following month.
* At the end of month, prepare monthly report *(see attachment 2, as an example of reporting form)* to Accountant.
* Implementation of "roll over" for the next month.

Billing Clarks

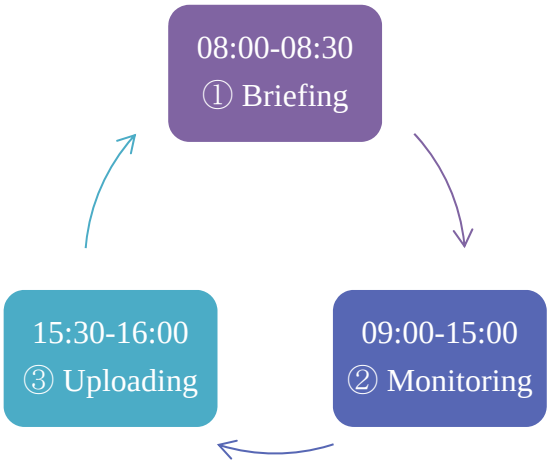
* Final print and update for suspended accounts.
* Print any outstanding zones.
* Folding invoice and update.
* Boxing the invoices in the separate envelopes for hand delivery to the companies: airline, SINPF, SIEA, SI Ports, Police, MHMS, Hotels, Banks, etc.
* Before the roll over, cycle audit all responsible zones.
* Sending out of bills (weekly)

6. Daily Tasks Procedure

Interrelation of the two teams

(1) Meter Reading Team

Leader



① Briefing

- Prepation of handheld divices
- Confirmation of vehicle arrangement for meter readers
- Brefing regarding special notes of customers and changes in assignment schedule

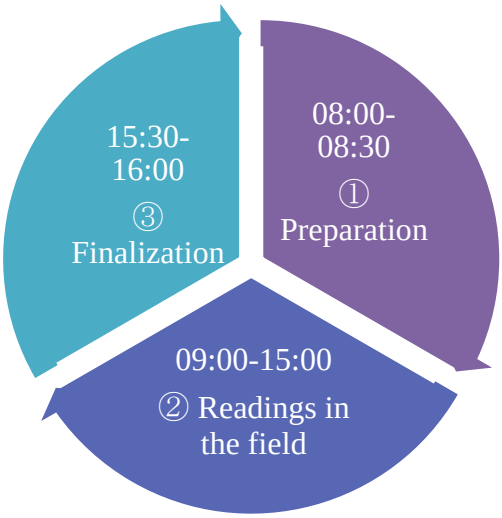
② Monitoring

- Reporting to the Accountant regarding the progress of reading activities on weekly and monthly basis
- Making necessary coordinations / sharing of information with concerned divisions/teams
- Taking necessary acitons and instructions when problems in the field are reported

③ Uploading

- Printing of notes in handheld device, which was taken by meter readers in the field
- Uploading of reading data by zone into the NCS
- Before billing team prints out the uploaded data in the NCS, update the data (meter IDs, defective meters, leaks, irrigal connecftions) based on the notes taken by meter readers
- Reporting to Accountant regarding issues requires immediate actions

Meter Readers



① Preparation

- Preparation of handheld device
- Checking of appearance (ID, uniforms, etc)
- Reviewing of customer data (billing/paymant status) those who are visited one day

② Readings

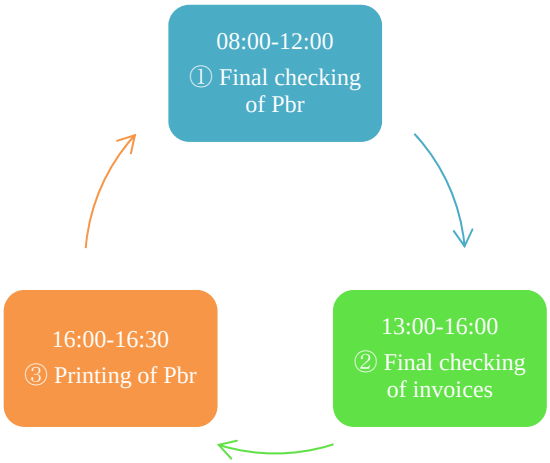
- Readings
- Notifying to the direct connetions customers for meter installation
- Checking of meters and leaks
- Communication with customers (including PR activities)
- Delivery of invoices (no P.O.)
- Confirmation of "D" & "V" customers status
- Identification of illegal connections

③ Finalization

- Handing-over the handheld devices to leader for charging and proper storages
- Reporting to leader regarding reading data and defective meters, meter IDs, leaks, illegal connections
- Reporting to billing team status of "D"&"V" customers
- Filling out of "Performance Sheet"

(2) Billing Team

Leader



① Final checking of Pbr

- Final checking of Pbr which are reviewed by billing clerks
- Giving necessary instructions (re-checks) to billing clerks/meter readers

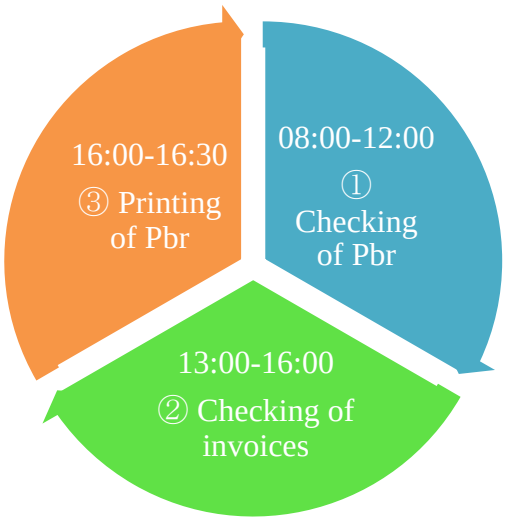
② Final checking of invoices

- Final checking of invoices which are reviewed by billing clerks
- Monitoring and updating of information of indevidual accounts in the NCS on daily basis
- Reporting to the Accountant regarding the progress of billing activities on weekly and monthly basis

③ Printing of Pbr

- Printing out of Pbr
- Reporting to the Accountant regarding issues requires immediate actions

Billing Clerks



① Checking of Pbr

- Mannual inputs of data of provincial customers and hydrent customers
- Posting of house deposit to appropriate accounts and survey fee and new connection fee to debit the account
- Checking of Pbr for approval from leader
- Giving necessary instructions (re-checks) to meter readers
- Creation of new accounts for all stations

② Checking of invoices

- Printing out of all invoices and check ing information (customer name, ID, gallon or metric, water consumption amount and outstanding bills, etc) for approval from leader
- Filing of invoices until they are sent out on every Friday
- Sending out of invoices to the domestic customers and deliver invoices to governments/commercial customers on every Friday
- Updating of billing information of all accounts in the NCS
- Customer care activities (answering of reading and billing and water tariff inquireies from customers)

③ Printing of Pbr

- Printing out of Pbr

7. Reporting & Instruction Procedures

In case of <u>defective meters</u> were identified by meter readers,

1. Once defective meters are reported by meter readers, leader of meter reading team prepares monthly meter replacement schedule and submits it to Accountant for his/her approval.
2. Once it is approved, leader gives instruction to meter replacement team to start the task.
3. Leader of meter reading team reports to Accountant progress/attainment of the tasks on weekly/monthly basis.
4. Accountant also reports to Finance & Administration Manager progress/attainment of meter replacement tasks on monthly basis
5. When meter replacement tasks complete, leader of meter reading team updates the meter IDs in the NCS.

In case of <u>leaks</u> were identified by meter readers,

1. Once leaks are reported by meter readers, leader of meter reading team fill out necessary information in the form and submits it to network maintenance team on weekly basis. Copy to Accountant and Operation & Technical Manager.
2. Leader of network maintenance team prepares repair schedule and submit it to Operation & Technical Manager for his/her approval.
3. Once it is approved, leader gives instruction to network maintenance team to implement the task.
4. Leader of network maintenance team reports to Operation & Technical Manager the progress/attainment of the tasks on weekly/monthly basis.
5. When repair tasks are completed, leader of network maintenance team submits a list of repair done to leader of meter reading team for his/her updates.

In case of <u>illegal connections</u> were identified by meter readers,

1. Once illegal connections are reported by meter readers, leader of meter reading team prepares a list of illegal connections and submits it to New/Dis/Re-connection team on weekly basis. Copy to Accountant and Service Delivery & Communications Manager.

2. Leader of New/Dis/Re-connection team prepares monthly disconnection schedule for illegal connections and submit it to Service Delivery & Communications Manager for his/her approval.
3. Once it is approved, leader gives instruction to New/Dis/Re-connection team to implement the task.
4. Leader of New/Dis/Re-connection team reports to Service Delivery & Communications Manager the progress/attainment of the tasks on weekly/monthly basis.
5. When disconnection tasks complete, leader of New/Dis/Re-connection team submits a list of disconnection to leader of billing team for his/her updates in the NCS.

In case of commercial/government customers have outstanding arrears,

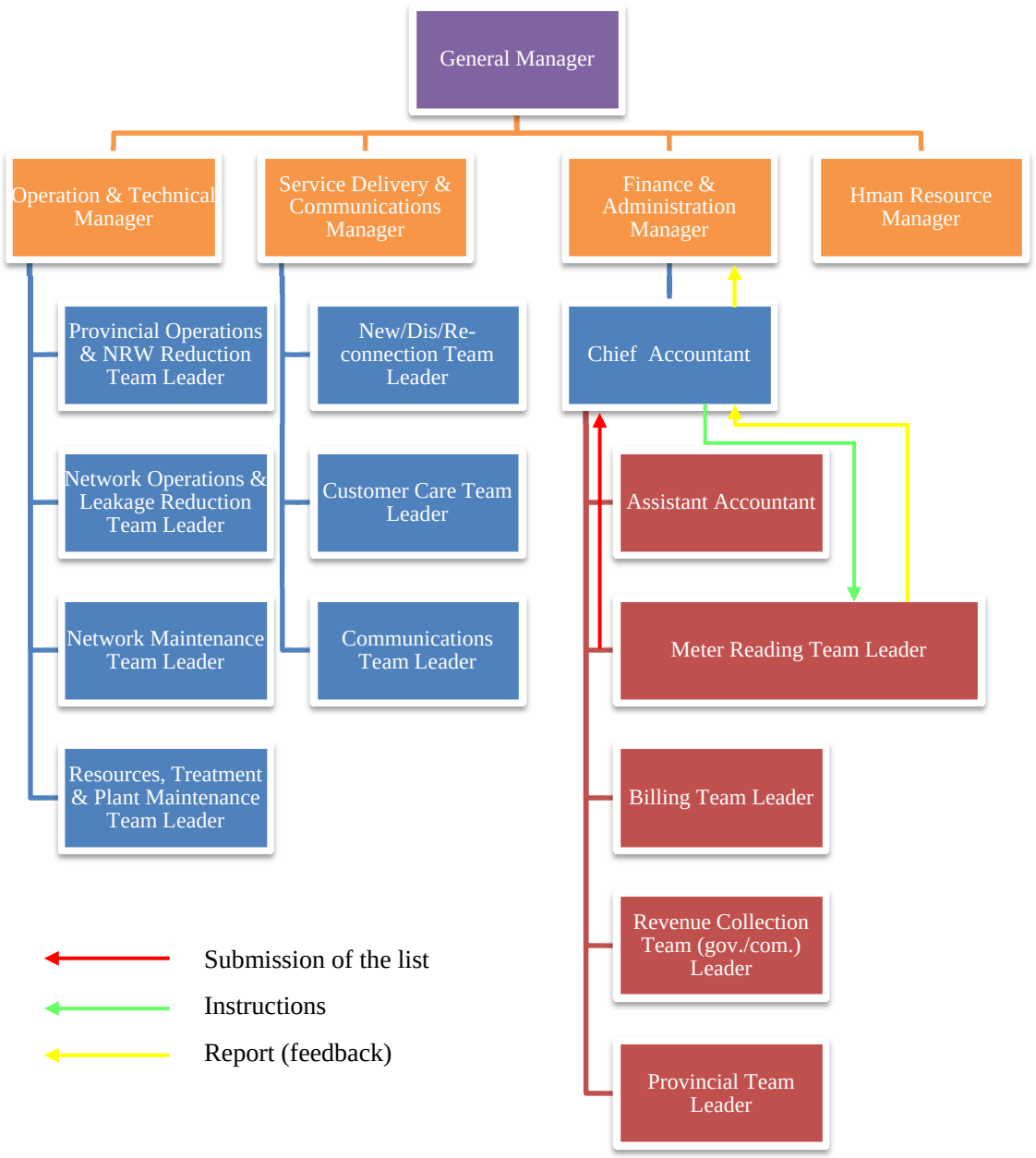
1. Leader of revenue collection team makes a list of commercial/government customers has outstanding arrears with history of given notices for disconnection (or requests for payment), and submit it to Accountant.
2. Accountant, in consultation with Finance & Administration Manager, gives instructions with time frame to leader of revenue collection team for disconnection according to the company's disconnection policy and procedure.
3. Leader of revenue collection team prepares monthly disconnection schedule and submit it to Accountant for his/her approval.
4. Leader of revenue collection team reports to Accountant the progress/attainment of the tasks on weekly/monthly basis.
5. Accountant also reports to Finance & Administration Manager the progress/attainment of meter replacement tasks on monthly basis.
6. When disconnection tasks complete, leader of revenue collection team submit a list of disconnection to leader of billing team for her/his updates in the NCS.

In case of domestic customers have outstanding arrears,

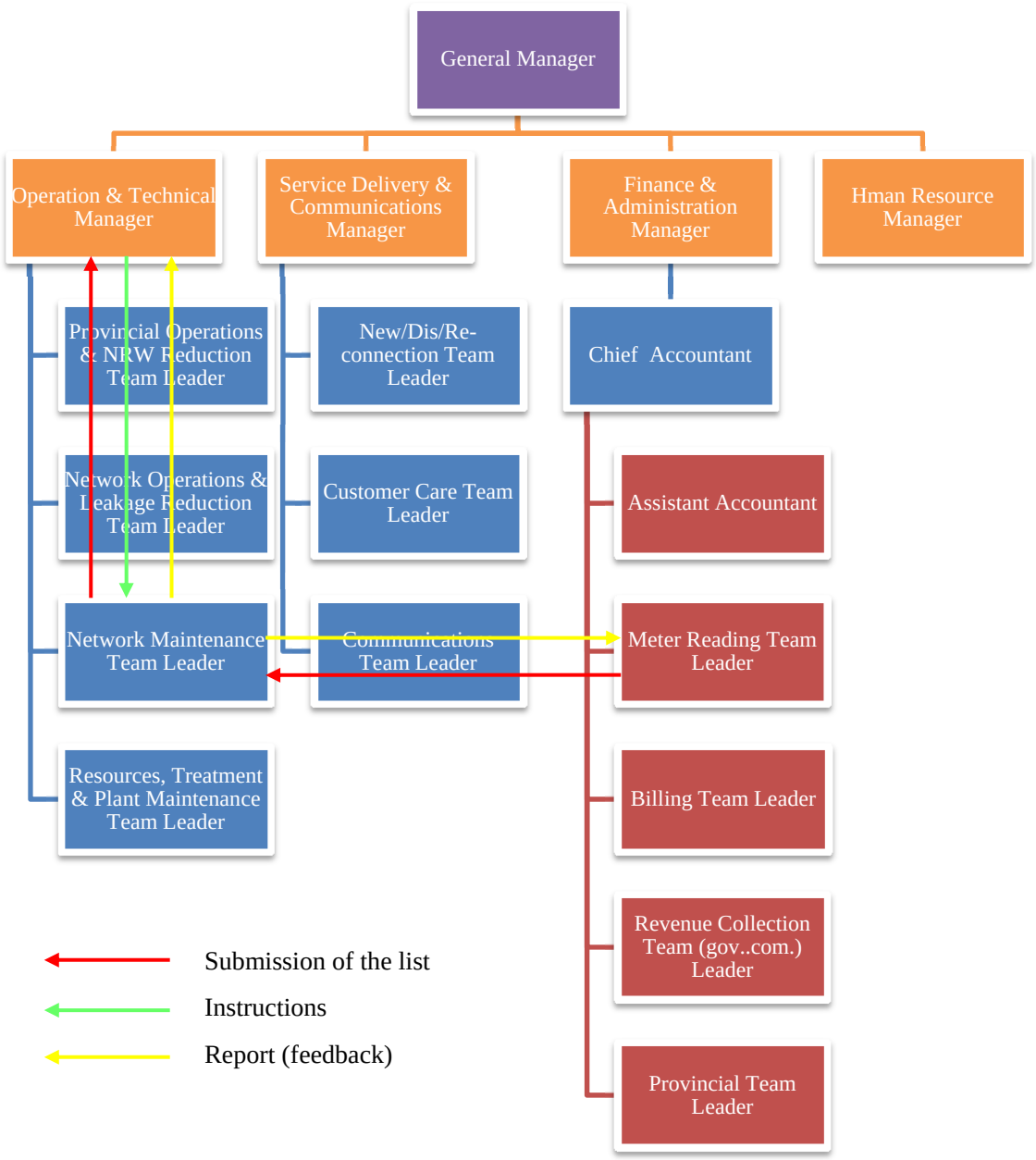
1. Leader of New/Dis/Re-connection team, in consultation with leader of revenue collection team, makes a list of domestic customers have outstanding arrears with history of given notices for disconnection (or requests for payment), and submit it to Service Delivery & Communications Manager.

2. Service Delivery & Communications Manager gives instructions with time frame to leader of New/Dis/Re-connection team for disconnection according to the company's disconnection policy and procedure.
3. Leader of New/Dis/Re-connection team prepares monthly disconnection schedule and submit it to Service Delivery & Communications Manager for his/her approval.
4. Leader of New/Dis/Re-connection team reports to Service Delivery & Communications Manager the progress/attainment of the tasks on weekly/monthly basis.
5. When disconnection tasks complete, leader of revenue collection team submit a list of disconnection to leader of billing team for her/his updates in the NCS.

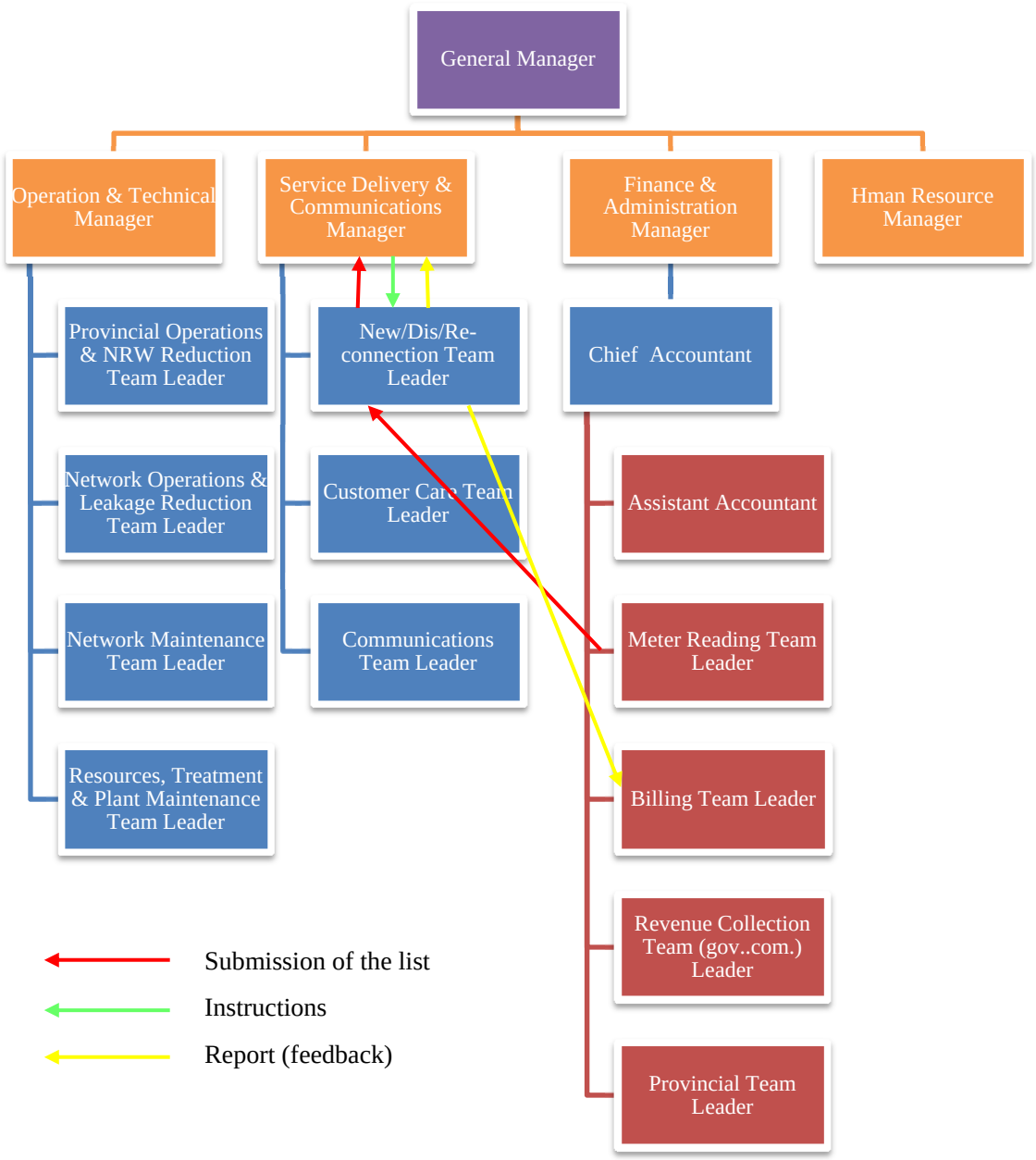
In case of defective meters (meter replacement)



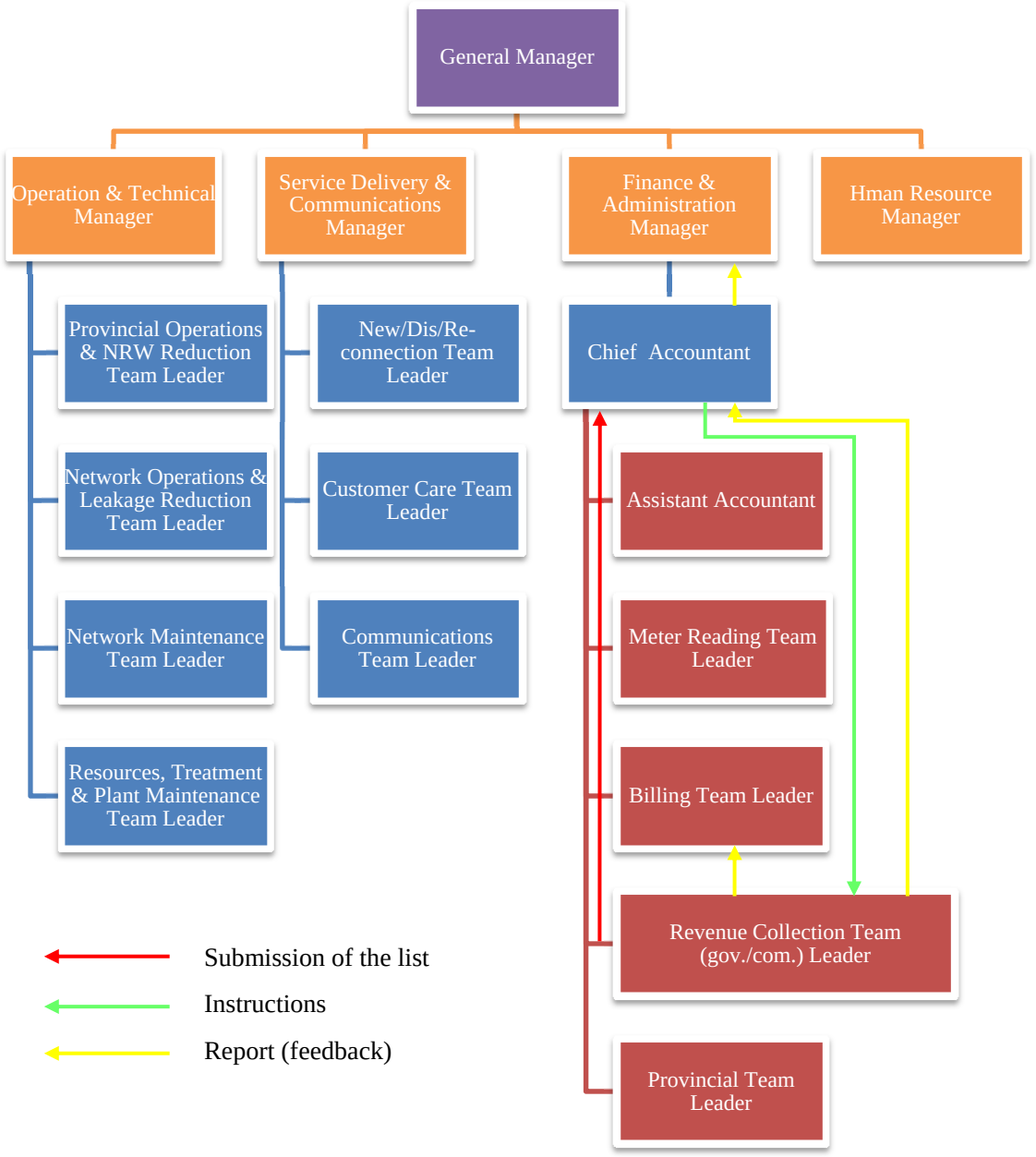
In case of leaks



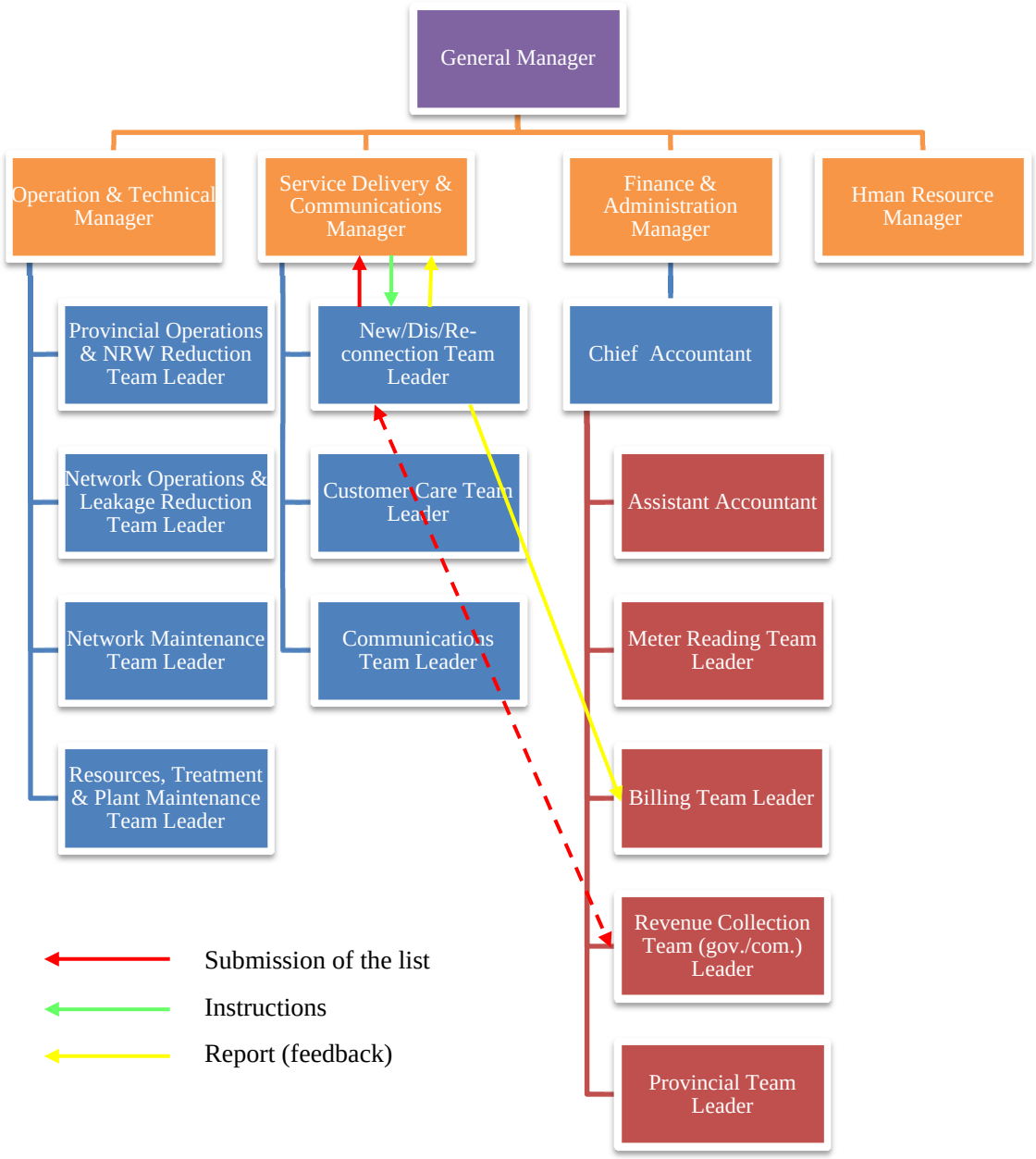
In case of illegal connections (disconnections)



In case of commercial & government customers who have outstanding arrears (disconnections)



In case of domestic customers
who have outstanding arrears (disconnections)



8. Tools for Effective Meter Readings

A) A Table for a Quick Review of Water Tariff and Water Charge

See the attachment 3.

B) Meter Reader's Assignment Schedule

See the attachment 4.

C) Meter Reader's Performance Sheet

See the attachment 4.

D) Various Notices

1. Information about customer's current water consumption and charges

Information includes:

- ✓ Name of user
- ✓ Customer (user) number
- ✓ Amount of water consumed (this month – previous month),
- ✓ Expected billing amount,
- ✓ Due date of payment,
- ✓ Receipt for previous water bill

2. Notice for sudden decrease in water consumption

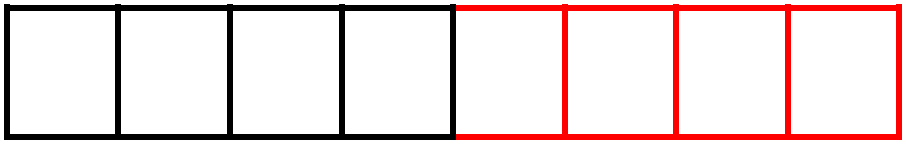
- ✓ There might be a possibility of defective meter or move out or sick, please contact customer service center.

3. Notice for sudden increase in water consumption

- ✓ There might be a possibility of leaks or defective meter. Kindly check the followings:
- ✓ Turn off all taps on the property, making sure your account for appliances which may switch on automatically (e.g. garden irrigation, dishwashers, evaporative air-conditioners etc.). To ensure water flows freely into the

property, do not turn off the tap in front of the meter.

- ✓ Look at the meter – are the numbers moving? If so, you may have a leak.
- ✓ Take a meter reading – make note of all numbers below:



Black numbers Red numbers

- ✓ Wait at least 15 minutes (we recommend an hour) then check the meter again to compare the numbers. Are the numbers the same? If not, you may have a leak.
- ✓ To confirm there is a leak, repeat the previous steps.
- ✓ You should then contact a plumber to locate and fix your leak.

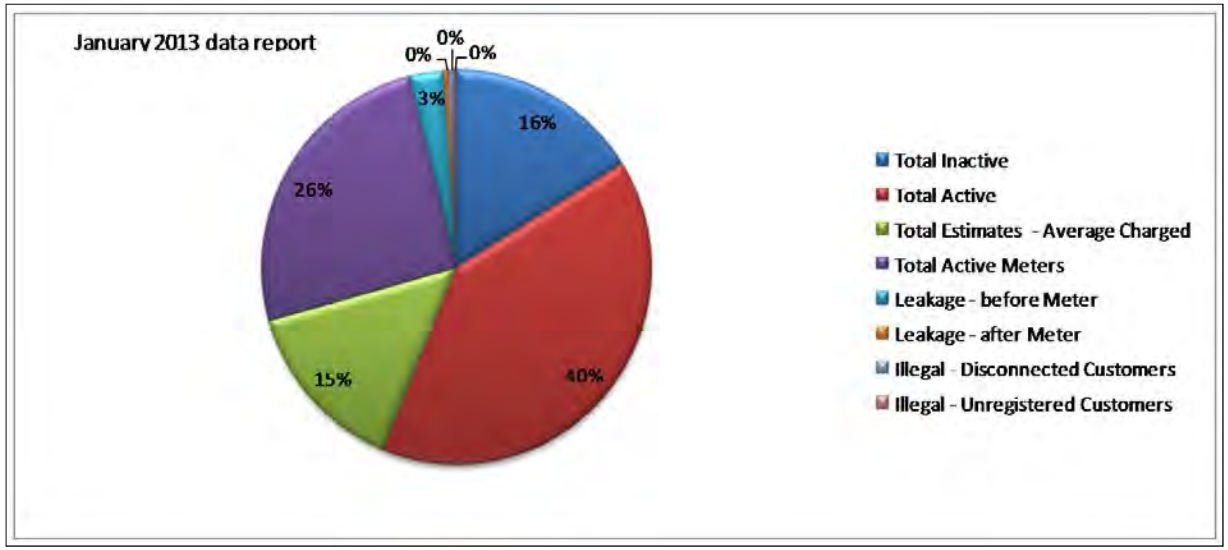
4. Notice for re-visit

- ✓ We were not able to conduct meter reading today. Kindly inform us your convenient day for meter reading by calling phone or email or drop at our office.

Attachment: 1

Monthly Report of Meter Reading Team Leader

M/Reader	Cycle	Registered Customers	Disco Accounts	Vacant Accounts	Active Accounts	Estimates /Average Charge							Total Estimates	Active Meter	Leakage		ILLEGAL	
						D/Line	M/S - Com	M/S - Dom	Meter - NC	M/Buried	Gate Lock	No Water			Before Mtr	After Mtr	Disco	Unregistered
Fred Karai	8	1,274	295	95	884	211	0	87	11	6	9	1	325	559	2	4	2	9
Seru Daubitu	9	1,002	258	98	646	31	89	50	16	2	18	4	210	436	3	1	3	0
Wilson Sualalu	8	1,247	226	76	945	103	0	121	28	8	0	6	266	679	10	0	11	0
Henry/ Harrry	8	1,017	218	48	751	152	5	98	32	13	6	0	306	445	2	43	13	0
Joseph Gado	9	1,151	222	30	899	140	1	129	19	6	8	18	321	578	54	14	16	10
Stanley Pavuvu	8	1,012	244	44	724	141	1	101	21	3	3	19	289	435	402	7	2	2
Leslie Seda	9	1,195	250	91	854	322	0	68	20	33	0	9	452	402	9	0	25	0
William Asilaua	8	1,118	248	100	770	138	22	71	3	5	3	14	256	514	19	0	0	13
Michael Toenunu	7	1,009	241	106	662	67	11	62	12	7	2	0	161	501	9	4	2	2
Total	**74**	**10,025**	**2,202**	**688**	**7,135**	**1,305**	**129**	**787**	**162**	**83**	**49**	**71**	**2,586**	**4,549**	**510**	**73**	**74**	**36**



BILLING REPORT FOR NOVEMBER 2012

1. WATER SALES NOVEMBER 2012

The tabular below shows the figures that comprised the total water sales for the month of November 2012. Total units for the month is **490,896** which sales at **$4,538,541.59**, the highest for the period this year.

Total year to date water sales is now stands at **$38,674,840.16** compared to the same period last year which was **$22,378,723.91**. This is a huge increase of **42% increase**. The increase is due to the facts that Solomon Water had two tariff adjustments within this year.

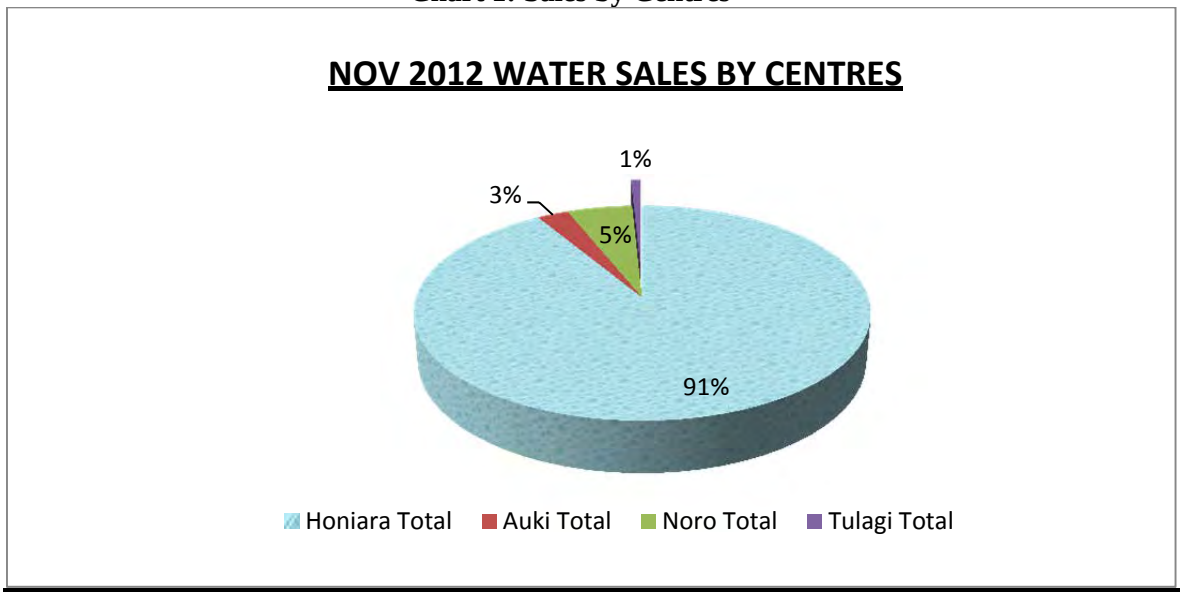
Table 1: Water Sales

MONTHLY REPORT NOVEMBER 2012 WATER SALES ANALYSIS				
Desc	Pd Units	Pd Value	Ytd Units	Ytd Value
Hon Dom	269,562.00	1,409,553.82	2,365,592.00	10,714,467.40
Hon Dom Sewerage	23,862.00	53,720.62	258,576.00	561,641.21
Hon Com	125,934.00	2,231,751.50	1,254,920.00	19,306,207.59
Hon Com Sewerage	36,580.00	214,940.11	282,100.00	1,969,234.07
Honiara Standing Charge	-625.00	235,667.55	-625.00	2,137,347.71
Honiara Total	**455,313.00**	**4,145,633.60**	**4,160,563.00**	**34,688,897.98**
Auki Com	2,207.00	50,387.45	12,908.00	481,683.70
Auki Dom	4,775.00	54,428.92	27,105.00	451,404.44
Auki Standing Charge	0.00	10,755.14	0.00	98,720.28
Auki Total	**6,982.00**	**115,571.51**	**40,013.00**	**1,031,808.42**
Noro Com	8,146.00	146,406.30	115,560.00	1,870,549.59
Noro Dom	16,011.00	86,141.58	148,647.00	682,336.23
Noro Standing Charge	0.00	8,649.85	0.00	77,650.65
Noro Total	**24,157.00**	**241,197.73**	**264,207.00**	**2,630,536.47**
Tulagi Com	1,215.00	20,030.37	8,227.00	138,797.46
Tulagi Dom	3,229.00	11,882.02	35,809.00	143,787.47
Tulagi Standing Charge	0.00	4,226.36	0.00	41,012.36
Tulagi Total	**4,444.00**	**36,138.75**	**44,036.00**	**323,597.29**
GRAND TOTAL	**490,896.00**	**4,538,541.59**	**4,508,819.00**	**38,674,840.16**

2. SALES BY CENTRES

Looking at the total sales for November 2012, Honiara contributes biggest part of the sales at 91 per cent while Tulagi with the lowest of 1 per cent.

Chart 1: Sales by Centres



3. SALES BY SERVICE TYPE

Chart 2. Sales by Services

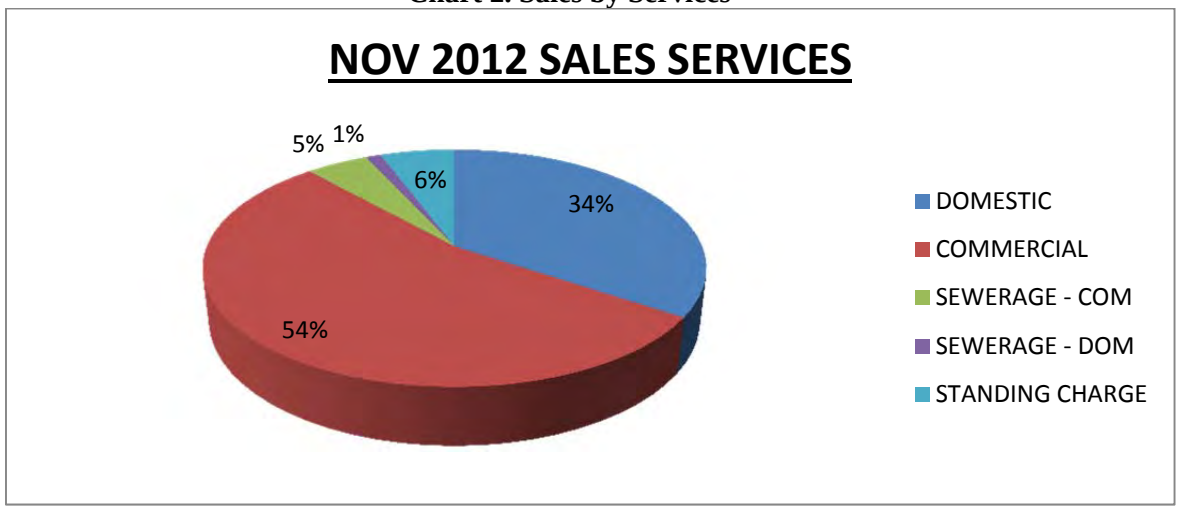
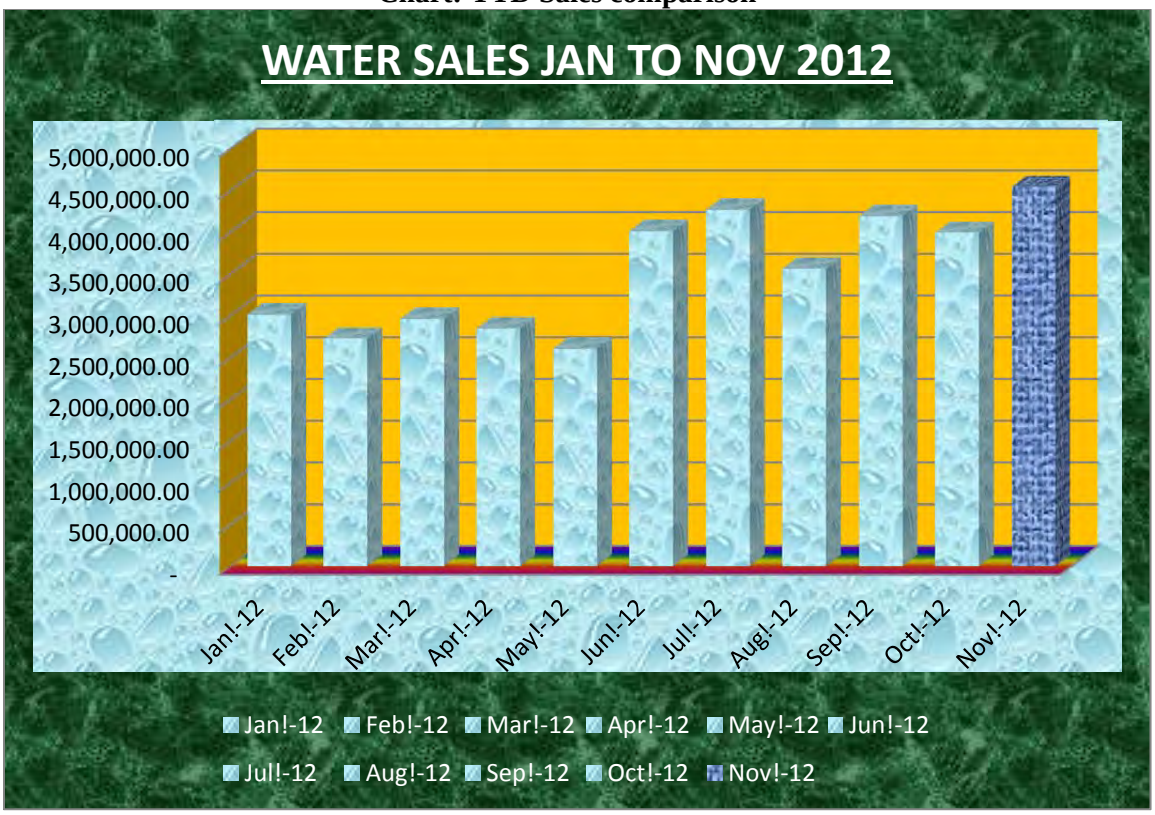


Chart 2 shows the sales by service that Solomon Water provided for the month. Commercial customers contribute 54 per cent of the sales for water service only Commercial customers also contribute 5% towards the sales figure for this month. Domestic customers share a portion of the total sales at 34% for water service and sewerage service at the least percentage of 1. Standing charge for all centres contribute to the total sales at 6 per cent for this month.

4. YTD WATER SALES COMPARISON 2012

Chart: YTD Sales comparison



Looking at the above graph, there is a huge increase from the normal trend experienced from January to May due to the introduction of a new tariff in June 2012. Also for the month of November Solomon Water has the highest water sales for the period. There are different factors contributed towards this highest sale for this month. The factors are listed on the next page.

5. FACTORS AFFECTING WATER SALES NOVEMBER 2012

There are different factors affecting the sales for this month. They are as follows;

1. Meter reading for this month is very poor due to lots of estimated readings. Some of the cycles haven't been read at all. Rechecks are not done on time and even some never come back with recheck reports.
2. There is lack of sufficient devices for meter readers to input resulted in late billing and updating of cycles.
3. Printer breakdown causing late billing and even some of the cycles were updated without being printed.
4. Too much workload but only two billing officers available to do the entire job for the month.
5. The NCS program is freezing now and then causing delay in bill processing.

6. Some accounts wrongly charged with domestic rate but now identified and charged at commercial rate and even back date. Also commercial accounts at Auki without meter now correctly charge at commercial rate which was not happening last month. In addition 23 accounts at Point Cruz were used to charge without sewerage but now charged accordingly.
7. Hydrant customers are now increasing to 12 accounts. Out of that total six of them are just billed for the month of November after 3 months of free water usage.

Additionally, some of the bills for the month of October 2012 which supposed to be hand delivered by meters readers are still lying around in the billing room. This of course has negative effect on the receipts for November 2012.

End

Attachment 3

A Table for Quick Review of Water Tariff & Water Charge

as of February 21, 2013

unit (kl)	SC (S$)	WS (S$)	WS+WW (S$)	Domestic		unit (kl)	SC (S$)	WS (S$)	WS+WW (S$)	Gov./Com.	
				WS (S$)	WS+WW (S$)					WS (S$)	WS+WW (S$)
1	40	4.53	6.80	44.53	46.80	1	40	18.70	28.05	58.70	68.05
2	40	4.53	6.80	49.06	53.60	2	40	18.70	28.05	77.40	96.10
3	40	4.53	6.80	53.59	60.40	3	40	18.70	28.05	96.10	124.15
4	40	4.53	6.80	58.12	67.20	4	40	18.70	28.05	114.80	152.20
5	40	4.53	6.80	62.65	74.00	5	40	18.70	28.05	133.50	180.25
6	40	4.53	6.80	67.18	80.80	6	40	18.70	28.05	152.20	208.30
7	40	4.53	6.80	71.71	87.60	7	40	18.70	28.05	170.90	236.35
8	40	4.53	6.80	76.24	94.40	8	40	18.70	28.05	189.60	264.40
9	40	4.53	6.80	80.77	101.20	9	40	18.70	28.05	208.30	292.45
10	40	4.53	6.80	85.30	108.00	10	40	18.70	28.05	227.00	320.50
11	40	4.53	6.80	89.83	114.80	11	40	18.70	28.05	245.70	348.55
12	40	4.53	6.80	94.36	121.60	12	40	18.70	28.05	264.40	376.60
13	40	4.53	6.80	98.89	128.40	13	40	18.70	28.05	283.10	404.65
14	40	4.53	6.80	103.42	135.20	14	40	18.70	28.05	301.80	432.70
15	40	4.53	6.80	107.95	142.00	15	40	18.70	28.05	320.50	460.75
16	40	6.90	10.34	114.85	152.34	16	40	21.06	31.59	341.56	492.34
17	40	6.90	10.34	121.75	162.68	17	40	21.06	31.59	362.62	523.93
18	40	6.90	10.34	128.65	173.02	18	40	21.06	31.59	383.68	555.52
19	40	6.90	10.34	135.55	183.36	19	40	21.06	31.59	404.74	587.11
20	40	6.90	10.34	142.45	193.70	20	40	21.06	31.59	425.80	618.70
21	40	6.90	10.34	149.35	204.04	21	40	21.06	31.59	446.86	650.29
22	40	6.90	10.34	156.25	214.38	22	40	21.06	31.59	467.92	681.88
23	40	6.90	10.34	163.15	224.72	23	40	21.06	31.59	488.98	713.47
24	40	6.90	10.34	170.05	235.06	24	40	21.06	31.59	510.04	745.06
25	40	6.90	10.34	176.95	245.40	25	40	21.06	31.59	531.10	776.65
26	40	6.90	10.34	183.85	255.74	26	40	21.06	31.59	552.16	808.24
27	40	6.90	10.34	190.75	266.08	27	40	21.06	31.59	573.22	839.83
28	40	6.90	10.34	197.65	276.42	28	40	21.06	31.59	594.28	871.42
29	40	6.90	10.34	204.55	286.76	29	40	21.06	31.59	615.34	903.01
30	40	6.90	10.34	211.45	297.10	30	40	21.06	31.59	636.40	934.60
31	40	8.07	12.11	219.52	309.21	31	40	23.42	35.13	659.82	969.73
32	40	8.07	12.11	227.59	321.32	32	40	23.42	35.13	683.24	1,004.86
33	40	8.07	12.11	235.66	333.43	33	40	23.42	35.13	706.66	1,039.99
34	40	8.07	12.11	243.73	345.54	34	40	23.42	35.13	730.08	1,075.12
35	40	8.07	12.11	251.80	357.65	35	40	23.42	35.13	753.50	1,110.25
36	40	8.07	12.11	259.87	369.76	36	40	23.42	35.13	776.92	1,145.38
37	40	8.07	12.11	267.94	381.87	37	40	23.42	35.13	800.34	1,180.51
38	40	8.07	12.11	276.01	393.98	38	40	23.42	35.13	823.76	1,215.64
39	40	8.07	12.11	284.08	406.09	39	40	23.42	35.13	847.18	1,250.77
40	40	8.07	12.11	292.15	418.20	40	40	23.42	35.13	870.60	1,285.90
41	40	8.07	12.11	300.22	430.31	41	40	23.42	35.13	894.02	1,321.03
42	40	8.07	12.11	308.29	442.42	42	40	23.42	35.13	917.44	1,356.16
43	40	8.07	12.11	316.36	454.53	43	40	23.42	35.13	940.86	1,391.29
44	40	8.07	12.11	324.43	466.64	44	40	23.42	35.13	964.28	1,426.42
45	40	8.07	12.11	332.50	478.75	45	40	23.42	35.13	987.70	1,461.55
46	40	8.07	12.11	340.57	490.86	46	40	23.42	35.13	1,011.12	1,496.68
47	40	8.07	12.11	348.64	502.97	47	40	23.42	35.13	1,034.54	1,531.81
48	40	8.07	12.11	356.71	515.08	48	40	23.42	35.13	1,057.96	1,566.94

Attachment 3

unit (kl)	SC (S$)	WS (S$)	WS+WW (S$)	Domestic		unit (kl)	SC (S$)	WS (S$)	WS+WW (S$)	Gov./Com.	
				WS (S$)	WS+WW (S$)					WS (S$)	WS+WW (S$)
49	40	8.07	12.11	364.78	527.19	49	40	23.42	35.13	1,081.38	1,602.07
50	40	8.07	12.11	372.85	539.30	50	40	23.42	35.13	1,104.80	1,637.20
51	40	8.07	12.11	380.92	551.41	51	40	23.42	35.13	1,128.22	1,672.33
52	40	8.07	12.11	388.99	563.52	52	40	23.42	35.13	1,151.64	1,707.46
53	40	8.07	12.11	397.06	575.63	53	40	23.42	35.13	1,175.06	1,742.59
54	40	8.07	12.11	405.13	587.74	54	40	23.42	35.13	1,198.48	1,777.72
55	40	8.07	12.11	413.20	599.85	55	40	23.42	35.13	1,221.90	1,812.85
56	40	8.07	12.11	421.27	611.96	56	40	23.42	35.13	1,245.32	1,847.98
57	40	8.07	12.11	429.34	624.07	57	40	23.42	35.13	1,268.74	1,883.11
58	40	8.07	12.11	437.41	636.18	58	40	23.42	35.13	1,292.16	1,918.24
59	40	8.07	12.11	445.48	648.29	59	40	23.42	35.13	1,315.58	1,953.37
60	40	8.07	12.11	453.55	660.40	60	40	23.42	35.13	1,339.00	1,988.50
61	40	8.07	12.11	461.62	672.51	61	40	23.42	35.13	1,362.42	2,023.63
62	40	8.07	12.11	469.69	684.62	62	40	23.42	35.13	1,385.84	2,058.76
63	40	8.07	12.11	477.76	696.73	63	40	23.42	35.13	1,409.26	2,093.89
64	40	8.07	12.11	485.83	708.84	64	40	23.42	35.13	1,432.68	2,129.02
65	40	8.07	12.11	493.90	720.95	65	40	23.42	35.13	1,456.10	2,164.15
66	40	8.07	12.11	501.97	733.06	66	40	23.42	35.13	1,479.52	2,199.28
67	40	8.07	12.11	510.04	745.17	67	40	23.42	35.13	1,502.94	2,234.41
68	40	8.07	12.11	518.11	757.28	68	40	23.42	35.13	1,526.36	2,269.54
69	40	8.07	12.11	526.18	769.39	69	40	23.42	35.13	1,549.78	2,304.67
70	40	8.07	12.11	534.25	781.50	70	40	23.42	35.13	1,573.20	2,339.80
71	40	8.07	12.11	542.32	793.61	71	40	23.42	35.13	1,596.62	2,374.93
72	40	8.07	12.11	550.39	805.72	72	40	23.42	35.13	1,620.04	2,410.06
73	40	8.07	12.11	558.46	817.83	73	40	23.42	35.13	1,643.46	2,445.19
74	40	8.07	12.11	566.53	829.94	74	40	23.42	35.13	1,666.88	2,480.32
75	40	8.07	12.11	574.60	842.05	75	40	23.42	35.13	1,690.30	2,515.45
76	40	8.07	12.11	582.67	854.16	76	40	23.42	35.13	1,713.72	2,550.58
77	40	8.07	12.11	590.74	866.27	77	40	23.42	35.13	1,737.14	2,585.71
78	40	8.07	12.11	598.81	878.38	78	40	23.42	35.13	1,760.56	2,620.84
79	40	8.07	12.11	606.88	890.49	79	40	23.42	35.13	1,783.98	2,655.97
80	40	8.07	12.11	614.95	902.60	80	40	23.42	35.13	1,807.40	2,691.10
81	40	8.07	12.11	623.02	914.71	81	40	23.42	35.13	1,830.82	2,726.23
82	40	8.07	12.11	631.09	926.82	82	40	23.42	35.13	1,854.24	2,761.36
83	40	8.07	12.11	639.16	938.93	83	40	23.42	35.13	1,877.66	2,796.49
84	40	8.07	12.11	647.23	951.04	84	40	23.42	35.13	1,901.08	2,831.62
85	40	8.07	12.11	655.30	963.15	85	40	23.42	35.13	1,924.50	2,866.75
86	40	8.07	12.11	663.37	975.26	86	40	23.42	35.13	1,947.92	2,901.88
87	40	8.07	12.11	671.44	987.37	87	40	23.42	35.13	1,971.34	2,937.01
88	40	8.07	12.11	679.51	999.48	88	40	23.42	35.13	1,994.76	2,972.14
89	40	8.07	12.11	687.58	1,011.59	89	40	23.42	35.13	2,018.18	3,007.27
90	40	8.07	12.11	695.65	1,023.70	90	40	23.42	35.13	2,041.60	3,042.40
91	40	8.07	12.11	703.72	1,035.81	91	40	23.42	35.13	2,065.02	3,077.53
92	40	8.07	12.11	711.79	1,047.92	92	40	23.42	35.13	2,088.44	3,112.66
93	40	8.07	12.11	719.86	1,060.03	93	40	23.42	35.13	2,111.86	3,147.79
94	40	8.07	12.11	727.93	1,072.14	94	40	23.42	35.13	2,135.28	3,182.92
95	40	8.07	12.11	736.00	1,084.25	95	40	23.42	35.13	2,158.70	3,218.05
96	40	8.07	12.11	744.07	1,096.36	96	40	23.42	35.13	2,182.12	3,253.18
97	40	8.07	12.11	752.14	1,108.47	97	40	23.42	35.13	2,205.54	3,288.31
98	40	8.07	12.11	760.21	1,120.58	98	40	23.42	35.13	2,228.96	3,323.44
99	40	8.07	12.11	768.28	1,132.69	99	40	23.42	35.13	2,252.38	3,358.57

Attachment 3

unit (kl)	SC (S$)	WS (S$)	WS+WW (S$)	Domestic		unit (kl)	SC (S$)	WS (S$)	WS+WW (S$)	Gov./Com.	
				WS (S$)	WS+WW (S$)					WS (S$)	WS+WW (S$)
100	40	8.07	12.11	776.35	1,144.80	100	40	23.42	35.13	2,275.80	3,393.70
101	40	8.07	12.11	784.42	1,156.91	101	40	23.42	35.13	2,299.22	3,428.83
102	40	8.07	12.11	792.49	1,169.02	102	40	23.42	35.13	2,322.64	3,463.96
103	40	8.07	12.11	800.56	1,181.13	103	40	23.42	35.13	2,346.06	3,499.09
104	40	8.07	12.11	808.63	1,193.24	104	40	23.42	35.13	2,369.48	3,534.22
105	40	8.07	12.11	816.70	1,205.35	105	40	23.42	35.13	2,392.90	3,569.35
106	40	8.07	12.11	824.77	1,217.46	106	40	23.42	35.13	2,416.32	3,604.48
107	40	8.07	12.11	832.84	1,229.57	107	40	23.42	35.13	2,439.74	3,639.61
108	40	8.07	12.11	840.91	1,241.68	108	40	23.42	35.13	2,463.16	3,674.74
109	40	8.07	12.11	848.98	1,253.79	109	40	23.42	35.13	2,486.58	3,709.87
110	40	8.07	12.11	857.05	1,265.90	110	40	23.42	35.13	2,510.00	3,745.00
111	40	8.07	12.11	865.12	1,278.01	111	40	23.42	35.13	2,533.42	3,780.13
112	40	8.07	12.11	873.19	1,290.12	112	40	23.42	35.13	2,556.84	3,815.26
113	40	8.07	12.11	881.26	1,302.23	113	40	23.42	35.13	2,580.26	3,850.39
114	40	8.07	12.11	889.33	1,314.34	114	40	23.42	35.13	2,603.68	3,885.52
115	40	8.07	12.11	897.40	1,326.45	115	40	23.42	35.13	2,627.10	3,920.65
116	40	8.07	12.11	905.47	1,338.56	116	40	23.42	35.13	2,650.52	3,955.78
117	40	8.07	12.11	913.54	1,350.67	117	40	23.42	35.13	2,673.94	3,990.91
118	40	8.07	12.11	921.61	1,362.78	118	40	23.42	35.13	2,697.36	4,026.04
119	40	8.07	12.11	929.68	1,374.89	119	40	23.42	35.13	2,720.78	4,061.17
120	40	8.07	12.11	937.75	1,387.00	120	40	23.42	35.13	2,744.20	4,096.30
121	40	8.07	12.11	945.82	1,399.11	121	40	23.42	35.13	2,767.62	4,131.43
122	40	8.07	12.11	953.89	1,411.22	122	40	23.42	35.13	2,791.04	4,166.56
123	40	8.07	12.11	961.96	1,423.33	123	40	23.42	35.13	2,814.46	4,201.69
124	40	8.07	12.11	970.03	1,435.44	124	40	23.42	35.13	2,837.88	4,236.82
125	40	8.07	12.11	978.10	1,447.55	125	40	23.42	35.13	2,861.30	4,271.95
126	40	8.07	12.11	986.17	1,459.66	126	40	23.42	35.13	2,884.72	4,307.08
127	40	8.07	12.11	994.24	1,471.77	127	40	23.42	35.13	2,908.14	4,342.21
128	40	8.07	12.11	1,002.31	1,483.88	128	40	23.42	35.13	2,931.56	4,377.34
129	40	8.07	12.11	1,010.38	1,495.99	129	40	23.42	35.13	2,954.98	4,412.47
130	40	8.07	12.11	1,018.45	1,508.10	130	40	23.42	35.13	2,978.40	4,447.60
131	40	8.07	12.11	1,026.52	1,520.21	131	40	23.42	35.13	3,001.82	4,482.73
132	40	8.07	12.11	1,034.59	1,532.32	132	40	23.42	35.13	3,025.24	4,517.86
133	40	8.07	12.11	1,042.66	1,544.43	133	40	23.42	35.13	3,048.66	4,552.99
134	40	8.07	12.11	1,050.73	1,556.54	134	40	23.42	35.13	3,072.08	4,588.12
135	40	8.07	12.11	1,058.80	1,568.65	135	40	23.42	35.13	3,095.50	4,623.25
136	40	8.07	12.11	1,066.87	1,580.76	136	40	23.42	35.13	3,118.92	4,658.38
137	40	8.07	12.11	1,074.94	1,592.87	137	40	23.42	35.13	3,142.34	4,693.51
138	40	8.07	12.11	1,083.01	1,604.98	138	40	23.42	35.13	3,165.76	4,728.64
139	40	8.07	12.11	1,091.08	1,617.09	139	40	23.42	35.13	3,189.18	4,763.77
140	40	8.07	12.11	1,099.15	1,629.20	140	40	23.42	35.13	3,212.60	4,798.90
141	40	8.07	12.11	1,107.22	1,641.31	141	40	23.42	35.13	3,236.02	4,834.03
142	40	8.07	12.11	1,115.29	1,653.42	142	40	23.42	35.13	3,259.44	4,869.16
143	40	8.07	12.11	1,123.36	1,665.53	143	40	23.42	35.13	3,282.86	4,904.29
144	40	8.07	12.11	1,131.43	1,677.64	144	40	23.42	35.13	3,306.28	4,939.42
145	40	8.07	12.11	1,139.50	1,689.75	145	40	23.42	35.13	3,329.70	4,974.55
146	40	8.07	12.11	1,147.57	1,701.86	146	40	23.42	35.13	3,353.12	5,009.68
147	40	8.07	12.11	1,155.64	1,713.97	147	40	23.42	35.13	3,376.54	5,044.81
148	40	8.07	12.11	1,163.71	1,726.08	148	40	23.42	35.13	3,399.96	5,079.94
149	40	8.07	12.11	1,171.78	1,738.19	149	40	23.42	35.13	3,423.38	5,115.07
150	40	8.07	12.11	1,179.85	1,750.30	150	40	23.42	35.13	3,446.80	5,150.20

Attachment 3

unit (kl)	SC (S$)	WS (S$)	WS+WW (S$)	Domestic		unit (kl)	SC (S$)	WS (S$)	WS+WW (S$)	Gov./Com.	
				WS (S$)	WS+WW (S$)					WS (S$)	WS+WW (S$)
151	40	8.07	12.11	1,187.92	1,762.41	151	40	23.42	35.13	3,470.22	5,185.33
152	40	8.07	12.11	1,195.99	1,774.52	152	40	23.42	35.13	3,493.64	5,220.46
153	40	8.07	12.11	1,204.06	1,786.63	153	40	23.42	35.13	3,517.06	5,255.59
154	40	8.07	12.11	1,212.13	1,798.74	154	40	23.42	35.13	3,540.48	5,290.72
155	40	8.07	12.11	1,220.20	1,810.85	155	40	23.42	35.13	3,563.90	5,325.85
156	40	8.07	12.11	1,228.27	1,822.96	156	40	23.42	35.13	3,587.32	5,360.98
157	40	8.07	12.11	1,236.34	1,835.07	157	40	23.42	35.13	3,610.74	5,396.11
158	40	8.07	12.11	1,244.41	1,847.18	158	40	23.42	35.13	3,634.16	5,431.24
159	40	8.07	12.11	1,252.48	1,859.29	159	40	23.42	35.13	3,657.58	5,466.37
160	40	8.07	12.11	1,260.55	1,871.40	160	40	23.42	35.13	3,681.00	5,501.50
161	40	8.07	12.11	1,268.62	1,883.51	161	40	23.42	35.13	3,704.42	5,536.63
162	40	8.07	12.11	1,276.69	1,895.62	162	40	23.42	35.13	3,727.84	5,571.76
163	40	8.07	12.11	1,284.76	1,907.73	163	40	23.42	35.13	3,751.26	5,606.89
164	40	8.07	12.11	1,292.83	1,919.84	164	40	23.42	35.13	3,774.68	5,642.02
165	40	8.07	12.11	1,300.90	1,931.95	165	40	23.42	35.13	3,798.10	5,677.15
166	40	8.07	12.11	1,308.97	1,944.06	166	40	23.42	35.13	3,821.52	5,712.28
167	40	8.07	12.11	1,317.04	1,956.17	167	40	23.42	35.13	3,844.94	5,747.41
168	40	8.07	12.11	1,325.11	1,968.28	168	40	23.42	35.13	3,868.36	5,782.54
169	40	8.07	12.11	1,333.18	1,980.39	169	40	23.42	35.13	3,891.78	5,817.67
170	40	8.07	12.11	1,341.25	1,992.50	170	40	23.42	35.13	3,915.20	5,852.80
171	40	8.07	12.11	1,349.32	2,004.61	171	40	23.42	35.13	3,938.62	5,887.93
172	40	8.07	12.11	1,357.39	2,016.72	172	40	23.42	35.13	3,962.04	5,923.06
173	40	8.07	12.11	1,365.46	2,028.83	173	40	23.42	35.13	3,985.46	5,958.19
174	40	8.07	12.11	1,373.53	2,040.94	174	40	23.42	35.13	4,008.88	5,993.32
175	40	8.07	12.11	1,381.60	2,053.05	175	40	23.42	35.13	4,032.30	6,028.45
176	40	8.07	12.11	1,389.67	2,065.16	176	40	23.42	35.13	4,055.72	6,063.58
177	40	8.07	12.11	1,397.74	2,077.27	177	40	23.42	35.13	4,079.14	6,098.71
178	40	8.07	12.11	1,405.81	2,089.38	178	40	23.42	35.13	4,102.56	6,133.84
179	40	8.07	12.11	1,413.88	2,101.49	179	40	23.42	35.13	4,125.98	6,168.97
180	40	8.07	12.11	1,421.95	2,113.60	180	40	23.42	35.13	4,149.40	6,204.10
181	40	8.07	12.11	1,430.02	2,125.71	181	40	23.42	35.13	4,172.82	6,239.23
182	40	8.07	12.11	1,438.09	2,137.82	182	40	23.42	35.13	4,196.24	6,274.36
183	40	8.07	12.11	1,446.16	2,149.93	183	40	23.42	35.13	4,219.66	6,309.49
184	40	8.07	12.11	1,454.23	2,162.04	184	40	23.42	35.13	4,243.08	6,344.62
185	40	8.07	12.11	1,462.30	2,174.15	185	40	23.42	35.13	4,266.50	6,379.75
186	40	8.07	12.11	1,470.37	2,186.26	186	40	23.42	35.13	4,289.92	6,414.88
187	40	8.07	12.11	1,478.44	2,198.37	187	40	23.42	35.13	4,313.34	6,450.01
188	40	8.07	12.11	1,486.51	2,210.48	188	40	23.42	35.13	4,336.76	6,485.14
189	40	8.07	12.11	1,494.58	2,222.59	189	40	23.42	35.13	4,360.18	6,520.27
190	40	8.07	12.11	1,502.65	2,234.70	190	40	23.42	35.13	4,383.60	6,555.40
191	40	8.07	12.11	1,510.72	2,246.81	191	40	23.42	35.13	4,407.02	6,590.53
192	40	8.07	12.11	1,518.79	2,258.92	192	40	23.42	35.13	4,430.44	6,625.66
193	40	8.07	12.11	1,526.86	2,271.03	193	40	23.42	35.13	4,453.86	6,660.79
194	40	8.07	12.11	1,534.93	2,283.14	194	40	23.42	35.13	4,477.28	6,695.92
195	40	8.07	12.11	1,543.00	2,295.25	195	40	23.42	35.13	4,500.70	6,731.05
196	40	8.07	12.11	1,551.07	2,307.36	196	40	23.42	35.13	4,524.12	6,766.18
197	40	8.07	12.11	1,559.14	2,319.47	197	40	23.42	35.13	4,547.54	6,801.31
198	40	8.07	12.11	1,567.21	2,331.58	198	40	23.42	35.13	4,570.96	6,836.44
199	40	8.07	12.11	1,575.28	2,343.69	199	40	23.42	35.13	4,594.38	6,871.57
200	40	8.07	12.11	1,583.35	2,355.80	200	40	23.42	35.13	4,617.80	6,906.70
201	40	8.07	12.11	1,591.42	2,367.91	201	40	23.42	35.13	4,641.22	6,941.83

Attachment 3

unit (kl)	SC (S$)	WS (S$)	WS+WW (S$)	Domestic		unit (kl)	SC (S$)	WS (S$)	WS+WW (S$)	Gov./Com.	
				WS (S$)	WS+WW (S$)					WS (S$)	WS+WW (S$)
202	40	8.07	12.11	1,599.49	2,380.02	202	40	23.42	35.13	4,664.64	6,976.96
203	40	8.07	12.11	1,607.56	2,392.13	203	40	23.42	35.13	4,688.06	7,012.09
204	40	8.07	12.11	1,615.63	2,404.24	204	40	23.42	35.13	4,711.48	7,047.22
205	40	8.07	12.11	1,623.70	2,416.35	205	40	23.42	35.13	4,734.90	7,082.35
206	40	8.07	12.11	1,631.77	2,428.46	206	40	23.42	35.13	4,758.32	7,117.48
207	40	8.07	12.11	1,639.84	2,440.57	207	40	23.42	35.13	4,781.74	7,152.61
208	40	8.07	12.11	1,647.91	2,452.68	208	40	23.42	35.13	4,805.16	7,187.74
209	40	8.07	12.11	1,655.98	2,464.79	209	40	23.42	35.13	4,828.58	7,222.87
210	40	8.07	12.11	1,664.05	2,476.90	210	40	23.42	35.13	4,852.00	7,258.00
211	40	8.07	12.11	1,672.12	2,489.01	211	40	23.42	35.13	4,875.42	7,293.13
212	40	8.07	12.11	1,680.19	2,501.12	212	40	23.42	35.13	4,898.84	7,328.26
213	40	8.07	12.11	1,688.26	2,513.23	213	40	23.42	35.13	4,922.26	7,363.39
214	40	8.07	12.11	1,696.33	2,525.34	214	40	23.42	35.13	4,945.68	7,398.52
215	40	8.07	12.11	1,704.40	2,537.45	215	40	23.42	35.13	4,969.10	7,433.65
216	40	8.07	12.11	1,712.47	2,549.56	216	40	23.42	35.13	4,992.52	7,468.78
217	40	8.07	12.11	1,720.54	2,561.67	217	40	23.42	35.13	5,015.94	7,503.91
218	40	8.07	12.11	1,728.61	2,573.78	218	40	23.42	35.13	5,039.36	7,539.04
219	40	8.07	12.11	1,736.68	2,585.89	219	40	23.42	35.13	5,062.78	7,574.17
220	40	8.07	12.11	1,744.75	2,598.00	220	40	23.42	35.13	5,086.20	7,609.30
221	40	8.07	12.11	1,752.82	2,610.11	221	40	23.42	35.13	5,109.62	7,644.43
222	40	8.07	12.11	1,760.89	2,622.22	222	40	23.42	35.13	5,133.04	7,679.56
223	40	8.07	12.11	1,768.96	2,634.33	223	40	23.42	35.13	5,156.46	7,714.69
224	40	8.07	12.11	1,777.03	2,646.44	224	40	23.42	35.13	5,179.88	7,749.82
225	40	8.07	12.11	1,785.10	2,658.55	225	40	23.42	35.13	5,203.30	7,784.95
226	40	8.07	12.11	1,793.17	2,670.66	226	40	23.42	35.13	5,226.72	7,820.08
227	40	8.07	12.11	1,801.24	2,682.77	227	40	23.42	35.13	5,250.14	7,855.21
228	40	8.07	12.11	1,809.31	2,694.88	228	40	23.42	35.13	5,273.56	7,890.34
229	40	8.07	12.11	1,817.38	2,706.99	229	40	23.42	35.13	5,296.98	7,925.47
230	40	8.07	12.11	1,825.45	2,719.10	230	40	23.42	35.13	5,320.40	7,960.60
231	40	8.07	12.11	1,833.52	2,731.21	231	40	23.42	35.13	5,343.82	7,995.73
232	40	8.07	12.11	1,841.59	2,743.32	232	40	23.42	35.13	5,367.24	8,030.86
233	40	8.07	12.11	1,849.66	2,755.43	233	40	23.42	35.13	5,390.66	8,065.99
234	40	8.07	12.11	1,857.73	2,767.54	234	40	23.42	35.13	5,414.08	8,101.12
235	40	8.07	12.11	1,865.80	2,779.65	235	40	23.42	35.13	5,437.50	8,136.25
236	40	8.07	12.11	1,873.87	2,791.76	236	40	23.42	35.13	5,460.92	8,171.38
237	40	8.07	12.11	1,881.94	2,803.87	237	40	23.42	35.13	5,484.34	8,206.51
238	40	8.07	12.11	1,890.01	2,815.98	238	40	23.42	35.13	5,507.76	8,241.64
239	40	8.07	12.11	1,898.08	2,828.09	239	40	23.42	35.13	5,531.18	8,276.77
240	40	8.07	12.11	1,906.15	2,840.20	240	40	23.42	35.13	5,554.60	8,311.90
241	40	8.07	12.11	1,914.22	2,852.31	241	40	23.42	35.13	5,578.02	8,347.03
242	40	8.07	12.11	1,922.29	2,864.42	242	40	23.42	35.13	5,601.44	8,382.16
243	40	8.07	12.11	1,930.36	2,876.53	243	40	23.42	35.13	5,624.86	8,417.29
244	40	8.07	12.11	1,938.43	2,888.64	244	40	23.42	35.13	5,648.28	8,452.42
245	40	8.07	12.11	1,946.50	2,900.75	245	40	23.42	35.13	5,671.70	8,487.55
246	40	8.07	12.11	1,954.57	2,912.86	246	40	23.42	35.13	5,695.12	8,522.68
247	40	8.07	12.11	1,962.64	2,924.97	247	40	23.42	35.13	5,718.54	8,557.81
248	40	8.07	12.11	1,970.71	2,937.08	248	40	23.42	35.13	5,741.96	8,592.94
249	40	8.07	12.11	1,978.78	2,949.19	249	40	23.42	35.13	5,765.38	8,628.07
250	40	8.07	12.11	1,986.85	2,961.30	250	40	23.42	35.13	5,788.80	8,663.20
251	40	8.07	12.11	1,994.92	2,973.41	251	40	23.42	35.13	5,812.22	8,698.33
252	40	8.07	12.11	2,002.99	2,985.52	252	40	23.42	35.13	5,835.64	8,733.46

Attachment 3

unit (kl)	SC (S$)	WS (S$)	WS+WW (S$)	Domestic		unit (kl)	SC (S$)	WS (S$)	WS+WW (S$)	Gov./Com.	
				WS (S$)	WS+WW (S$)					WS (S$)	WS+WW (S$)
253	40	8.07	12.11	2,011.06	2,997.63	253	40	23.42	35.13	5,859.06	8,768.59
254	40	8.07	12.11	2,019.13	3,009.74	254	40	23.42	35.13	5,882.48	8,803.72
255	40	8.07	12.11	2,027.20	3,021.85	255	40	23.42	35.13	5,905.90	8,838.85
256	40	8.07	12.11	2,035.27	3,033.96	256	40	23.42	35.13	5,929.32	8,873.98
257	40	8.07	12.11	2,043.34	3,046.07	257	40	23.42	35.13	5,952.74	8,909.11
258	40	8.07	12.11	2,051.41	3,058.18	258	40	23.42	35.13	5,976.16	8,944.24
259	40	8.07	12.11	2,059.48	3,070.29	259	40	23.42	35.13	5,999.58	8,979.37
260	40	8.07	12.11	2,067.55	3,082.40	260	40	23.42	35.13	6,023.00	9,014.50
261	40	8.07	12.11	2,075.62	3,094.51	261	40	23.42	35.13	6,046.42	9,049.63
262	40	8.07	12.11	2,083.69	3,106.62	262	40	23.42	35.13	6,069.84	9,084.76
263	40	8.07	12.11	2,091.76	3,118.73	263	40	23.42	35.13	6,093.26	9,119.89
264	40	8.07	12.11	2,099.83	3,130.84	264	40	23.42	35.13	6,116.68	9,155.02
265	40	8.07	12.11	2,107.90	3,142.95	265	40	23.42	35.13	6,140.10	9,190.15
266	40	8.07	12.11	2,115.97	3,155.06	266	40	23.42	35.13	6,163.52	9,225.28
267	40	8.07	12.11	2,124.04	3,167.17	267	40	23.42	35.13	6,186.94	9,260.41
268	40	8.07	12.11	2,132.11	3,179.28	268	40	23.42	35.13	6,210.36	9,295.54
269	40	8.07	12.11	2,140.18	3,191.39	269	40	23.42	35.13	6,233.78	9,330.67
270	40	8.07	12.11	2,148.25	3,203.50	270	40	23.42	35.13	6,257.20	9,365.80
271	40	8.07	12.11	2,156.32	3,215.61	271	40	23.42	35.13	6,280.62	9,400.93
272	40	8.07	12.11	2,164.39	3,227.72	272	40	23.42	35.13	6,304.04	9,436.06
273	40	8.07	12.11	2,172.46	3,239.83	273	40	23.42	35.13	6,327.46	9,471.19
274	40	8.07	12.11	2,180.53	3,251.94	274	40	23.42	35.13	6,350.88	9,506.32
275	40	8.07	12.11	2,188.60	3,264.05	275	40	23.42	35.13	6,374.30	9,541.45
276	40	8.07	12.11	2,196.67	3,276.16	276	40	23.42	35.13	6,397.72	9,576.58
277	40	8.07	12.11	2,204.74	3,288.27	277	40	23.42	35.13	6,421.14	9,611.71
278	40	8.07	12.11	2,212.81	3,300.38	278	40	23.42	35.13	6,444.56	9,646.84
279	40	8.07	12.11	2,220.88	3,312.49	279	40	23.42	35.13	6,467.98	9,681.97
280	40	8.07	12.11	2,228.95	3,324.60	280	40	23.42	35.13	6,491.40	9,717.10
281	40	8.07	12.11	2,237.02	3,336.71	281	40	23.42	35.13	6,514.82	9,752.23
282	40	8.07	12.11	2,245.09	3,348.82	282	40	23.42	35.13	6,538.24	9,787.36
283	40	8.07	12.11	2,253.16	3,360.93	283	40	23.42	35.13	6,561.66	9,822.49
284	40	8.07	12.11	2,261.23	3,373.04	284	40	23.42	35.13	6,585.08	9,857.62
285	40	8.07	12.11	2,269.30	3,385.15	285	40	23.42	35.13	6,608.50	9,892.75
286	40	8.07	12.11	2,277.37	3,397.26	286	40	23.42	35.13	6,631.92	9,927.88
287	40	8.07	12.11	2,285.44	3,409.37	287	40	23.42	35.13	6,655.34	9,963.01
288	40	8.07	12.11	2,293.51	3,421.48	288	40	23.42	35.13	6,678.76	9,998.14
289	40	8.07	12.11	2,301.58	3,433.59	289	40	23.42	35.13	6,702.18	10,033.27
290	40	8.07	12.11	2,309.65	3,445.70	290	40	23.42	35.13	6,725.60	10,068.40
291	40	8.07	12.11	2,317.72	3,457.81	291	40	23.42	35.13	6,749.02	10,103.53
292	40	8.07	12.11	2,325.79	3,469.92	292	40	23.42	35.13	6,772.44	10,138.66
293	40	8.07	12.11	2,333.86	3,482.03	293	40	23.42	35.13	6,795.86	10,173.79
294	40	8.07	12.11	2,341.93	3,494.14	294	40	23.42	35.13	6,819.28	10,208.92
295	40	8.07	12.11	2,350.00	3,506.25	295	40	23.42	35.13	6,842.70	10,244.05
296	40	8.07	12.11	2,358.07	3,518.36	296	40	23.42	35.13	6,866.12	10,279.18
297	40	8.07	12.11	2,366.14	3,530.47	297	40	23.42	35.13	6,889.54	10,314.31
298	40	8.07	12.11	2,374.21	3,542.58	298	40	23.42	35.13	6,912.96	10,349.44
299	40	8.07	12.11	2,382.28	3,554.69	299	40	23.42	35.13	6,936.38	10,384.57
300	40	8.07	12.11	2,390.35	3,566.80	300	40	23.42	35.13	6,959.80	10,419.70

MRs Performance Sheet for February 2013

		February	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Team 1	Fred	Target	85			85	85	85	85	85			85	85	85	85	85			85	85	85	85										1275
		Actual																																0
		Attaimant	85			85	85	85	85	85			85	85	85	85	85			85	85	85	85											1275
	Seru	Target	67			67	67	67	67	67			67	67	67	67	67			67	67	67	67											1005
		Actual																																0
		Attaimant	67			67	67	67	67	67			67	67	67	67	67			67	67	67	67											1005
	Wilson	Target	83			83	83	83	83	83			83	83	83	83	83			83	83	83	83											1245
		Actual																																0
		Attaimant	83			83	83	83	83	83			83	83	83	83	83			83	83	83	83											1245
Team 2	Henry/Harry	Target	68			68	68	68	68	68			68	68	68	68	68			68	68	68	68											1020
		Actual																																0
		Attaimant	68			68	68	68	68	68			68	68	68	68	68			68	68	68	68											1020
	Joseph	Target	77			77	77	77	77	77			77	77	77	77	77			77	77	77	77											1155
		Actual																																0
		Attaimant	77			77	77	77	77	77			77	77	77	77	77			77	77	77	77											1155
	William	Target	75			75	75	75	75	75			75	75	75	75	75			75	75	75	75											1125
		Actual																																0
		Attaimant	75			75	75	75	75	75			75	75	75	75	75			75	75	75	75											1125
Team 3	Stanley	Target	67			67	67	67	67	67			67	67	67	67	67			67	67	67	67											1005
		Actual																																0
		Attaimant	67			67	67	67	67	67			67	67	67	67	67			67	67	67	67											1005
	MIKEY	Target	67			67	67	67	67	67			67	67	67	67	67			67	67	67	67											1005
		Actual																																0
		Attaimant	67			67	67	67	67	67			67	67	67	67	67			67	67	67	67											1005
	Lesley	Target	80			80	80	80	80	80			80	80	80	80	80			80	80	80	80											1200
		Actual																																0
		Attaimant	80			80	80	80	80	80			80	80	80	80	80			80	80	80	80											1200

Note: **Active accounts must be visitied within 15 business days.**

Target: Number of active accounts to be visited per day including direct lines

Actual: Actual number of active accounts visited in a day including direct lines

Attainment: Taget - Actual

Attachment 4-B

Number of accounts to be visitied / day / meter reader

as of Jan. 2013

Name of MRs	Number of Cycles / MR	Number of Registered Customers (1)	Number of Active Accounts (2)	Number of accounts to be visitied / day / MR (within 15 busuness days) (3)=(1)/15
1. Fred Karai	**8**	**1,274**	**884**	**85**
2. Seru Daubitu	**9**	**1,002**	**646**	**67**
3. Wilson Sualalu	**8**	**1,247**	**945**	**83**
4. Henry / Harry	**8**	**1,017**	**751**	**68**
5. Joseph Gado	**9**	**1,151**	**899**	**77**
6. Stanley Pavuvu	**8**	**1,012**	**724**	**67**
7. Leslie Seda	**9**	**1,195**	**854**	**80**
8. William Asilaua	**8**	**1,118**	**770**	**75**
9. Michael Toenunu	**7**	**1,009**	**662**	**67**
Grand Total	**74**	**10,025**	**7,135**	**668**

Scope of Works of Meter Readers

Customers with meters

1 readings
2 inform current units and charges
3 notice for sudden decrease in water consumption if necessary
4 notice for sudden increase in water consumption if necessary
5 notice for re-visit if necessary
6 check meters whether they works properly or not
7 check leaks
8 delivery of invoice
9 encourage them to pay their unpaid bills
10 other PR activities (water conservation, new water tariff, water outage, etc)

Customers without meters

1 check leaks
2 delivery of invoice
3 encourage them to pay their unpaid bills
4 encourage them to install water meter
5 other PR activities (water conservation, new water tariff, water outage, etc)

Others

1 identify illigal connections

S7.2-1 検針演習

2. Calculation Practice

Name _____

Date _____

1	2	3	4	5
1000	2000	3000	4000	5000
- 967	- 1985	- 2967	- 3985	- 4967
33	15	33	15	33
6	7	8	9	10
6000	7000	8000	9000	1000
- 5985	- 6967	- 7985	- 8999	- 650
15	33	15	1	350

Date _____

1	2	3	4	5
1100	2100	3100	4100	5100
- 1068	- 2086	- 3068	- 4086	- 5068
32	14	32	14	32
6	7	8	9	10
6100	7100	8100	9100	2500
- 6064	- 7067	- 8064	- 9095	- 2000
36	33	36	5	500

Date _____

1	2	3	4	5
1149	2158	3167	4186	5195
- 1117	- 2144	- 3131	- 4171	- 5160
32	14	36	15	35
6	7	8	9	10
6134	7123	8112	9101	3415
- 6121	- 7090	- 8098	- 9099	- 3105
13	33	14	2	310

Date _____

1	2	3	4	5
3456	3387	3399	3328	3100
- 3415	- 3371	- 3362	- 3311	- 3162
41	16	37	17	-62
6	7	8	9	10
4567	4476	4401	5252	5403
- 4529	- 4457	- 4364	- 5249	- 5039
38	19	37	3	364

Date _____

1	2	3	4	5
6432	6577	6340	6283	6659
- 6401	- 6557	- 6304	- 6268	- 6623
31	20	36	15	36
6	7	8	9	10
7038	7831	7399	8230	8123
- 7011	- 7818	- 7369	- 8228	- 7706
27	13	30	2	417

Name _____

Date _____

1	1000	-	967	=		2	2000	-	1985	=	
3	3000	-	2965	=		4	30m3 x 1.3	=			m3
							* 30% increasing of 30m3				
5	40m3 x 1.3	=			m3	6	30m3 x 0.7	=			m3
	* 30% increasing of 40m3						* 30% decreasing of 30m3				

Date _____

1	1100	-	1060	=		2	2100	-	2082	=	
3	3100	-	3062	=		4	50m3 x 1.3	=			m3
							* 30% increasing of 50m3				
5	40m3 x 0.7	=			m3	6	20m3 x 1.3	=			m3
	* 30% decreasing of 40m3						* 30% increasing of 20m3				

Date _____

1	1148	-	1117	=		2	2158	-	2144	=	
3	3167	-	3132	=		4	10m3 x 1.3	=			m3
							* 30% increasing of 10m3				
5	20m3 x 0.7	=			m3	6	60m3 x 1.3	=			m3
	* 30% decreasing of 20m3						* 30% increasing of 60m3				

Date _____

1	4567	-	4529	=		2	4476	-	4457	=	
3	4401	-	4364	=		4	40m3 x 1.4	=			m3
							* 30% increasing of 40m3				
5	30m3 x 0.6	=			m3	6	20m3 x 1.4	=			m3
	* 40% decreasing of 30m3						* 40% increasing of 20m3				

Date _____

1	1000	-	967	=		2	2000	-	1985	=	
3	3000	-	2965	=	m3	4	40m3 x 1.2	=			m3
							* 20% increasing of 40m3				
5	40m3 x 0.8	=			m3	6	50m3 x 1.2	=			m3
	* 20% decreasing of 40m3						* 20% increasing of 50m3				

Name _____

Date _____

1	1000 - 967 =	33		2	2000 - 1985 =	15		
3	3000 - 2965 =	35		4	30m3 x 1.3 =	39	m3	
					* 30% increasing of 30m3			
5	40m3 x 1.3 =	52	m3	6	30m3 x 0.7 =	21	m3	
	* 30% increasing of 40m3				* 30% decreasing of 30m3			

Date _____

1	1100 - 1060 =	40		2	2100 - 2082 =	18		
3	3100 - 3062 =	38		4	50m3 x 1.3 =	65	m3	
					* 30% increasing of 50m3			
5	40m3 x 0.7 =	28	m3	6	20m3 x 1.3 =	26	m3	
	* 30% decreasing of 40m3				* 30% increasing of 20m3			

Date _____

1	1148 - 1117 =	31		2	2158 - 2144 =	14		
3	3167 - 3132 =	35		4	10m3 x 1.3 =	13	m3	
					* 30% increasing of 10m3			
5	20m3 x 0.7 =	14	m3	6	60m3 x 1.3 =	78	m3	
	* 30% decreasing of 20m3				* 30% increasing of 60m3			

Date _____

1	4567 - 4529 =	38		2	4476 - 4457 =	19		
3	4401 - 4364 =	37		4	40m3 x 1.4 =	56	m3	
					* 30% increasing of 40m3			
5	30m3 x 0.6 =	18	m3	6	20m3 x 1.4 =	28	m3	
	* 40% decreasing of 30m3				* 40% increasing of 20m3			

Date _____

1	1000 - 967 =	33		2	2000 - 1985 =	15		
3	3000 - 2965 =	35	m3	4	40m3 x 1.2 =	48	m3	
					* 20% increasing of 40m3			
5	40m3 x 0.8 =	32	m3	6	50m3 x 1.2 =	60	m3	
	* 20% decreasing of 40m3				* 20% increasing of 50m3			

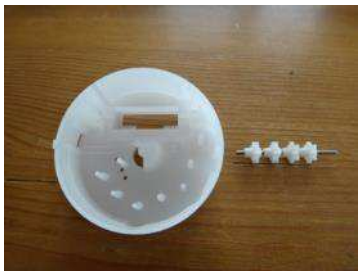
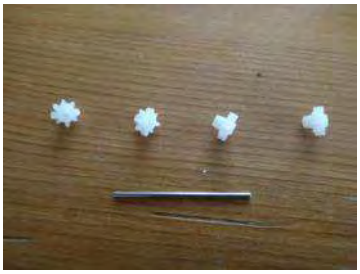
S7.2-2 水道メータの組立・分解

3. Assembly/Disassembly of Water meter

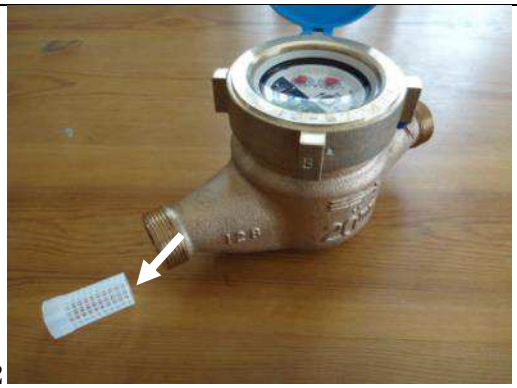
3.1 Water Meter with the Pilot (Indicator)

1. Parts List

		
Water meter	Whole parts	Strainer
		
Lid	Plastic ring	Bottom case with impeller
		
Bottom case/Impeller	Rubber ring	Rubber ring and glass lid
		
Meter case & drying agent	Drying agent	Reverse side of meter
		

Meter/Magnet ring /Small gear	Magnet ring	Small gear with magnet
		
Water meter	Inside the meter/lid	Gears
		
Indicater body	Indicater body parts	Indicater support
		
Indicater support parts		

2. Disassembly of Water Meter

1 	2  Pull out strainer
3  Separate lid parts	4  Plastic ring
5  Meter units	6  Tiny iron bar for adjustment
7  Meter bottom case/meter body	8  Meter units

9

Rubber ring

10

Glass lid/another rubber ring

11

Meter case/meter body

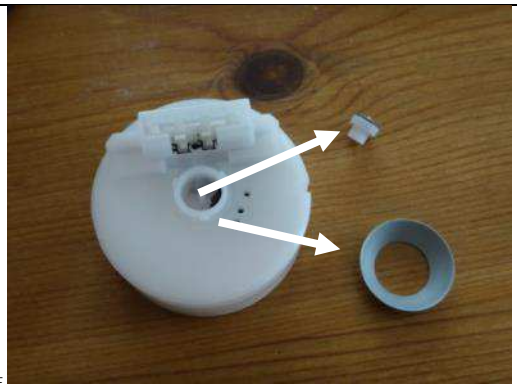
12

Surface of water meter

13

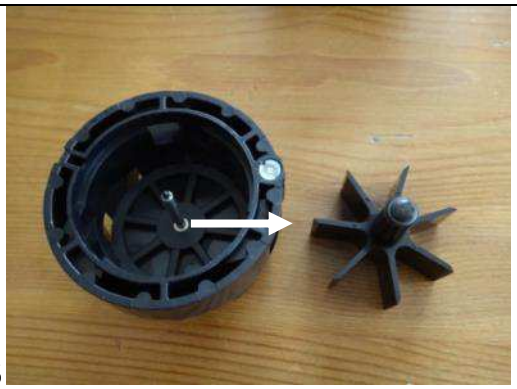
Rivers side of water meter

14



Magnet/small gear with magnet

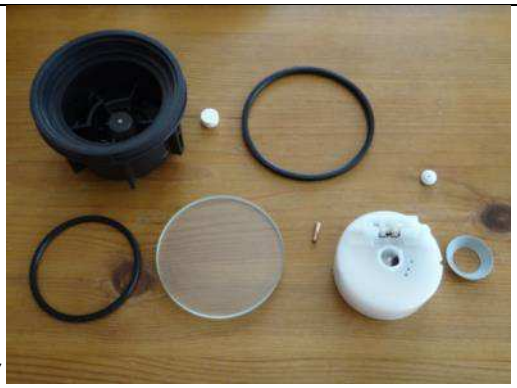
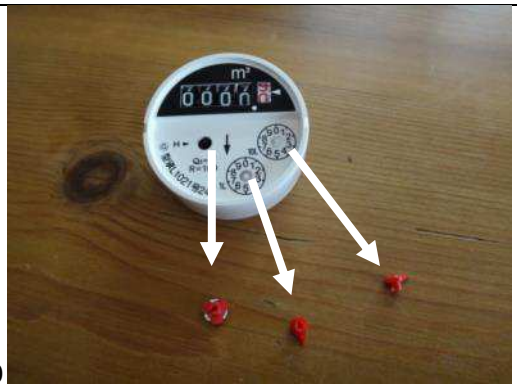
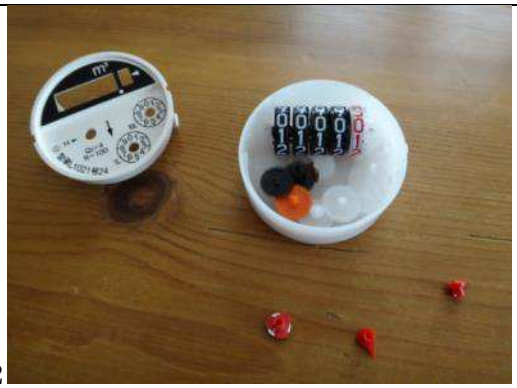
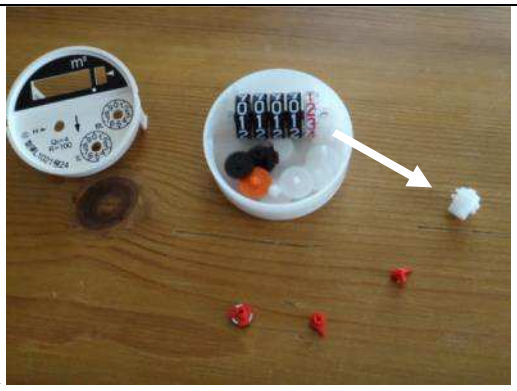
15



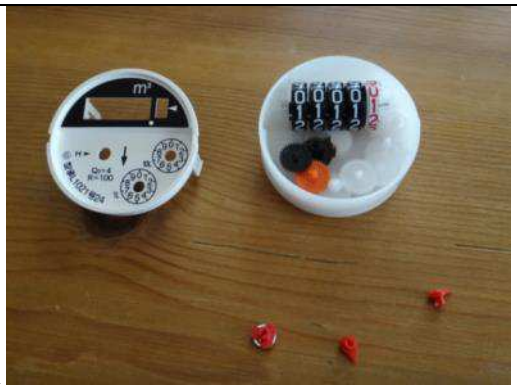
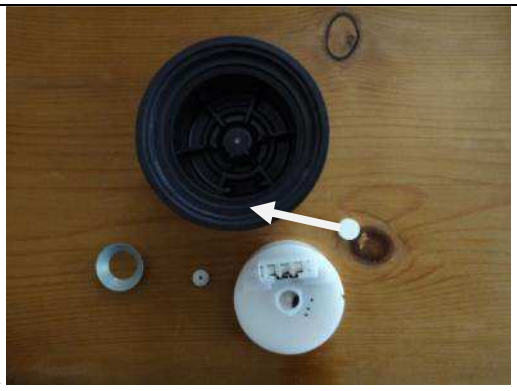
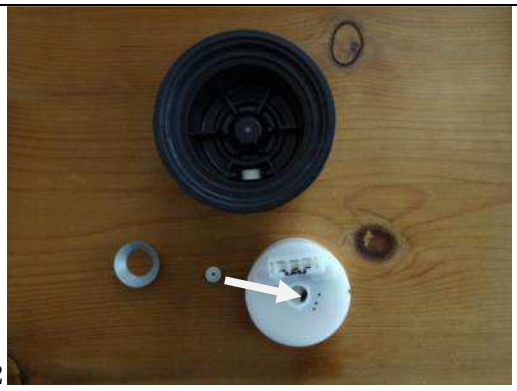
Meter bottom case/Impellar

16

Meter case with drying agent

17  Meter units	18  Decomposition of water meter
To adjust figures as 00000	
19  Pilot/Indicator	20  Remove pilot/indicators
21  Remove the lid to push part of the hook	22  Inside
21  Remove the lead gear	22  Set the number to 00000

3. Assembly of Water Meter

<table>
<tr><td colspan="2">After adjustment</td></tr>
<tr><td>1
 
Put on the lead gear</td><td>2
 
Place the lid</td></tr>
<tr><td>3
 
Set the pilot/indicators</td><td>4
 
Adjust 1L/10L indicator not to move the figures pressing the pilot indicater</td></tr>
<tr><td colspan="2">Assembly of meter units</td></tr>
<tr><td>1
 
Drying agent</td><td>2
 
Small gear</td></tr>
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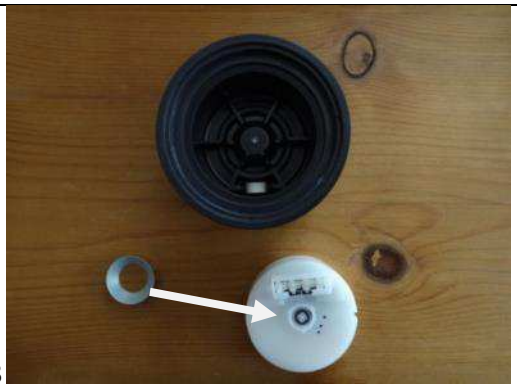
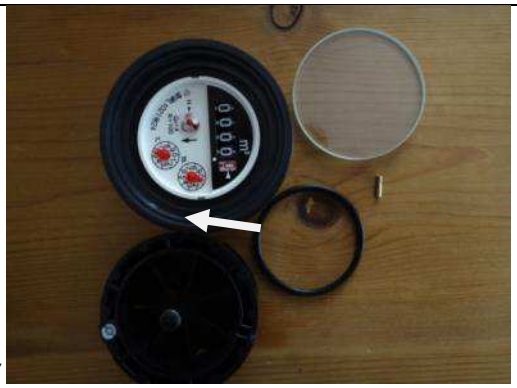
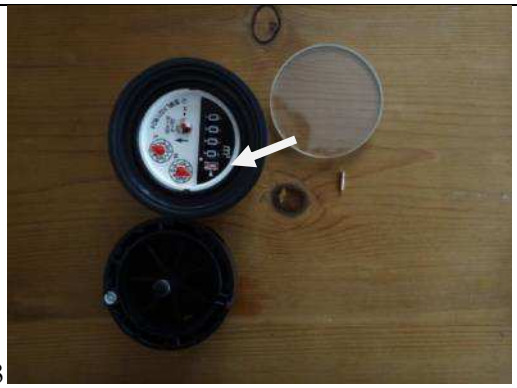
3  Magnet	4  Meter unit
5  Assemble meter unit	6  Impellar
7  Rubber ring	8  Glass lid
9  Rubber ring	10  Assemble meter unit & lower case

11  Tiny iron bar	12  Assemble meter unit & iron case
13  Plastic ring	14  Upper case
16  Confirm moving pilot meter by blowing	17  Water meter

S7.3-1 FAQ

OUR VISION

Safe water for a healthy nation

OUR MISSION

To provide safe and reliable water service in our areas of operations in solomon isands

S7.3-1-1

Solomon Water

For more information contact us on **tel**: 23585

Email: service@solomonwater.com.sb | **facebook**.com/Solomonwater

Website: www.solomonwater.com.sb

www.solomonwater.com.sb

FAQ

Frequently Asked Questions

FREQUENTLY ASKED QUESTIONS

Billing Enquiries

1. Where can i pay my bill?
You can pay your bill at our Customer Care Centre, Point Cruz or Hyundai Mall Cashier or at any of our Provincial Centres in Auki, Tulagi and Noro.

2. How do I apply for a new water conneciton?
Contact our Customer Care by Phone: 23985, Email:service@solomonwater.com.sb, Mail: P.O.Box 1407, Honiara or in person to our Customer Care Centre,BJS Building, Point Cruz.

3. Who do I contact if I have a question/
4. concern/problem regarding my water bill?
Questions on billing, transfers, and Reconnection and Disconnections should be directed to our Customer Service Centre at Phone. 23985.

S7.3-1-2

5. Can I receive my bill electronically?
Yes register with us now to recieve your monthly bill via your email address.

6. Is it true that the new raised meters charge more?
No, the raised meter charges the same.

7. What is the fixed charge?
Temporary charge imposed on customers with no meters

8. My bill is higher than expected
If it is not due to any leakages on your property, send us a request and our meter reading team will verify your meter readings. If your water meter is faulty, your account will be adjusted according to your verified usage

9. What is the Standing Charge?
Is a fixed charge that covers the cost of supplying water to your homes. It covers the cost of the pipes and maintenance of meters.

Water Quality

10. What is Chlorination?
Chlorination is a method to disinefect water. It is the process of adding chlorine to the water.

11. Is the white clay scale inside my kettle caused by Chlorine?
No, it is caused by water with high minerals content(Hard Water). However there is no health risk associated to water with high mineral content

12. When i turned on my tap, the water gave a bad smell?
The smell is caused by chlorine for disinfection. Chlorine is not harmful but some people are more senstive to the smell of chlorine

New Installation

13. What are the charges for a new connection?
You can access our latest rates and charges at our BJS Customer Care Centre, Point Cruz or check out our website: www.solomonwater.com.sb.

14. What are requirements for a new service connection?
- Certified Land Titles (Fix Term Estate, Temporary Occupancy land,Customary Land Title).
- Topographic Map

15. How long does it take to process a service application form.
Approximately 4 Weeks (One Month) to process applications for new service connection.

16. What is a House Desposit?
A bond fee that is required for every customers to pay. House Deposit is refundable if customers do not have any outstanding bills. Solomon Water now deals with the property owner and property owners are responsible to pay for the house deposit.

17. What to do when I move house?
It is important that you report to us before you move house so that we can arrange for our meter reading team to take your final reading as well as to fill in the change of address form.

18. Im a new tenant. However water is disconnected due to arrrears left by previous tenants?
Solomon Water now deals directly with the landlord or the property owner. This is to avoid arrears left by previous tenant. In instances, where there is an urgent need for settlement of water bill, the tenant should amicably talk to his/ her landlord and create an agreement for a water settlement plan.

19. I want to purchase a new property?
Ensure previous owner account is cleared and fill in the change of address form to recieve your monthly bill.

20. What should i do when i sight leakages, bursts and illegal tamperings ?
Please report any of this sighting to Solomon Water on phone: 23985. All informations reported are treated with strict confidentiality.

21. Fees to pay if your water is disconnected
Outstanding bill and Reconnection fee. However if Solomon Water founds out your illegally connecting to our service when your water is disconnected, you will also pay for an illegal fee

第 8 章　投入

S8.1-1 供与機材状態

Status of the Provided Equipment

No.	SW Equipment Number	Item	Description	Status	Serial Number	Location Stored / Installed	Person/People in Charge	Month Purchased	Date of Arrival of Equipment	Date of Inspection	Date of Handover
1-1	SW-13-UF-01J	1xPortable Ultrasonic Flow Meter	Potaflow-C (50-400mm), Fuji Electric Systems	In Use	A3A5625T(Flow meter),A3A5626T (Sensor)	Provincial Management	Eric Unga	Jan-13	16-Feb-13	27-Feb-13	01-Mar-13
1-2	SW-13-UF-02J	1xPortable Ultrasonic Flow Meter	Potaflow-C (50-400mm), Fuji Electric Systems	In Use	N5B0951T	Provincial Management	Eric Unga	Mar-15	21-Apr-15	21-Apr-15	22-Mar-15
2-1	SW-13-UF(A)-01 J	1xAccessor y (Detector) of Ultrasonic Flow Meter	For Potaflow-C (13-100mm), Fuji Electric Systems	In Use	A3A5627T	Provincial Management	Eric Unga	Jan-13	16-Feb-13	27-Feb-13	01-Mar-13
2-2	SW-13-UF(A)-02 J	1xAccessor y (Detector) of Ultrasonic Flow Meter	For Potaflow-C (13-100mm), Fuji Electric Systems	In Use	N5B0952	Provincial Management	Eric Unga	Mar-15	21-Apr-15	21-Apr-15	22-Mar-15
3-1	SW-13-BA-01J	1xDC Battery Adaptor	For Potaflow-C, Fuji Electric Systems	In Use	2012.7.-	Provincial Management	Eric Unga	Jan-13	16-Feb-13	27-Feb-13	01-Mar-13
3-2	SW-13-BA-02J	1xDC Battery Adaptor	For Potaflow-C, Fuji Electric Systems	In Use	N/A	Provincial Management	Eric Unga	Mar-15	21-Apr-15	21-Apr-15	22-Mar-15
4	SW-13-DL-01J	1xData Logger	Textlog II, Ashridge	In Use	35089	Provincial Management	Eric Unga	Jan-13	16-Feb-13	27-Feb-13	01-Mar-13

No.	SW Equipment Number	Item	Description	Status	Serial Number	Location Stored / Installed	Person/People in Charge	Month Purchased	Date of Arrival of Equipment	Date of Inspection	Date of Handover
5	SW-13-LDN-01J	1xWater Leak Detector (Leak Noise Correlator)	LC-2500, Fuji Tecom	In Use	00051(Main Unit), 00051R(Red), 00051B(Blue)	Provincial Management	Eric Unga	Jul-13	05-Aug-13	12-Aug-13	12-Aug-13
6	SW-13-LDA-01J	1xWater Leak Detector (Acoustic Type)	HG-10A II, Fuji Tecom	In Use	007162	Provincial Management	Eric Unga	Jul-13	05-Aug-13	12-Aug-13	12-Aug-13
7	SW-13-ML-01J	1xMetal Locator	F-90M, Fuji Tecom	In Use	006018	Provincial Management	Eric Unga	Jul-13	05-Aug-13	12-Aug-13	12-Aug-13
8	SW-13-NM-01J	1xNon-Metal Pile Locator	Tokio Rhythm TR-1, Sankei Industry	In Use	No.67	Provincial Management	Eric Unga	Jul-13	05-Aug-13	12-Aug-13	12-Aug-13
9	SW-13-DM-01J	1xDistance Meter	B-20S, Tokyo Rasonic	In Use	13F	Provincial Management	Eric Unga	Jul-13	05-Aug-13	12-Aug-13	12-Aug-13
10	SW-13-HD-01J	1xHammer Drill	DH24PC3, Hitachi Koki	In Use	CN10089	NRW Storage	Eric Unga	Jul-13	N/A	05-Jul-13	09-Jul-13
11	SW-13-DB-01J to 05J	5 x Drill Bit	750145, Hitachi Koki	In Use	N/A	NRW Storage	Eric Unga	Jul-13	N/A	05-Jul-13	09-Jul-13
12	SW-13-BB-01J	1xBoring Bar	Length 1.0m, Fuji Tecom	In Use	N/A	Provincial Management	Eric Unga	Jul-13	05-Aug-13	12-Aug-13	12-Aug-13
13	SW-13-GN-01J	1xGenerator	EF2600FW, Yamaha	In Use	7C2-0381730	NRW Storage	Eric Unga	Jul-13	N/A	05-Jul-13	09-Jul-13
14	SW-13-AR-01J to 02J	2 x Acoustic Rod	LSP-1.5m, Fuji Tecom	In Use	N/A	Provincial Management	Eric Unga	Jul-13	05-Aug-13	12-Aug-13	12-Aug-13
15	SW-13-RC-01J	Residual Chlorine	RC-31P-F, DKK-TOA	In Use	728265(Main Body),	Provincial Management	Eric Unga	Jul-13	05-Aug-13	12-Aug-13	12-Aug-13

No.	SW Equipment Number	Item	Description	Status	Serial Number	Location Stored / Installed	Person/People in Charge	Month Purchased	Date of Arrival of Equipment	Date of Inspection	Date of Handover
		Analyzer			305F0063(Electrode), ODG00003(Measuring Container)						
16-1	SW-13-BF300-01J	1xBulk Flow Meter Dia300mm	PN16, Dia300mm, Flange Joint, FC	In Use	10-8871	Tasahe Reservoir Outlet	Benjamin Billy	May-13	N/A	30-May-13	07-Jun-13
16-2	SW-13-BF200-01J to 07J	7 x Bulk Flow Meter Dia200mm	PN16, Dia200mm, Flange Joint, FC	In Use	120-002278, 120-002279, 120-002286, 120-002288, 120-51980, 120-51982, 120-51985	Skyline Tank, Rove Pump House, Low West Tank, Boarder Tank Outlet, Kobito Pumps, West Kolaa Ridge B & C and Naha Height DMA, Titinge Tank	Benjamin Billy	May-13	N/A	30-May-13	07-Jun-13
16-3	SW-13-BF150-01J	1xBulk Flow Meter Dia150mm	PN16, Dia150mm, Flange Joint, FC	In Use	11-6933	Panatina Tank	Benjamin Billy	May-13	N/A	30-May-13	07-Jun-13
16-4	SW-13-BF100-01J	1xBulk Flow Meter Dia100mm	PN16, Dia100mm, Flange Joint, FC	In Use	11-6767	Lenggakiki Ridge	Benjamin Billy	May-13	N/A	30-May-13	07-Jun-13
17-1	SW-13-GV50-01J	1xGate Valve Dia	DR Brass Tested, Dia	In Use	N/A	Mbokonavera Pilot Site	Benjamin Billy	May-13	N/A	30-May-13	07-Jun-13

No.	SW Equipment Number	Item	Description	Status	Serial Number	Location Stored / Installed	Person/People in Charge	Month Purchased	Date of Arrival of Equipment	Date of Inspection	Date of Handover
		50mm	50mm								
17-2	SW-13-GV25-01J	1xGate Valve Dia 25mm	DR Brass Tested, Dia 25mm	In Use	N/A	Mbokona Pilot Site	Benjamin Billy	May-13	N/A	30-May-13	07-Jun-13
17-3	SW-13-SV225-01J	1xSluice Valve Dia 225mm	PN12.5, Dia225mm, FC, ACC	In Use	N/A	Titinge Tank	Benjamin Billy	May-13	N/A	30-May-13	07-Jun-13
17-4	SW-13-SV200-01J	1xSluice Valve Dia 200mm	PN12.5, Dia200mm, FC, ACC	In Use	N/A	Kombito Pumps	Benjamin Billy	May-13	N/A	30-May-13	07-Jun-13
17-5	SW-13-SV150-01J	1xSluice Valve Dia 150mm	PN12.5, Dia150mm, FC, ACC	In Use	N/A	Panatina Tank	Benjamin Billy	May-13	N/A	30-May-13	07-Jun-13
17-6	SW-13-SV100-01J to 02J	2 x Sluice Valve Dia 100mm	PN12.5, Dia100mm, FC, ACC	In Use	N/A	Rove Pump House, Lenggakiki Pilot Site	Benjamin Billy	May-13	N/A	30-May-13	07-Jun-13
17-7	SW-13-SV80-01J to 05J	5 x Sluice Valve Dia 80mm	PN12.5, Dia80mm, FC, ACC	In Use	N/A	FFA Kolaa, Mbua Valley, Mbokona, Panatina Valley, Mbaranamba (all Pilot Sites)	Benjamin Billy	May-13	N/A	30-May-13	07-Jun-13
17-8	SW-13-SV50-01J to 08J	8 x Sluice Valve Dia 50mm	DN50 resilient sated fl-fl CC	In Use	N/A	Naha 2(2), Naha 3(2), Tuvaruhu 1(2), Tuvaruhu 2(2) (all Pilot Sites)	Benjamin Billy	Dec-13	N/A	28-Jan-14	03-Feb-14
17-9	SW-13-SV80-06J	4 x Sluice	DN80	In Use	N/A	Tuvaruhu 1(2),	Benjamin	Dec-13	N/A	28-Jan-14	03-Feb-14

No.	SW Equipment Number	Item	Description	Status	Serial Number	Location Stored / Installed	Person/People in Charge	Month Purchased	Date of Arrival of Equipment	Date of Inspection	Date of Handover
	to 09J	Valve Dia 80mm	resilient seated fl-fl CC			Tuvaruhu 2(2) (both Pilot Sites)	Billy				
17-10	SW-13-SV100-03 J to 07J	5 x Sluice Valve Dia 100mm	DN100 resilient seated fl-fl CC	In Use	N/A	Bahai Kukum(3), Naha 2(2) (both Pilot Sites)	Benjamin Billy	Dec-13	N/A	28-Jan-14	03-Feb-14
18-1	SW-13-FA300-01 J to 02J	2 x Flange Adaptor Dia 300mm	PN12.5, Dia300mm, FC	In Use	N/A	Tasahe Tank	Benjamin Billy	May-13	N/A	30-May-13	07-Jun-13
18-2	SW-13-FA200-01 J to 08J	8 x Flange Adaptor Dia 200mm	PN12.5, Dia200mm, FC	In Use	N/A	Skyline Tank(2), Boarder Tank Outlet(2), Kombito Pumps(2), West Kolaa Ridge B&C and Naha Height DMA(2)	Benjamin Billy	May-13	N/A	30-May-13	07-Jun-13
18-3	SW-13-FA100-01 J to 04J	4 x Flange Adaptor Dia 100mm	PN12.5, Dia100mm, FC	In Use	N/A	Rove Pump House(2), Lenggakiki Pilot Site(2)	Benjamin Billy	May-13	N/A	30-May-13	07-Jun-13
18-4	SW-13-FA80-01J to 10J	10 x Flange Adaptor Dia 80mm	PN12.5, Dia80mm, FC	In Use	N/A	FFA Kolaa(2), Mbua Valley(2), Mbokona(2), Panatina Valley(2), Mbaranamba(2)	Benjamin Billy	May-13	N/A	30-May-13	07-Jun-13

No.	SW Equipment Number	Item	Description	Status	Serial Number	Location Stored / Installed	Person/People in Charge	Month Purchased	Date of Arrival of Equipment	Date of Inspection	Date of Handover
						(all Pilot Sites)					
18-5	SW-13-FA225-01 J to 06J	6 x Flange Adaptor Dia 225mm	PN12.5, Dia225mm, FC	In Use	N/A	Rove Pump House(2), West Kolaa Ridge B&C and Naha Height DMA(2), Titinge Tank(2)	Benjamin Billy	May-13	N/A	08-Aug-13	12-Aug-13
18-6	SW-13-FA150-01 J to 02J	2 x Flange Adaptor Dia 150mm	PN12.5, Dia150mm, FC	In Use	N/A	Panatina Tank	Benjamin Billy	May-13	N/A	08-Aug-13	12-Aug-13
18-7	SW-13-FA50-01J to 16J	16 x Flange Adaptor Dia 50mm	DN50 DI (59-73 o/d)	In Use	N/A	Naha 2(4), Naha 3(4), Tuvaruhu 1(4), Tuvaruhu 2(4) (all Pilot Sites)	Benjamin Billy	Dec-13	N/A	03-Oct-13	03-Feb-14
18-8	SW-13-FA80-11J to 18J	8 x Flange Adaptor Dia 80mm	DN80 DI Connector fl-soc (089 o/d)	In Use	N/A	Tuvaruhu 1(4), Tuvaruhu 2(4) (both Pilot Sites)	Benjamin Billy	Dec-13	N/A	28-Jan-14	03-Feb-14
18-9	SW-13-FA100-5J to 14J	10 x Flange Adaptor Dia 100mm	DN100 DI Connector fl-soc (114 o/d)	In Use	N/A	Bahai Kukum(6), Naha 2(4) (both Pilot Sites)	Benjamin Billy	Dec-13	N/A	28-Jan-14	03-Feb-14
19-1	SW-13-SC100-01 J to 02J	2 x Supa Coupling Dia 100mm	Dia 100mm, AVK	In Use	N/A	Lenggakiki Pilot Site	Benjamin Billy	May-13	N/A	30-May-13	07-Jun-13
19-2	SW-13-SC80-01J to 10J	10 x Supa Coupling	Dia 80mm, AVK	In Use	N/A	FFA Kolaa(2), Mbua Valley(2),	Benjamin Billy	May-13	N/A	30-May-13	07-Jun-13

No.	SW Equipment Number	Item	Description	Status	Serial Number	Location Stored / Installed	Person/People in Charge	Month Purchased	Date of Arrival of Equipment	Date of Inspection	Date of Handover
		80mm				Mbokona(2), Panatina Valley(2), Mbaranamba(2) (all Pilot Sites)					
19-3	SW-13-SC80-11J to 14J	4 x Supa Coupling Dia 80mm	DN80 Varigib Coupler (88-103 o/d) galv steel fasteners	In Use	N/A	Tuvaruhu 1(2), Tuvaruhu 2(2) (both Pilot Sites)	Benjamin Billy	Dec-13	N/A	28-Jan-14	03-Feb-14
19-4	SW-13-SC100-03 J to 07J	5 x Supa Coupling Dia 100mm	DN100 Varigib Coupler (108-133 o/d) galv steel fasteners	In Use	N/A	Bahai Kukum(3), Naha 2(2) (both Pilot Sites)	Benjamin Billy	Dec-13	N/A	28-Jan-14	03-Feb-14
20	SW-13-FC-01J_0 6J	6 x Concentric Reducer Dia 225-200mm	Flanged T/D, Dia 225-200mm	In Use	N/A	Low West Tank(2), West Kolaa Ridge B&C and Naha Height DMA(2), Titinge Tank(2)	Benjamin Billy	May-13	N/A	30-May-13	07-Jun-13
21-1	SW-13-GB300-01 J to 02J	2 x Gasket and Bolt Set Dia 300mm	Dia 300mm	In Use	N/A	Tasahe Tank	Benjamin Billy	May-13	N/A	30-May-13	07-Jun-13
21-2	SW-13-GB225-01 J to 14J	14 x Gasket and Bolt Set Dia 225mm	Dia 225mm	In Use	N/A	Rove Pump House(3), Low West Tank(4),	Benjamin Billy	May-13	N/A	30-May-13	07-Jun-13

No.	SW Equipment Number	Item	Description	Status	Serial Number	Location Stored / Installed	Person/People in Charge	Month Purchased	Date of Arrival of Equipment	Date of Inspection	Date of Handover
						West Kolaa Ridge B&C and Naha Height DMA(3), Titinge Tank(4)					
21-3	SW-13-GB200-01 J to 16J	16 x Gasket and Bolt Set Dia 200mm	Dia 200mm	In Use	N/A	Skyline Tank(4), Rove Pump House(1), Low West Tank(1), Boarder Tank Outlet(4), Kobito Pumps(4), West Kolaa Ridge B&C and Naha Height DMA(1), Titinge Tank(1)	Benjamin Billy	May-13	N/A	30-May-13	07-Jun-13
21-4	SW-13-GB150-01 J to 04J	4 x Gasket and Bolt Set Dia 150mm	Dia 150mm	In Use	N/A	Panatina Tank	Benjamin Billy	May-13	N/A	30-May-13	07-Jun-13
21-5	SW-13-GB100-01 J to 04J	4 x Gasket and Bolt Set Dia 100mm	Dia 100mm	In Use	N/A	Rove Pump House(2), Lenggakiki Ridge(2)	Benjamin Billy	May-13	N/A	30-May-13	07-Jun-13
21-6	SW-13-GB80-01J _ to 10J	10 x Gasket and Bolt Set Dia 80mm	Dia 80mm	In Use	N/A	Mbua Valley(2), Mbokona(2), Independence	Benjamin Billy	May-13	N/A	30-May-13	07-Jun-13

No.	SW Equipment Number	Item	Description	Status	Serial Number	Location Stored / Installed	Person/People in Charge	Month Purchased	Date of Arrival of Equipment	Date of Inspection	Date of Handover
						Valley(2), Naha 2(2), Naha 3(2) (all Pilot Sites)					
21-7	SW-13-GB50-01J to 16J	16 x Gasket and Bolt Set Dia 50mm	DN50 (s/s nuts, bolts, washers & gasket)	In Use	N/A	Naha 2(4), Naha 3(4), Tuvaruhu 1(4), Tuvaruhu 2(4) (all Pilot Sites)	Benjamin Billy	Dec-13	N/A	28-Jan-14	03-Feb-14
21-8	SW-13-GB80-11J to 18J	8 x Gasket and Bolt Set Dia 80mm	DN80 (s/s nuts, bolts, washers & gasket)	In Use	N/A	Tuvaruhu 1(4), Tuvaruhu 2(4) (both Pilot Sites)	Benjamin Billy	Dec-13	N/A	28-Jan-14	03-Feb-14
21-9	SW-13-GB100-05 J to 14J	10 x Gasket and Bolt Set Dia 100mm	DN100 (s/s nuts, bolts, washers & gasket)	In Use	N/A	Bahai Kukum(6), Naha 2(4) (both Pilot Sites)	Benjamin Billy	Dec-13	N/A	28-Jan-14	03-Feb-14
22	SW-13-TM-01J	Test Meter	TR III, Aichi Tokei Denki	In Use	153	Provincial Management	Frank Daukalia	Jan-13	16-Feb-13	27-Feb-13	01-Mar-13
23	SW-13-HT-01J to 09J	9 x Handy Terminal	Juno 3B Handheld, Trimble	In Use	31000121500685, 31000121500686, 31000121500687, 31000121500688, 31000121500689, 31000121500690, 31000121500691, 31000121500695, 31000121500696	Meter Reading Team	Daisy Menaga	Jan-13	N/A	27-Feb-13	01-Mar-13
24-1	SW-13-GP-01J	GPS	Geo Explorer 3000 series,	In Use	5110447434(Support	Provincial Management	Yaxley Solomon	Jan-13	N/A	05-Jun-13	07-Jun-13

No.	SW Equipment Number	Item	Description	Status	Serial Number	Location Stored / Installed	Person/People in Charge	Month Purchased	Date of Arrival of Equipment	Date of Inspection	Date of Handover
			Trimble		Module:510944628 6)						
24-2	SW-13-GP-02J	GPS	Geo Explorer 3000 series, Trimble	In Use	5150486355(Support Module:515048617 5)	Provincial Management	Yaxley Solomon	Jan-13	N/A	05-Jun-13	07-Jun-13
25-1	SW-13-PC-01J	Desktop PC	Opti Plextm 3010MT Base, DELL	In Use	B32VF2S	Network Maintenance	Vincent Lui	Nov-12	N/A	28-Feb-13	01-Mar-13
25-2	SW-13-PC-02J	Desktop PC	Opti Plextm 3010MT Base, DELL	In Use	J32VF2S	Network Maintenance	Boniface Talu	Nov-12	N/A	28-Feb-13	01-Mar-13
25-3	SW-13-PC-03J	Desktop PC	Opti Plextm 3010MT Base, DELL	In Use	842VF2S	Network Operations	Yaxley Solomon	Nov-12	N/A	28-Feb-13	01-Mar-13
26-1	SW-13-UP-01J	UPS	NV 300VA, Eaton	In Use	5312600149	Network Maintenance	Boniface Talu	Nov-12	N/A	28-Feb-13	01-Mar-13
26-2	SW-13-UP-02J	UPS	NV 300VA, Eaton	In Use	5312600151	Network Operations	Yaxley Solomon	Nov-12	N/A	28-Feb-13	01-Mar-13
26-3	SW-13-UP-03J	UPS	NV 300VA, Eaton	In Use	5312600152	Network Maintenance	Vincent Lui	Nov-12	N/A	28-Feb-13	01-Mar-13
27-1	SW-13-AV-01J	Anti-virus Software	Anti-virus 2013, Norton	In Use	ACC2300437507	Network Maintenance	Vincent Lui	Nov-12	N/A	28-Feb-13	01-Mar-13
24-2	SW-13-AV-02J	Anti-virus Software	Anti-virus 2013, Norton	In Use	ACC2300437508	JICA Expert Team		Nov-12	N/A	28-Feb-13	01-Mar-13
27-3	SW-13-AV-03J	Anti-virus Software	Anti-virus 2013, Norton	In Use	ACC2300437509	JICA Expert Team		Nov-12	N/A	28-Feb-13	01-Mar-13
27-4	SW-13-AV-04J	Anti-virus Software	Anti-virus 2013, Norton	In Use	ACC2300437517	JICA Expert Team		Nov-12	N/A	28-Feb-13	01-Mar-13

No.	SW Equipment Number	Item	Description	Status	Serial Number	Location Stored / Installed	Person/People in Charge	Month Purchased	Date of Arrival of Equipment	Date of Inspection	Date of Handover
27-5	SW-13-AV-05J	Anti-virus Software	Anti-virus 2013, Norton	In Use	ACC2300437525	Network Maintenance	Boniface Talu	Nov-12	N/A	28-Feb-13	01-Mar-13
27-6	SW-13-AV-06J	Anti-virus Software	Anti-virus 2013, Norton	In Use	ACC2300437526	Network Operations	Yaxley Solomon	Nov-12	N/A	28-Feb-13	01-Mar-13
28	SW-13-PL-01J	Plotter	Designjet Z5200 PostScript, HP	In Use	CN26F4K013	Network Operations	Yaxley Solomon	Nov-12	N/A	28-Feb-13	01-Mar-13
29	SW-13-PR-01J	Printer	Colour Laserjet CP5225n, HP	In Use	CNCXD5QF04	Network Operations	Benjamin Billy	Nov-12	N/A	28-Feb-13	01-Mar-13
30	SW-13-MC-01J	Multifunctio n Copier	Docu Centre IV C2263, Xerox	In Use	377045	JICA Expert Team		Nov-12	N/A	28-Feb-13	01-Mar-13
31	SW-13-EX-01JS	Small-size Excavator	Robex 60w-95, Hyundai	In Use	HHKHM910HD0 000021	SW Parking Space	Trevor Ramoni	Feb-13	N/A		01-Jul-13
32	SW-12-PT-01JS to 02JS	2 x Pick-up Truck	Navara VVLURVY D40URG--B--, Nissan	In Use	MNTVCUD40Z0 600801, MNTVCUD40Z0 600864	SW Parking Space	Trevor Ramoni	Oct-12	N/A		01-Jul-13
33	SW-13-DL-01JS to 10JS	10 x Data Logger	Technolog Cello XO	9 x In Use, 1 x Broke -down	Titinge 20131669044	Tasahe Tank, Tasahe A&B DMA, Titinge Tank, Rove Gravity, Lenggakiki DMA, Skyline Tank, Boarder	Benjamin Billy	Apr-13	N/A		01-Aug-13

No.	SW Equipment Number	Item	Description	Status	Serial Number	Location Stored / Installed	Person/People in Charge	Month Purchased	Date of Arrival of Equipment	Date of Inspection	Date of Handover
						line Tank, Kombito Spring, Panatina, Tasahe					
34-1	SW-14-CM20-00 1JH to 070JH	70 x Customer Meter Dia 20mm	DT20E, Toyo Keiki	Waitin g for fitting s	N/A	Tasahe C DMA	Benjamin Billy	Apr-14	N/A	05-Jun-14	30-Jun-15
34-2	SW-14-CM15-00 1JH to 623JH	623 x Customer Meter Dia 15mm	V100, Elster	in Use	N/A	FFA Kolaa Road(60), Mbua Valley(89), Lenggakiki(86), Mbokonavera(5 4), Panatina Valley(49), Mbaranamba(4) , White River Namo Ruka(35), Independence Valley(51), Bahai Kukum(82), Naha2(41), Naha3(55), Tuvaruhu1(9), Tuvaruhu2(8) (all Pilot Sites)	Benjamin Billy	May-14	N/A	19-Jun-14	30-Jun-15

No.	SW Equipment Number	Item	Description	Status	Serial Number	Location Stored / Installed	Person/People in Charge	Month Purchased	Date of Arrival of Equipment	Date of Inspection	Date of Handover
34-3	SW-14-CM20-071JH to 370JH	300 x Customer Meter Dia 20mm	V100, Elster	in Use	N/A	Mbua Valley(3), Lenggakiki(6), Mbokona(75), Vavaea Ridge(93), Panatina Valley(1), Mbaranamba(46), White River Namo Ruka(13), Independence Valley(20), Naha2(1), Naha3(1), Tuvaruhu1(17), Tuvaruhu2(24) (all Pilot sites)	Benjamin Billy	May-14	N/A	19-Jun-14	30-Jun-15
34-4	SW-14-CM32-01JH to 04JH	4 x Customer Meter Dia 32mm	V100, Elster	in Use	N/A	Lenggakiki(3), Mbokonavera(1) (both Pilot Sites)	Benjamin Billy	May-14	N/A	26-Jun-14	30-Jun-15
34-5	SW-14-CM40-01JH to 02JH	2 x Customer Meter Dia 40mm	V100, Elster	in Use	N/A	FFA Kolaa Road(1), Lenggakiki(1) (both Pilot Sites)	Benjamin Billy	May-14	N/A	26-Jun-14	30-Jun-15
34-6	SW-14-CM50-01JH	1 x Customer	H4000, Helix	in Use	N/A	FFA Kolaa Road Pilot	Benjamin Billy	May-14	N/A	26-Jun-14	30-Jun-15

No.	SW Equipment Number	Item	Description	Status	Serial Number	Location Stored / Installed	Person/People in Charge	Month Purchased	Date of Arrival of Equipment	Date of Inspection	Date of Handover
		Meter Dia 50mm				Site(1)					

SW Equipment Number (SW-13-XX-01J/JS/JH) :

The first 2 alphabets "SW" mean "Solomon Water". The next 2 numbers show last 2 digits of year when the equipment procured. The following 2 alphabets are abbreviation of the equipment. After the abbreviation, the 2 numbers are connective numbers for the same equipment procured in the same year and the last alphabet "J" means it was procured by JICA Expert Team, "JS" means it was procured by JICA Solomon Office. and "JH" means they were procured by JICA Headquarter..

第 11 章　最終能力評価および能力開発

S11.1-1 能力評価および能力開発計画

FINAL ASSESSMENT OF CAPACITY DEVELOPMENT

S11.1-1-1

- Contents-

1. Result of the Final Assessment at Organizational Level

1.1 Final Assessment on Organization by category

At the end of the Project, the JICA Expert Team carried out an assessment of the capacity of SW organization (see Table A11.1-1 of Capacity Development matrix).

1.2 Performance Index (PI)

Table 1.1 presents the Performance Index (PI) for the whole of Honiara City from 2011 to the end of 2015.

NRW ratio in Honiara City in 2015 was 66.3%, an increase by 3.5 points from 62.8% NRW in 2014. This negative trend in the improvement of NRW is mostly related to the increase in water production in 2014. It was also noticed that as more water was feed into the system, the system became pressurized resulting in increasing losses due to leakage. In addition to that the rate of disconnection of customers with high outstanding bills has also increased with an average rate of 230 disconnections per month in 2015 compared to 80 disconnections per month in 2014 in Honiara. Not all services that were disconnected were being reconnected again immediately. It may take weeks or months before reconnection takes place. In other instances, the services were never reinstated. However, the rate of reconnection is not measured. But it is a common belief that due to the need for water, the customer who remained disconnected either resorted to look for alternative water sources like rainwater, water tankers or streams or worst illegally using SW water through illegal tapping.

As more and more customers are disconnected each month, more and more disconnected customers are feared to be using water illegally which would contribute to the rise in NRW. Despite saying this, proper data need to be collected and analyzed to reflect the actual situation of illegal connections and disconnection of customers ‘services.

Another reason for the maintained high NRW is that much of the organized NRW reduction activities are conducted in the distribution areas and not the trunk mains and facilities including reservoir. Therefore improvements and saving of water in the distribution area are lost in the trunk systems.

At this stage the breakdown of the total NRW into its various NRW components such as leakage, meter inaccuracies and so on is not yet possible. SW still cannot quantify these parameters due to the absence of IWA water balance analysis data for the whole Honiara City. It is vital that SW should work toward quantifying all components of NRW in the near future to help with decision making. Currently IWA were produced only for DMAs that have been worked on.

In the technical aspect, the billed quantity of water in Honiara City in 2015 has only slightly increased from 2014 by about 2%. It is also noticeable that the billed amount in Honiara in 2015 has increased from 2014.

The operational cost per billed water for whole of SW has decreased from SBD20/m3 in 2014 to SBD18/m3 in 2015. Since the Honiara Scheme contributes more than 60% to the costs and usage, this can be seen as a progress for Honiara Water Supply. The PI also revealed that the revenue per billed water in SW in 2014 is SBD14.2/m3 and has increased to SBD19/m3 in 2015. But it was the first time since 2011 that the revenue per billed water is higher than the operational cost per billed water. This sounds a positive financial standing for the company in terms of water sales.

There is a staff of 20 for every 1,000 connections in Honiara as opposed to 19 in 2014. The World Bank’s recommended ratio is about 4 to 5 staff per 1,000 connections for public water works in the developing countries. However for our case, the number of staff is consistently the same, but it is the number of active connections that is decreasing due to disconnections which gives rise to the increasing ratio staff to connections. The total number of training days in a year on water supply for Honiara City staff have decreased from 2.23 days/annual/staff in 2014 to 2.19 days/annual/staff in 2015.

In the non-technical aspect, there are no data for the “Number of customer complaints responded to within 10 days” throughout the past five years. Response to customers’ queries were not properly recorded due to the absence of a suitable channel to communicate feedback from the various department’s teams to customer care, the entry point of all customer complaints. This system was newly established in 2016. Being an important performance indicator for SW, there must be an established mechanism to record all incoming customer complaints, which also enables customer care to easily track the status of complaints immediately when required. With this in place, customers can be informed on a timely basis on the status of their complaints appropriately which should bring about customer satisfaction.

S11-1-2

Table 1.1 Performance Index (PI) of Water Supply Service in the Whole Honiara City

Relevant Output in PDM	Category 1	Category 2	Index	Baseline Data for Entire Honiara City					Remarks
				2011	2012	2013	2014	2015	
1,2,3	Technical Aspects	Measures of NRW	NRW ratio (%)	[1]= ([2]-[3])/[2]	52.5%	57.9%	57.1%	62.8%	66.3%	
			Unbilled metered consumption (%)			N/A	N/A	N/A	N/A	
			Unbilled unmetered consumption (%)			N/A	N/A	N/A	N/A	
			Unauthorised consumption (%)			N/A	N/A	N/A	N/A	
			Metering in accuracies and data handling errors (%)			N/A	N/A	N/A	N/A	
			Leakage on pipes (%)			N/A	N/A	N/A	N/A	
			Leakage & overflow at storage (%)			N/A	N/A	N/A	N/A	
2			Water production (m3/day)	[2]	22,142	23,973	23,836	30,203	34,173	Derived from Network operation (for Honiara Only)
3			Billed water (m3/day)	[3]	10,178	10,088.85	10,215.08	11,233.76	11,511.69	Obtained from billing
3			Ratio of water meter installation (%)	[4]	60.5	70.0	75.0	80.0	88.0	Obtained from meter reading Department
2			Number of the water pipe breaks responded to within 24 hours (%)	[5]		<50%	78%	59%	53%	For 4 months average only (Jan to April 2015)
2			Quantity of NRW (m3/km/day)	[6] = ([2]-[3]) / pipe length	63.0	69. 78	68.10	73.73	77.06	
2			Quantity of NRW (m3/connection/day)	[7] = ([2]-[3]) / connection	2.5	1.72	1.92	2.33	3.55	
3	Non-technical aspects	Financial Performance	Water tariff collection ratio (%)	[8]	83.0	82.0	86.0	80%	N/A	Include Province
3			Billing amount (SBD x 1000)	[9]	24,837	33,520.50	46,368.28	58,241.46	61,067.05	For Honiara Water sales Only
2,3			Operational cost per billed water (SBD/m3)	[10] = O&M cost / ([3] x 365)	11.2	12.97	18.70	20.43	17.93	For whole SW
2,3			Revenue per billed water (SBD/m3)	[11] = Revenue / ([3] x 365)	7.4	9.10	12.44	14.20	18.65	For whole SW
2,3		Staff Efficiency	Number of staff working (Number/1000 connections)	[12]	9	18	17	19	20	Obtained from HRD
2		Training	Total number of training days in the year on water supply sector (day's/annual/staff)	[13]	1.1	2.3	4.17	2.23	2.19	Obtained from HRD
3		Customer Relations	Number of customer complaints responded to within 10 day's (%)	[14]		N/A	N/A	N/A	N/A	No proper records kept

2. Result of the Final Assessment at Individual Level

At the end of the Project, the JICA Expert Team assessed the capacity of each key counterpart developed by the Project by means of looking at the examination results and through observation of their involvement in the project activities, as stated below. Also, refer to Table A11.2-1 to A11.1-1 of Capacity Development matrix.

2.1 NRW Management Team

The results of the interim assessment for two members of NRW Management Team are as follows:

Mr. Ray Anderson, Project Manager

As a Project Manager, Mr. Ray Anderson has contributed to the smooth implementation of the Project and communication among the Project members and JICA Experts through his overall supervision of activities. He has from time to time provided instructions to his subordinates and has on regular basis making appropriate decisions for the project implementation.

His further contribution is required with full understanding on tasks involving constructive supervision of NRW reduction activities for DMA/LCZ.

Since March 2016, he has been in a position of Strategic Planning Manager.

Figure 2-1-1 Result of Assessment of the NRW Management Team (Mr. Ray Andresen)

Ms. Tima Kofana, Human Resources (HR) Manager

Ms. Tima Kofana has contributed effectively to the recruitment of eligible staff members, oversees the

distribution of staff members within the Project and SW as a whole and also involved in the selection of trainees for JICA training program & others. Her role also includes the development of the Human Resource Division within SW but also ensuring that the capacities of SW staff are adequate to perform the necessary tasks within SW. In addition, she attempts to assess staff members based on expected standards and on individual action plans.

Unfortunately, she left SW in August 2015.

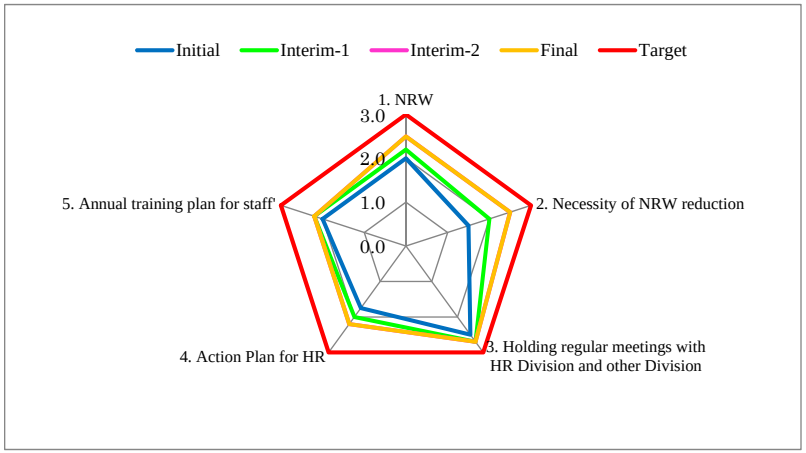


Figure 2-1-2 Result of Assessment of the NRW Management Team (Ms. Tima Kofana)

2.2 NRW Action Team/ NRW Technical Sub-Team

The results of the final assessment for eight key counterpart members of NRW Technical Sub-Team are as follows:

Mr. Benjamin Billy, Non- Revenue Water Taskforce Leader

As a key person of NRW reduction activities, Mr. Benjamin Billy has been involved well in the Project and significantly contributed to the implementation of the Project through progress management, coordination, information sharing, conducting meetings and so on. His participation in the counterpart training in Japan has motivated him to work actively and be effective. From the high scores attained in his exams and the assessment on his performances when carrying out his task it is obvious that he has almost developed the required skills and knowledge required for his position.

He however is required to be more proactive in delegating activities toward his subordinates and see to it that they follow through and complete the tasks that are required of them. He is also expected to be careful when compiling data and to enforce time management and daily work for his subordinates.

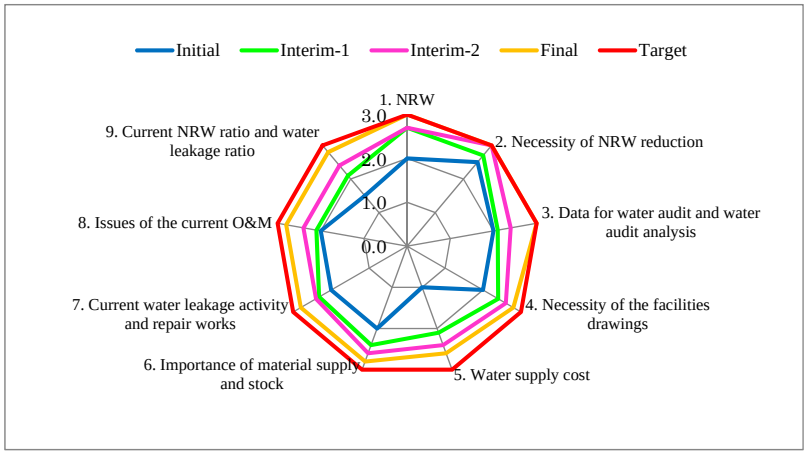


Figure 2-1-3 Result of Assessment of the NRW Technical Sub-Team (Mr. Benjamin Billy)

Mr. Austin ATA, Sub-Team Leader (Customer Connections and Metering Management)

Mr. Austin ATA has attended meetings regularly and communicated well with other Sub-Teams, His understanding of NRW reduction has also improved according to his exam results. He is in charge of disconnection of illegal connection which is one of the most important countermeasures in the Project. But the effort of his commitment toward the Project is still low, judging from his response through team discussion, preparation of work schedule and reporting on his activities which are unclear.

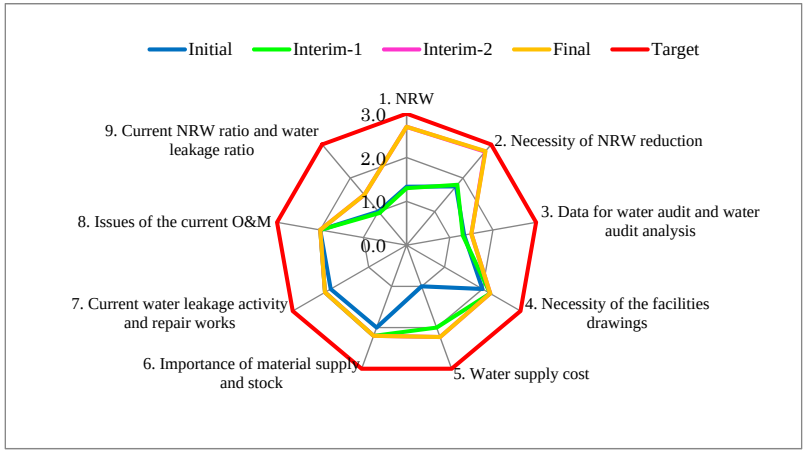


Figure 2-1-4 Result of Assessment of the NRW Technical Sub-Team (Mr. Austin Ata)

Mr. Moses Ramo, Customer Connections and Metering Management Assistant

Mr. Moses Ramo has many-years-experience working as a field officer, but his understanding and interest in NRW reduction is lower than the other counterparts. It seems that he does not have the confidence to follow the Project Team.

He has seriously been working on activities such as regular disconnection, but it is very difficult for him to understand data coordination and management of NRW reduction activities which probably because of his education background.

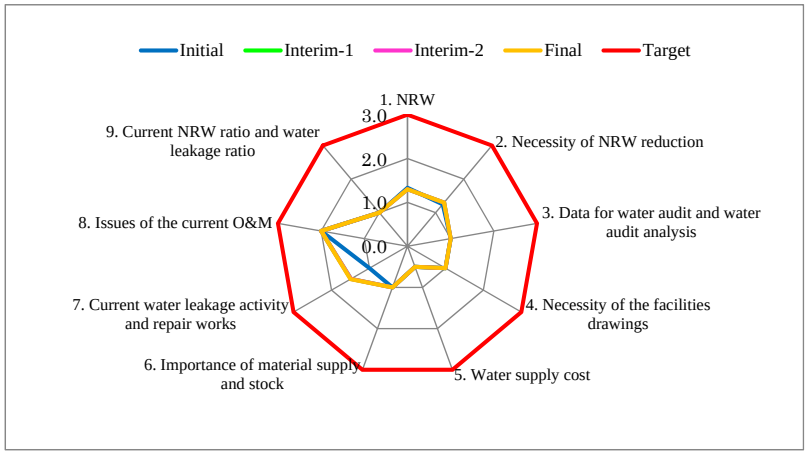


Figure 2-1-5 Result of Assessment of the NRW Technical Sub-Team (Mr. Moses Ramo)

Mr. Silas Talosui, Sub-Team Leader (Pipe Maintenance & Repair)

Mr. Silas Talosui has great leadership skills and is well-versed in the social issues regarding the water supply service and sewerage due to his long work experience with SW. Since he is a significant part of the technical team, it is essential that he is involved in the meeting of customer service.

Meanwhile, his capacity on NRW reduction activities has been developed since his involvement in NRW reduction activities in DMAs.

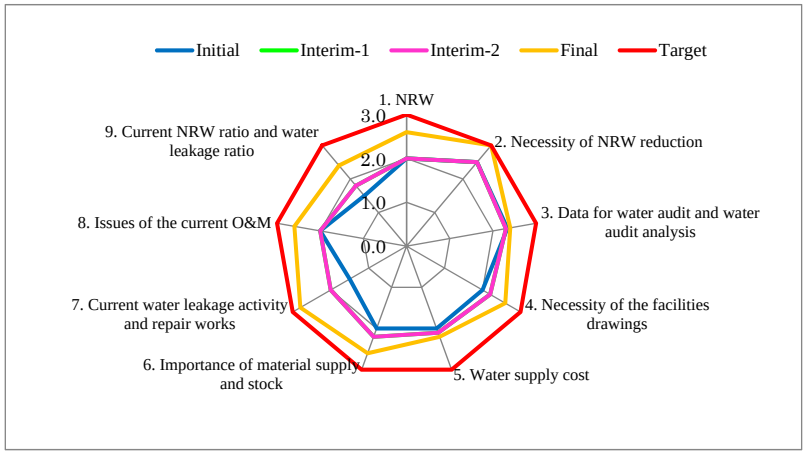


Figure 2-1-6 Result of Assessment of the NRW Technical Sub-Team (Mr. Silas Talosui)

Mr. Mathias Bera, Head of Pipe Repair Team (Pipe Maintenance & Repair)

Mr. Mathias Bera has been participating well in the Project and has provided assistance to the Task Force Leaders. His participation in counterpart training in Japan has motivated him to work actively. He has also developed the required skills and knowledge to effectively carryout his delegated task, especially in hydraulic analysis which can be confirmed by his high scores in exams and good performance in his task.

Despite the improvement in his technical capacity for NRW reduction concepts, there is still a lot of scope for improvement especially in areas of implementing his role. As a supervisor he is required to display a leadership quality toward his subordinates and must be instrumental in motivating the field staff to achieve a high standard of work.

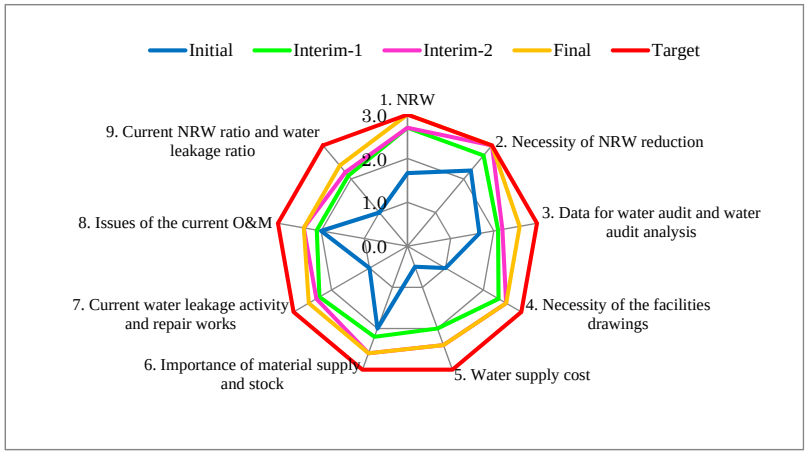


Figure 2-1-7 Result of Assessment of the NRW Technical Sub-Team (Mr. Mathias Bera)

Mr. Layten Jacob, NRW Sub-Team Leader (Procurement)

Mr. Layten Jacob had contributed to the Project through procurement of materials and equipment such as purchase order and import clearance procedures for smooth implementation of pilot projects and DMAs/LCZs. He had taken up the leadership to procure the Pressure Reducing Valves (PRVs) and Bulk Flow meters which were purchased by the fund of DFAT.

In terms of NRW reduction activities, his understanding in basic NRW activities was lower than the other counterparts because of his limited involvement in the Project and his job duty in SW. Unfortunately, he left SW in April 2016.

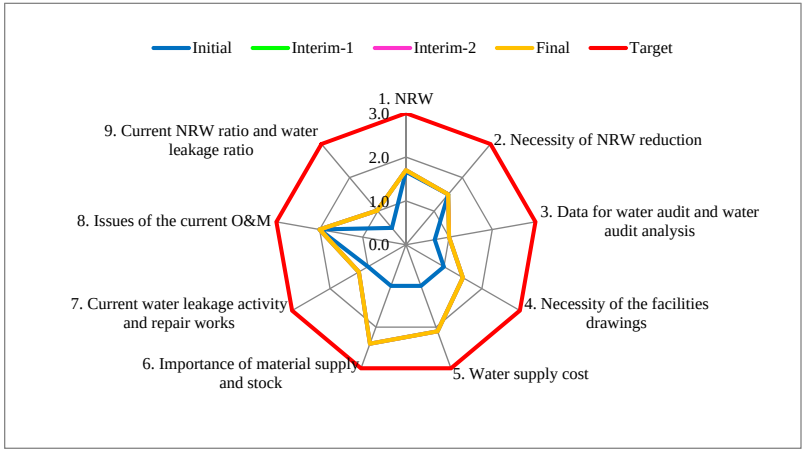


Figure 2-1-8 Result of Assessment of the NRW Technical Sub-Team (Mr. Layten Jacob)

Mr. Frank Daukalia, Head of Meter Repair/Replacement Team (Pipe Materials Management and Procurement)

Mr. Frank Daukalia has been involving well with the Project and has provided assistance to other action team members. It has been obvious that his participation in the counterpart training in Japan has slightly motivated him to work actively. The required skills and knowledge for his position have been developed, which can be confirmed by his high scores in exams and his performance in his task on behalf of the taskforce leader. It is strongly recommended that he should take initiatives and be proactive in his role so that he will be able to lead other staff members. He must display a leadership quality when attending to his required activities and provide motivation to his subordinates to perform a high standard of work.

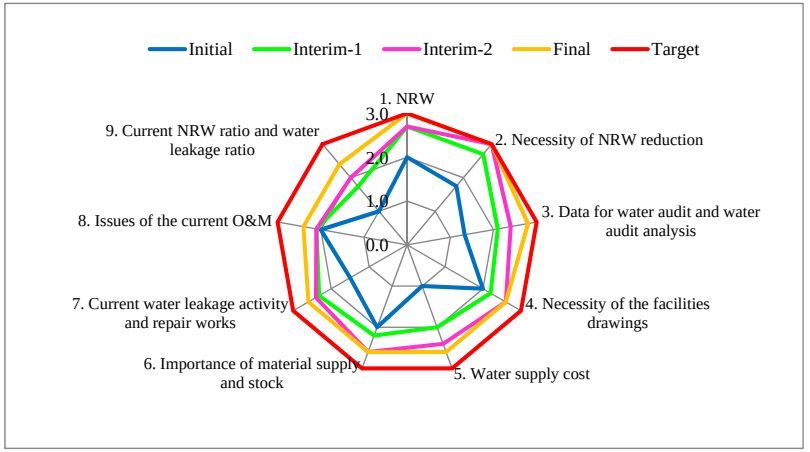


Figure 2-1-9 Result of Assessment of the NRW Technical Sub-Team (Mr. Frank Daukalia)

Mr. Chris Meriko, NRW Sub-Team Leader (Water Resources & Treatment)

Mr. Chris Meriko's capacity development in the NRW is limited because he was more involved in other activities such as grant aid project and facility operation and maitenance. His knowledge on the existing water supply facilities is very superior which will contribute positively to the field activities continuously. It is expected that he will contribute to NRW reduction activities in order to identify the existing pipelines. This is very essential for the development of the database of the water supply facilities in implementation of the strategic plan of NRW reduction in Honiara.

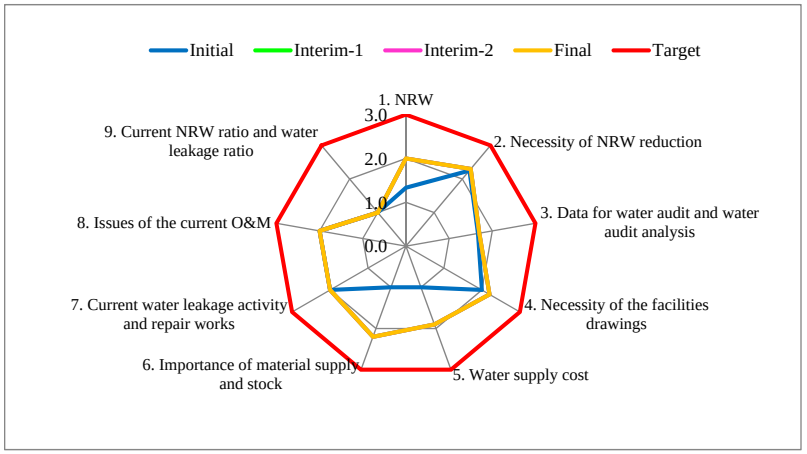


Figure 2-1-10 Result of Assessment of the NRW Technical Sub-Team (Mr. Chris Meriko)

(3) NRW Action Team/Customer Service Sub-Team

The results of the final assessment as of interim-2 at the end of Phase 3 for six key counterpart members of Customer Service Sub-Team are as follows:

<u>Mr. Carlos Saliga. Deputy Sub-Team Leader (Customer Care)</u>

Mr. Carlos Saliga has demonstrated good management skills as a Customer Care Team Leader despite his short experience in SW. His educational background has given Carlos a great capacity for promoting activities. He has created brochures with information on SW services, water charges, the Non-Revenue Water Project and other important information regarding water conservation. He has conducted public awareness on the radio every week and has also established and continuously updating the SW Facebook Social page regarding important notices for customers such as tariff changes, water supply disruption and so on.

Carlos has also demonstrated a good written and verbal reporting skill which is a very necessary skill for a team leader to possess. The creation of some brochures on payment of water charges, the ongoing public relations on the radio every week and the updating of the Facebook Social page has contribute to the improvement to Customer Care activities.

The Project expects that Carlos continues to make good impact in the operation of the awareness meeting/ radio program and to lead other staff members under his care. He is also expected to continue his close working relationship with other departments within SW by means of sharing information.

The Project for Improvement of Non-Revenue Water Reduction Capacity
for Solomon Islands Water Authority in Solomon Islands
Project Final Report

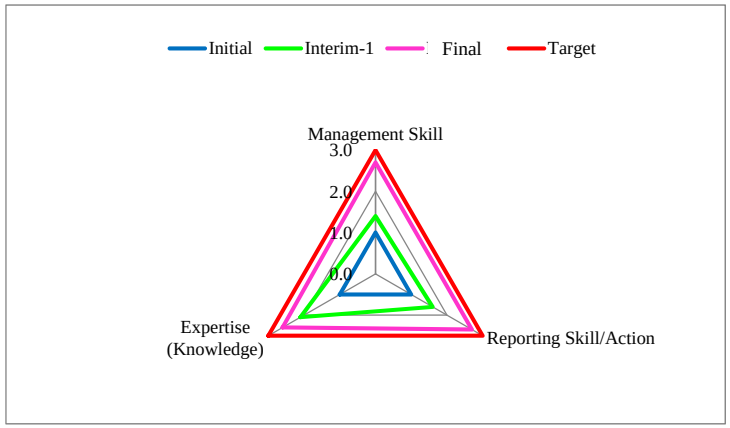


Figure 2-1-11 Result of Assessment of the Customer Service Sub-Team (Mr. Carlos Saliga)

<u>Ms. Beverly Saohu, Customer Service Sub-Team Leader / Customer Care</u>

Ms. Beverly Saohu's has worked in SW in excess of 10 years mostly in the customer care department. In the last 3 years she became a supervisor in customer care. Her experience in SW enables her to improve customer's request and complaints by directing them to the responsible section. During the course of the Project there were opportunities for Beverly to go to the field and listened to customer's real voice through performance of a Customer Survey. Through the survey she was able to communicate with many customers which have given her an in depth understanding of the background of customer's request & complaints which have helped her to prepare guidelines how to deal with customer's request & complains together with division manager.

Beverly has demonstrated good understanding of the mission and tasks of her team. She has made monthly report on the analysis of customer's inquiry and complaints to achieve her team's mission. She shows excellent reporting skill by revising the format on inquiry/complaints sheet in order to improve the reporting system.

It is expected that Beverly assist in the management of Customer Care & Communications and the preparation of guideline on how to deal with customer's request & complains for junior staff.

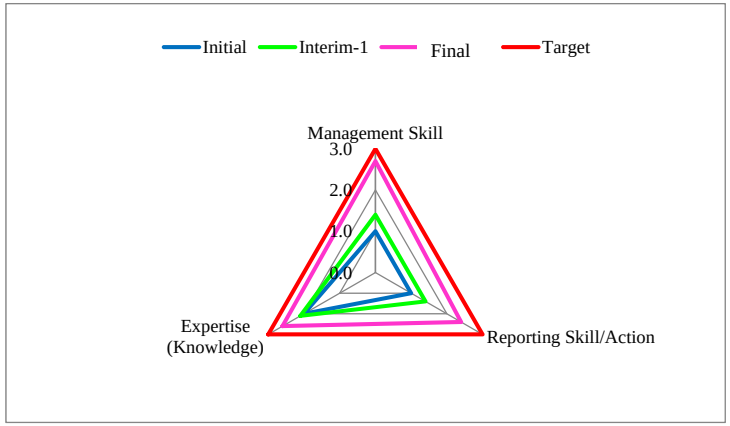


Figure 2-1-12 Result of Assessment of the Customer Service Sub-Team (Ms. Beverly Saohu)

Ms. Sophia Tango, Community Relations & Media Assistant

Ms. Sophia Tango has a good communication skill with customers and a good foot work for community relations. She has invested a lot of effort in preparing materials for school programs which has been very successful. Many children were able to be informed about saving water, water tariff and important things on water supply. In a recent exam she gained higher scores compared to her previous examination results which truly reflect her efforts to understand the water supply service of SW.

Sophia has also shown much improvement on her effort to achieve team's mission. She has been very proactive in the implementation of awareness program and school program alongside the NRW action team. She has demonstrated the ability to coordinate together with school principals to implement these school programs. Sophia is also a good team player who works well with other sections of SW to generate information useful for awareness activities. In addition to conducting awareness she also continue to provide feedback as well as suggesting ways to improve these activities with her team leader and other related section team. This reflects her good reporting skills.

The Project has assisted in developing education program for the children and this has expanded Sophia's creativity and raises her manner of approaches to communities and media. The Project aims at furthering her capacity development.

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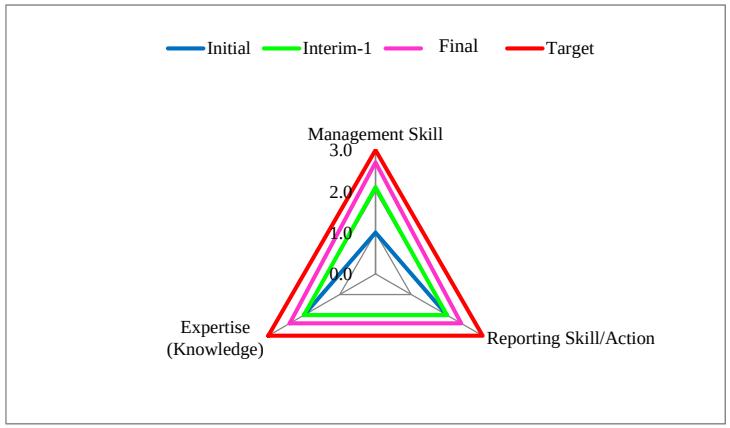

Figure 2-1-13 Result of Assessment of the Customer Service Sub-Team (Ms. Sophia Tango)

Mr. Lawrence Iroi, Chief Accountant

Mr. Lawrence is the head of the Finance section and has the ability to communicate well with the revenue collection and the billing team. Mr. Lawrence has in-depth understanding of the issues on revenue collection and billing. He displays high management skill through his effort to improve tariff collection ratio by modifying meter reading date and introducing the photo meter reading activity with the cooperation of his meter reading team. Mr. Lawrence also from time to time holds meetings with his team to discuss progress of activities but also to work out solutions to issues raised by his subordinates. He also provides important feed-back to relevant sections in the SW. This has proved his excellent reporting skill.

Lawrence has also been trained in Japan through the Project which has greatly improved his experience and knowledge on his delegated task to contribute positively to reduce NRW through implementation of the Project.

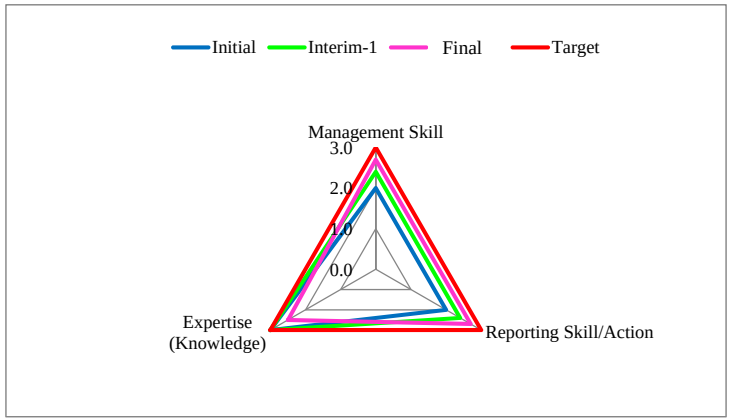

Figure 2-1-14 Result of Assessment of the Customer Service Sub-Team (Mr. Lawrence Iroi)

Ms. Mary Tafoa, Customer Service Sub-Team Leader/ Billing

Ms. Mary Tafoa has a very sincere attitude toward work has a positive impact on many of the staff in her team and SW as a whole. As an experienced leader of the Billing Team, Mary has good knowledge on the reason for delays in payments for water usage by customers which is related to the meter reading activity. She has intern made efforts to assist in reorganize the Meter Reading team in order to avoid delay in reading meters and payments. Mary has shown good understanding of this issue and is identified as an appropriate staff for the Project to consult with regarding this issue.

Through discussions and information/report sharing, Mary has openly shares her opinions on how to manage such issues which reflect her good reporting skill.

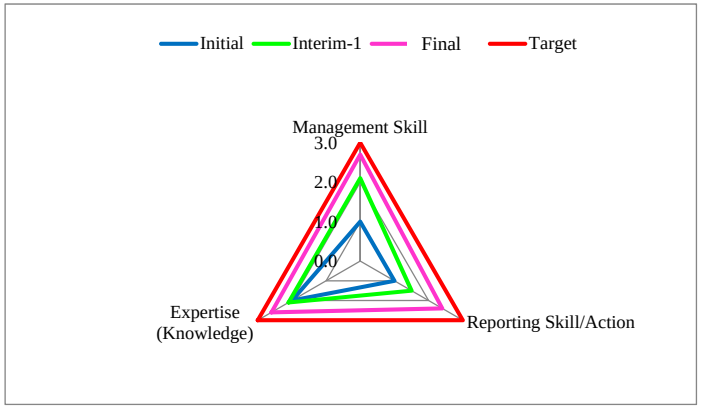

Figure 2-1-15 Result of Assessment of the Customer Service Sub-Team (Ms. Mary Tafoa)

Ms. Daisy Menaga, Customer Service Sub-Team Leader / Meter Reading

Ms. Daisy Menaga gained a lot of experience as the leader of the Meter Reader team. Taking advantage of this experience, she has constructed the photo reading system under the advice and guidance from the expert. As a result, it becomes possible to reduce the customer complaints concerning meter reading and meter reading mistakes.

Daisy understands her missions well. She showed a great deal of progress on management of her mission and tasks for the team. The photo reading system that is established under cooperation with her effort and relative section staff contribute a lot in order to reduce number of complaints on meter reading. With regard to reporting, reports on leakage and illegal connection from meter readers is immediately submitted to the relative sections by her.

The project expects her to contribute continuously to activity of the NRW reduction._

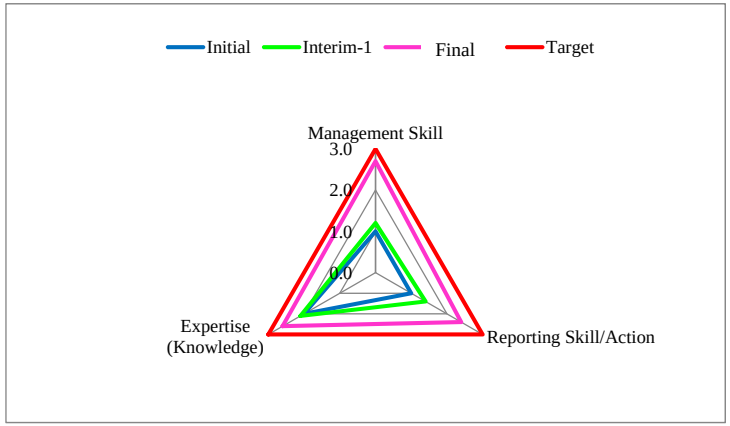

Figure 2-1-16 Result of Assessment of the Customer Service Sub-Team (Ms. Daisy Menaga)

12 Meter Readers, Meter Reading Team

Despite the fact that half of the members are fairly new to the team, the meter reading team continue to maintain a certain level in their work. For new inexperienced young meter readers, the experienced meter readers have taken their time to share with them their good experience and skills such as communication with customers.

Photo reading system that was introduced in August 2014, has contributed to the improvement of their meter reading work. Although business involved in the organizing of the photograph after meter reading is growing, meter readers are admirably doing their work.

Meter readers have showed much achievement toward their missions and delegated tasks such as keeping up to date on new water tariff and skills to use handheld devices and others. The meter readers

have also improved in their reporting skill, meter reading skill, the ability to listen and understand customer's complaints. Their capacity development has shown much progress beyond expectations.

(4) NRW Action Team/ GIS Sub-Team

The results of the final assessment for three key counterpart members of GIS Sub-Team are as follows:

Mr. Gavin Bare, GIS Sub-Team Leader

Mr. Gavin Bare is in charge of a key counterpart team in the Project, the GIS Team.
He has improved his experience and knowledge about the GIS activities. He can transfer his experience and knowledge that he acquired to other SW staff members.
He obtained a perfect score on the GIS examination, which is composed of GPS features, Workflow of GIS database and Advantage of GIS database for SW etc.
His capacity development is achieved mostly. Mr. Gavin has demonstrated good understanding of the mission and tasks of his team.
Unfortunately, he left SW in February 2016.

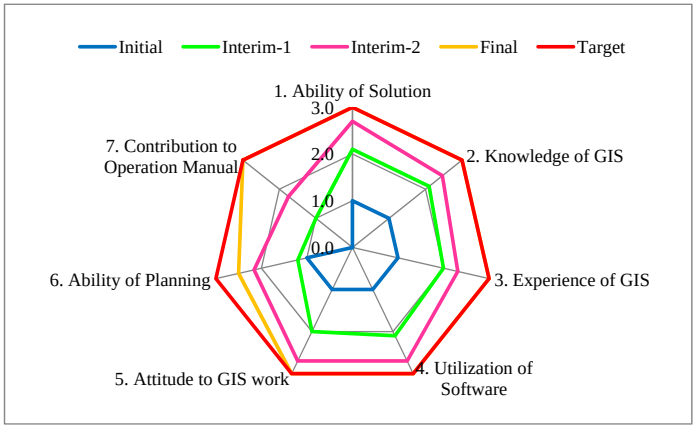

Figure 2-1-17 Result of Assessment of the GIS Sub-Team (Mr. Gavin Bare)

Mr. Yaxley Solomon, GIS Assistant

Mr. Yaxley Solomon has joined this project since January 2014. He could not take an examination for the final assessment, so there is no update.
He has improved his knowledge and skills to update and maintain the GIS database on the experience of GIS daily activities in this and last year.
However, he has a possibility that the ability is extended more. The Project needs to follow up on the

assessment of his capacity, such as "Attitude to GIS work" or "Ability of Planning".

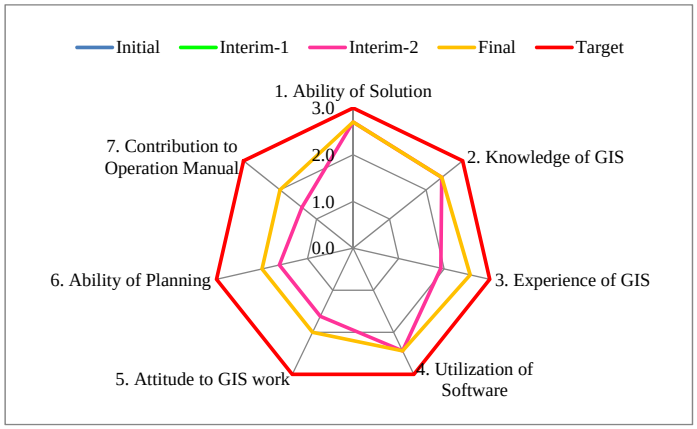

Figure 2-1-18 Result of Assessment of the GIS Sub-Team (Mr. Yaxley Solomon)

Mr. Japhliet Rouhana, GIS Technician

Previously, Mr. Japhliet Rouhana was an IT engineer in SW. But he is currently a GIS staff since May 2015. So, he has been involved well in daily GIS activities. He sometimes supports for GIS activities from IT engineering view. He obtained a perfect score on the GIS examination.
He's eagerly working on the information sharing of GIS database by Geoserver that combined with QGIS. Since he had a high motivation for his GIS activity, his capacity development could get an outcome beyond an expectation.

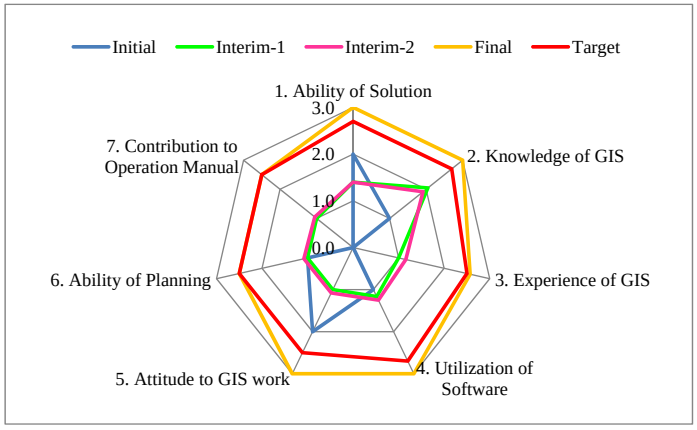

Figure 2-1-19 Result of Assessment of the GIS Sub-Team (Mr. Japhliet Rouhana)

(5) NRW Action Team/ Leakage Detection Sub-Team

The results of the final assessment for three key counterpart members of Leakage Detection Sub-Team are as follows:

Mr. Eric Unga, Leakage Detection Team Leader

Mr. Eric Unga has much improved in his knowledge and technique on operation of leak detection since the stage on Phase 3. He understands well the method of leak detection and purpose of NRW activities and is able to make a suitable plan for leak detection in various DMAs. He obtained full score on the NRW technique examination, which is composed of leak detection equipment and the operation technique, equipment, calculation of leak volume, planning for practical leak detection etc.

His skill has much progressed since the stage on Phase 3 through intensive training that uses the advanced equipment at the two areas where pipelines are under roads.

He has an ability to train his colleagues for further understanding of NRW reduction technique and operation and maintenance of leak detection equipment.

His motivation toward work has improved a lot. His mindset as the Sub-Team Leader has changed better. He takes good care of his team members and voluntarily conducted workshops before technical examination.

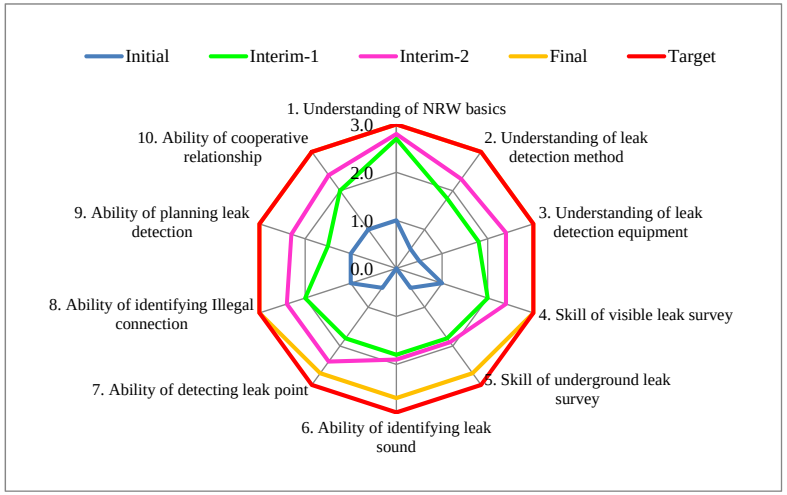

Figure 2-1-20 (a) Result of Assessment of the Leakage Detection Sub-Team (Mr. Eric Unga)

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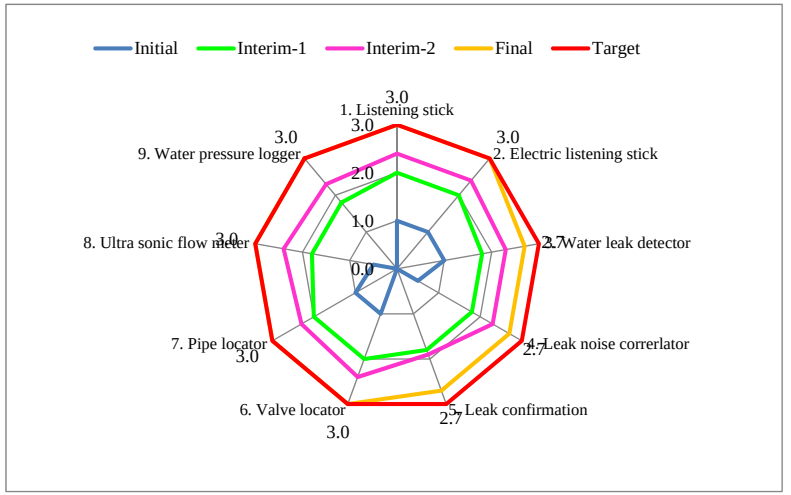

Figure 2-1-20 (b) Result of Assessment of the Leakage Detection Sub-Team (Mr. Eric Unga)

Mr. Matthew Maffe, Leakage Detection Team Assistant

Mr. Matthew Mafe has much improved his experience and knowledge about leakage detection technique through the NRW reduction activities since the stage on Phase 3. In addition, He obtained full score in the NRW technique examination, which is composed of leak detection equipment and operation technique, calculation of leak volume, planning for practical leak detection etc.

He understands well the method of leak detection and NRW activities and is able to make a suitable plan for leak detection in various DMAs as long as Sub-Team leader supports him.

The intensive training on using advanced equipment by JICA Expert Team provided his new skill for leak detection. He will improve his skill better for the use of advanced equipment through the DMA activities in the DMAs and he is able to demonstrate how to operate leak detection equipment to his colleagues.

He works more than an assistant of Sub-Team now. He dedicatedly supports his team by teaching as a tutor before the technical examination.

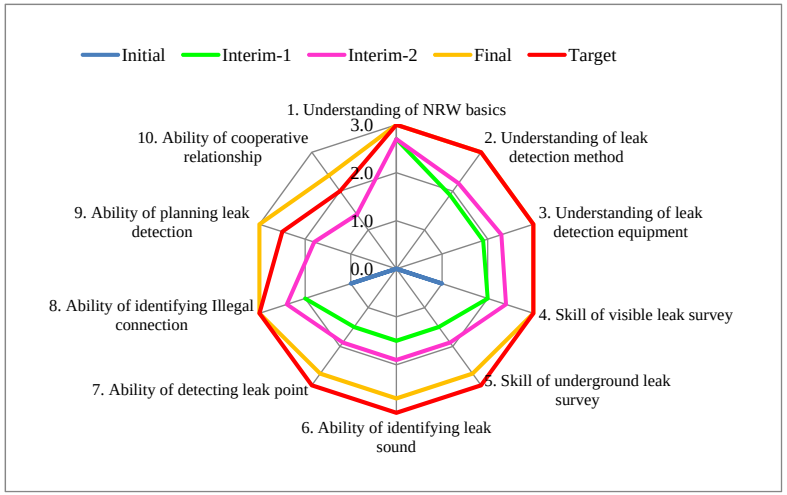

Figure 2-1-21 (a) Result of Assessment of the Leakage Detection Sub-Team (Mr. Matthew Mafe)

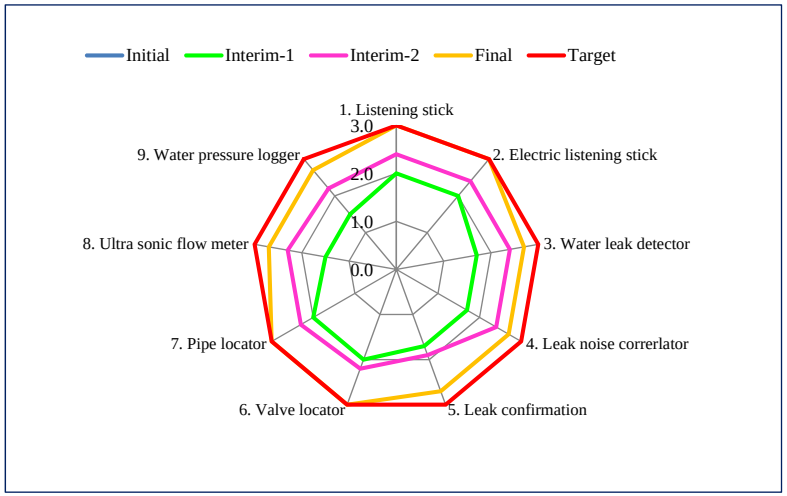

Figure 2-1-21 (b) Result of Assessment of the Leakage Detection Sub-Team (Mr. Matthew Mafe)

<u>Mr. David Akoeasi Leakage Detection Team Assistant</u>

Mr. David Akoeasi has greatly improved his skill and knowledge about leak detection technique of NRW reduction activities since the stage on Phase 3 although he participated in another long-term training in Samoa this and last year.

He understands well the operation of leak detection equipment through the NRW activities in the DMAs. It was verified that he achieved 93 points on the technical examination, which is composed of leak detection equipment and the operation technique, calculation of leak volume, planning for practical leak detection etc.

However, his skill on the detection of underground leakage needs more experiences because there was almost no opportunity to detect leaks at urban area in the pilot areas and DMAs. JICA Expert Team provided intensive training in order for them to use advanced equipment at the two selected area to his team.

He will be able to demonstrate his colleagues how to perform basic operation of leak detection to and to make an activity plan of leak detection in various DMAs, as long as Sub-Team Leader supports him.

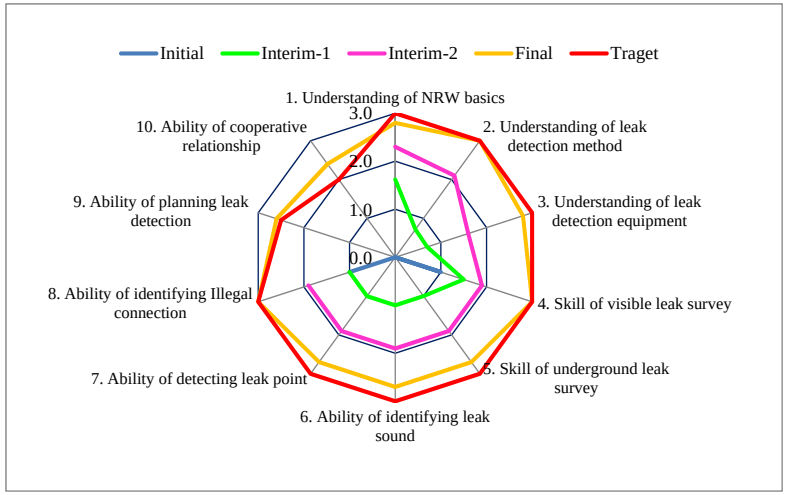

Figure 2-1-22 (a) Result of Assessment of the Leakage Detection Sub-Team (Mr. David Akoeasi)

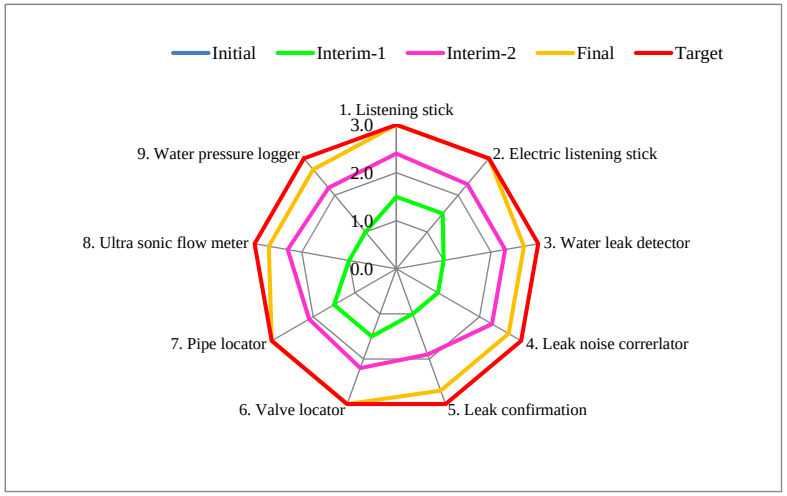

Figure 2-1-22 (b) Result of Assessment of the Leakage Detection Sub-Team (Mr. David Akoeasi)

S11.1-1-12

3. Individual Action Plan and Self Evaluation

3.1 Performance Appraisal Interview Report

The Human Resource Manager of SW had an interview with 13 out of 22 staff members of NRW Action Team based on their self-evaluation and achievement on Individual Action Plan and advised them on the way forward. Supporting Report S4.5-3 shows Performance Appraisal Interview Report which was assessed by the Huma Resource Manager in May 2014. The Manager acknowledged that most staff has remarkably improved their own capacity and their attitude toward their performances.
On the other hand, since Human Resource Manager retired SW in August 2015, she could not have an opportunity to assess the staff.

3.2 Evaluation Results of Individual Action Plan 2013 and 2014

Self-evaluation results and achievement on respective Individual Action Plan 2013 and 2014 for Phase 2 & Phase-3 of each counterpart members are shown in Supporting Report S4.5-3. In future an annual target of each staff should be more optimized to ensure growth in capacity development and productivity through discussions with management team.

No.	Q/N. No.	Category	Capacity Needs	Baseline (At the Beginning of Phase-1)		Achievement (At the End of Phase-2)		Achievement (At the End of Phase-3)		Achievement (At the End of Phase-4)	
				Status	Rating (Max. 3)	Status	Rating (Max. 3)	Status	Rating (Max. 3)	Status	Rating (Max. 3)
				detecting visible leakage because of lack of skill for underground leakage detection.		detecting visible leakage because of lack of skill for underground leakage detection.		detecting visible leakage. Sub-Team members were not trained well. Because as the most pipelines were not laid in public road, it was very difficult to detect underground leakage.		leakage as well as surface leakage.	
9	44		Weak points on leakage reduction activities	● SW has leakage detection equipment but no knowledge of measures of leakage detection because of lack of experiences.	2.0	● SW has leakage detection equipment but still lack of knowledge of measures of leakage detection because of lack of experiences.	2.0	● SW has leakage detection equipment and has been trained to detect leakage, but they must be expanded to learn underground leakage detection.	3.0	● SW has leakage detection equipment and has been trained to detect leakage, but they must be expanded to learn underground leakage detection.	3.0
10	79	Financial performance	Manual (SOP) of meter reading, billing and tariff collection	● SW had no the meter reading manual. ● Water meter reading was experimentally conducted. ● Meter reading leader started preparing the meter reading guideline in 2012.	1.0	● SW made a meter reading manual and water meter readers follow it. ● Water meter reading was experimentally conducted.	2.0	● SW made a meter reading manual (SOP) and water meter readers followed it.	2.0	● SW must fully follow SOP and update it.	1.0
11	80		Collaboration between the bill collection and accounting section	● They were separated to two divisions and have a cross-checking function	3.0	● They were separated to two divisions and have a cross-checking function	3.0	● They were separated to two divisions and have a cross-checking function	3.0	● They are separated to two divisions and have a cross-checking function	3.0
12	85	Managment／Human Resource	Number of vehicle used for meter reading and billing	● Since vehicle required for water meter reading was not nearly enough, activities of meter reading are inefficient.	0.0	● Since vehicle required for water meter reading was not nearly enough, work performance of meter reading are inefficient.	0.0	● SW purchased enough vehicles by the fund of DFAT (two-year plan). Therefore, water meter reading and billing team can use them.	3.0	● Vehicle for meter reading is insufficient. Some water meter were sometimes unread. ● Water meter readers sometimes their own vehicle.	1.0

(1) Interim Assessment of Capacity Development at Organizational Level

Table A11.1-1 Interim Assessment of Capacity Development Plan at Organizational Level

No.	Q/N. No.	Category	Capacity Needs	Baseline (At the Beginning of Phase-1)		Achievement (At the End of Phase-2)		Achievement (At the End of Phase-3)		Achievement (At the End of Phase-4)	
				Status	Rating (Max. 3)	Status	Rating (Max. 3)	Status	Rating (Max. 3)	Status	Rating (Max. 3)
1	35	NRW reduction	NRW reduction plan	● Conventionally, NRW reduction was not established. ● There was no explicit direction on activities of NRW reduction. ● Management team had no ability for NRW reduction planning	0.0	● SW partially prepared annual action plan NRW reduction activities and followed it and a weekly schedule	2.0	● SW prepared an annual action plan of NRW reduction activities in DMAs and followed it and a weekly schedule ● SW was about to start preparing strategic implementation plan.	2.0	● SW is able to make action plan and or implementation plan of NRW reduction to some extent.	2.0
2	36-1		Causes of NRW	● SW reasonably understood main causes of NRW with numbers of illegal connection, functional water meter and quantity of visible leakage on surface in the model area, Honiara city.	1.0	● SW well- understood main causes of NRW well based on the pilot project's data	2.0	● SW well- understood main causes of NRW well based on data of the results of NRW reduction activities in the pilot project areas and DMAs	2.0	● SW well- understood main causes of NRW well based on data of the results of NRW reduction activities in the pilot project areas and DMAs	2.0
3	37		Calibration equipment required for checking accuracies of water meter and bulk flow meter	● Not having test-meters, SW did not conduct calibration.	0.0	● SW started using a test-meter provided by assistance of JICA NRW Reduction Project, but not enough.	2.0	● SW started using a test-meter provided by assistance of JICA NRW Reduction Project, but the calibration equipment for flow meter is not enough.	2.0	● SW can use a test-meter, but the calibration equipment for flow meter is not enough.	2.0
4	38		Frequency of replacement of water meter	● Condition of malfunctioning water meters was checked by water meter readers daily. ● However,	1.0	● Condition of malfunctioning water meters was checked by water meter readers daily. ● However,	1.0	● Condition of malfunctioning water meters was checked by water meter readers daily. ● However,	1.0	● Condition of malfunctioning water meters has been checked by water meter readers daily. ● However,	1.0

No.	Q/N. No.	Category	Capacity Needs	Baseline (At the Beginning of Phase-1)		Achievement (At the End of Phase-2)		Achievement (At the End of Phase-3)		Achievement (At the End of Phase-4)	
				Status	Rating (Max. 3)	Status	Rating (Max. 3)	Status	Rating (Max. 3)	Status	Rating (Max. 3)
						inefficient.				vehicle.	
13	89		Understanding of SW for current status of water supply service based on performance index	● Most of SW's staff members were not aware of Performance Index (PI) of water supply service. ● It was likely that SW took time to understand current situation.	2.0	● Most of SW's staff members were not aware of Performance Index (PI) of water supply service. ● It was likely that SW takes time to understand current situation.	2.0	● Especially NRW reduction team slightly understood PI but it was likely that they need time to understand current situation on water service.	2.0	● Especially NRW reduction team has slightly understood PI but it is likely that they need time to understand current situation on water service.	2.0
14	97		Individual performance based on incentives	● There existed only overtime payment.	1.0	● There existed only overtime payment.	1.0	● There existed only overtime. payment. ● Since April 2014, human resource manager had an interview individually to learn personal performance through self-evaluation on an individual action plan.	1.0	● There exists only overtime. payment. ● Since April 2014, human resource manager has had an interview individually to learn personal performance through self-evaluation on an individual action plan. However, individual interview has not been regulated yet.	1.0
16	106-1)	Communication	Opportunity of discussion between manager and staff who has complain and issues	● SW's managers were having communication with staff members.	2.0	● SW's managers were having communication with staff members.	2.0	● SW's managers communicated well among GM, managers and staff.	3.0	● SW has communicated well among GM, managers and staff.	3.0
15	106-3)		Internal and external communication	● SW was having the internal meeting but it was likely to be insufficient external meeting with Ministry, etc.	1.0	● SW was having the internal meeting but it was likely to be insufficient external meeting with Ministry, etc.	1.0	● SW was having the internal meeting. ● External meeting took place with Ministry and DFAT irregularly.	1.0	● SW has been having the internal meeting. ● External meeting has taken place with Ministry and DFAT irregularly.	1.0

No.	Q/N. No.	Category	Capacity Needs	Baseline (At the Beginning of Phase-1)		Achievement (At the End of Phase-2)		Achievement (At the End of Phase-3)		Achievement (At the End of Phase-4)	
				Status	Rating (Max. 3)	Status	Rating (Max. 3)	Status	Rating (Max. 3)	Status	Rating (Max. 3)
				malfunctioning water meters were not replaced regularly because insufficient report.		malfunctioning water meters were not replaced regularly because insufficient report.		malfunctioning water meters were not replaced regularly because of insufficient report. ● There was no regulation for replacing water meter regularly		malfunctioning water meters are not replaced regularly because of insufficient report. ● There is no regulation for replacing water meter regularly	
5	39		Recognition of number of malfunctioning water meter	● As stated in 'Frequency of replacement of water meters', the malfunctioning water meters were checked by water meter readers. ● However, malfunctioning water meters were not identified in the entire Honiara city.	0.0	● The malfunctioning water meters were checked by water meter readers and reported to the NRW action team. ● However, all the malfunctioning water meters were not identified in the whole Honiara city.	1.0	● The malfunctioning water meters were checked by water meter readers and reported to the NRW action team. ● However, all the malfunctioning water meters were not identified in the whole Honiara city.	1.0	● Not only staff in charge of service connection but also meter readers will visibly check a function of water meters. ● As long as NRW reduction is carried out, water meter inaccuracy has gone down.	3.0
6	41		Current activities on leakage reduction	● Activities of leakage detection were done irregularly in the limited areas because lack of staff in charge of leakage detection and an insufficient ability of their measures	1.0	● Activities of leakage detection were done irregularly in the limited areas because lack of staff in charge of leakage detection.	1.0	● Surface leakage was detected to some extent but not underground leakage	2.0	● SW is able to detect leaks routinely in each established DMA.	3.0
7	42		Days required for repair of pipes once leakage is reported or detected	● Less than two days	3.0	● Continuously, SW took an action to fix the facilities in two days after report.	3.0	● Continuously, SW took an action to fix the facilities in two days after report.	3.0	● Continuously, SW has been taking an action to fix the facilities in two days after report.	3.0
8	43		Skill level on leakage detection	● As stated in 'Current activities on leakage reduction', SW was	1.0	● As stated in 'Current activities on leakage reduction', SW was	1.0	● As stated in 'Current activities on leakage reduction', SW was	1.0	● Leakage detection sub-team is able to detect underground	3.0

Annex 11.1

No.	Q/N. No.	Category	Capacity Needs	Baseline (At the Beginning of Phase-1)		Achievement (At the End of Phase-2)		Achievement (At the End of Phase-3)		Achievement (At the End of Phase-4)	
				Status	Rating (Max. 3)	Status	Rating (Max. 3)	Status	Rating (Max. 3)	Status	Rating (Max. 3)
17	111-1	Training	Current situation of OJT	● Some OJT was carried out but in an unorganized way because of lack of trainers in Honiara.	1.0	● OJT was carried by JICA Expert Team. ● SW also had the domestic and international training program.	2.0	● OJT was carried by JICA Expert Team. ● SW also had the domestic and international training program. ● SW has no their own training center.	2.0	● OJT has been carried by JICA Expert Team. ● SW also has the domestic and international training program. ● SW has no their own training center.	2.0
18	124	Customer relation	Frequency of newsletter publication	● Activity and scope of PR were limited, which resulted in that publication was once a year, because one staff in SW was engaged in PR activity.	0.0	● Activity and scope of PR with newsletter were still limited. Meanwhile, household survey was carried out in order to learn user's awareness on water supply service and current water use. ● School education program was under preparation.	1.0	● Activity and scope of PR with newsletter were still limited. ● School education program took place irregularly.	1.0	● Even internal newsletter has been published every week. ● School education program has taken place almost irregularly.	3.0
19	128		Database of customers	● Database of customers was updated regularly because of lack of operators.	1.0	● Database of customers was updated gradually, but the entire database was not systemized yet.	1.0	● Database of customers was updated gradually.	2.0	● Database of customers has been updated gradually.	2.0
20	129		Current situation of illegal connection	● SW already commenced revelation of illegal connections and pipe disconnection but illegal connection were not decreased. ● This might be caused by generous penalty for	0.0	● SW legalized and disconnected the illegal pipe connections. ● However, there were still lots of illegal connection in the whole Honiara. ● A lot of households with	1.0	● SW legalized and disconnected the illegal pipe connections. ● However, there were still lots of illegal connection in the whole Honiara. ● A lot of households with	0.0	● SW has legalized and disconnected the illegal pipe connections. ● However, there are still lots of illegal connection in the whole Honiara. ● A lot of households with	0.0

Annex 11.1

No.	Q/N. No.	Category	Capacity Needs	Baseline (At the Beginning of Phase-1)		Achievement (At the End of Phase-2)		Achievement (At the End of Phase-3)		Achievement (At the End of Phase-4)	
				Status	Rating (Max. 3)	Status	Rating (Max. 3)	Status	Rating (Max. 3)	Status	Rating (Max. 3)
				illegal connection.				arrears were disconnected by SW, so those households have connected illegally.		arrears have been disconnected by SW, so those households have connected illegally.	
21	136-1)		Campaign activities (Water conservation)	● SW campaigned against water conservation through radio and newspaper. ● It was not nearly enough because of budget.	2.0	● SW campaigned against water conservation through radio and newspaper. ● It was not nearly enough because of budget.	2.0	● SW campaigned against water conservation through radio and newspaper.	2.0	● SW has campaigned against water conservation through radio and newspaper.	2.0
22	136-2)		Campaign activities (Illegal connection)	● SW campaigned against illegal connection through radio and newspaper. ● It was not nearly enough because of budget.	2.0	● SW campaigned against illegal connection through radio and newspaper. ● It was not nearly enough because of budget.	2.0	● SW campaigned against illegal connection through radio and newspaper.	2.0	● SW has campaigned against illegal connection through radio and newspaper.	2.0
23	136-4)		Campaign activities (Report to SW on leakage)	● SW campaigned against the report to SW on leakage through radio and newspaper. ● It was not nearly enough because of budget.	2.0	● SW campaigned against the report to SW on leakage through radio and newspaper. ● It was not nearly enough because of budget.	2.0	● SW campaigned against the report to SW on leakage through radio and newspaper. ● It was not nearly enough because of budget.	2.0	● SW has campaigned against the report to SW on leakage through radio and newspaper. ● It is not nearly enough because of budget.	2.0

Assessment Criteria:
'0-30%: 0 (Serious), 31- 60%: 1 (Not good enough), 61-80%: 2 (Good), 81-100%: 3 (Very good)
: Rating is increased.

Annex 11.2

Table A11.2-2 Final Assessment of Capacity Development Plan (Ms. Tima Kofana, Human Resources Manager)

No	Items	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of April 2016)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
1	Fundamental Knowledge	Understanding of NRW	Almost understand NRW and causes of NRW.	2.0	She understands NRW and causes of NRW, but not well.	2.2	She almost understands NRW and causes of NRW, but not fully.	2.5	She almost understands NRW and causes of NRW, but not fully.	2.5	NRW Reduction Activity of SW is continued	3.0
2		Understanding of necessity of NRW reduction	Not clearly understand the measures for NRW reduction.	1.5	She understands the measures for NRW reduction, but not well.	2.0	She almost understands the measures for NRW reduction, but not fully.	2.5	She almost understands the measures for NRW reduction, but not fully.	2.5		
3	Human Resource Management Activity	Holding regular meetings with Human Resource Division and weekly meeting with the representatives of other Division are held.	Weekly meetings in Human Resource Division and weekly meeting with the representatives of other Division are held.	2.5	She has contributed to staff allocation but not fully participated in meetings.	2.7	She has contributed to staff allocation but not fully participated in meetings.	2.7	She has contributed to staff allocation but not fully participated in meetings.	2.7	Staffs for NRW Reduction Activity is secured and NRW Reduction Activity of SW is continued	3.0
4		Making action plan for Human Resource	Processing Action plan for Human Resource	1.8	She introduced SW staff's action plan.	2.0	She introduced SW staff's action plan.	2.2	She introduced SW staff's action plan.	2.2	Continue to monitor and update Action plan of Human Resource	3.0
5		Annual staff's training plan	Annual training plan for staffs relating to Finance and Administration is made	2.0	Still not enough, but trainings have been conducted.	2.2	Still not enough, but trainings have been conducted.	2.2	Still not enough, but trainings have been conducted.	2.2	Continue to monitor and update the annual staff's training plan for Human Resource	3.0

Assessment Criteria
x≤30% : **0 (Serious)**
30%< x ≤60% : **1 (Not Good Enough)**
60%< x ≤80% : **2 (Good)**
80%< x : **3 (Very Good)**

Annex 11.2

(3) Final Assessment of Capacity Development at Individual Level (NRW Action Team / NRW Technical Sub-Team)

Table A11.2-3 Final Assessment of Capacity Development Plan (Mr. Benjamin Billy, Team Leader 1/ Non Revenue Water Taskforce Leader)

No	Items	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of April 2016)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
1	NRW reduction	Understanding of NRW	Almost understand NRW and causes of NRW	2.0	He understands clearly NRW and causes of NRW as evidenced by exam results.	2.7	He understands clearly NRW and causes of NRW as evidenced by exam results.	2.7	He understands fully NRW and causes of NRW.	3.0	1. To continue to monitor and update NRW reduction plan 2. To continue to calculate NRW ratio by the data collected	3.0
2		Understanding of necessity of NRW reduction	Almost understand the measures for NRW reduction	2.5	He understands comprehensively measures for NRW reduction as evidenced by exam results.	2.7	He fully understands measures for NRW reduction as evidenced by exam results.	3.0	He fully understands measures for NRW reduction.	3.0		3.0
3		Understanding of data for water audit and water audit analysis	Almost understand the data for water audit and water audit analysis	2.0	He can categorize data and understand process of water audit as evidenced by exam results, but data quality has not been sometime ensured.	2.1	He can categorize data and understand process of water audit as evidenced by exam results, and data quality has been improved.	2.4	He can categorize data and understand process of water audit, and data quality has been improved.	3.0	Continue to conduct water audit analysis	3.0
4		Understanding of necessity of the facilities drawings	Almost understand necessity of the facilities drawings	2.0	Drawings of pilot projects have been updated by his supervision.	2.4	Drawings of pilot projects and the selected DMAs have been updated by his supervision.	2.6	Drawings of pilot projects and the selected DMAs have been updated by his supervision.	2.8	Continue to update GIS drawings in SW.	3.0
5		Understanding of water supply cost	Not understand the water supply cost	1.0	Water supply cost for pilot project implementation have been calculated by his supervision.	2.1	Water supply cost for all pilot project implementation was calculated by his supervision.	2.4	Water supply cost for all pilot project implementation was calculated by his supervision.	2.6	Continue to calculate water supply cost by the data collected in SW	3.0
6		Understanding of importance of material supply and stock	Almost understand the importance of material supply and stock	2.0	Materials have been timely supplied by his supervision.	2.4	Materials have been timely supplied by his good supervision.	2.6	Materials have been timely supplied by his good supervision.	2.8	Conduct the timely material supply and adequate stock management in SW	3.0

Annex 11.2

(2) Final Assessment of Capacity Development at Individual Level (NRW Management Team, except Customer Service Section)

Table A11.2-1 Final Assessment of Capacity Development Plan (Mr. Ray Andresen, Project Manager)

No	Items	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of April 2016)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
1	Fundamental Knowledge	Understanding of NRW	Almost understand NRW and causes of NRW	3.0	He fully understands NRW and causes of NRW, but practical aspect should be ensured.	3.0	He fully understands NRW and causes of NRW, but practical aspect should be ensured.	3.0	He fully understands NRW and causes of NRW, but practical aspect should be ensured.	3.0	1. To continue to monitor and update NRW reduction plan 2. To continue to calculate NRW ratio by the data collected.	3.0
2		Understanding of necessity of NRW reduction	Almost understand the measures for NRW reduction	2.7	He fully understands measures for NRW reduction, but practical aspect should be ensured.	2.7	He fully understands measures for NRW reduction, but practical aspect should be ensured.	3.0	He fully understands measures for NRW reduction, but practical aspect should be ensured.	3.0		
3		Understanding of data for water audit and water audit analysis	Almost understand the data for water audit and water audit analysis	2.0	He almost understands the data for water audit and water audit analysis, but practical aspect should be ensured.	2.0	He almost understands the data for water audit and water audit analysis, but practical aspect should be ensured.	2.2	He almost understands the data for water audit and water audit analysis, but practical aspect should be ensured.	2.4	Continue to conduct water audit analysis in SW	3.0
4	O&M Management Activity	Hold regular meeting for O&M Management	Meetings for O&M Management are held.	2.5	He attended meetings, but the meetings have not held regularly.	2.5	He attended meetings, but the meetings have not held regularly.	2.5	He attended meetings, but the meetings have not held regularly.	2.6	1. Meeting for O&M are held regularly in SW. 2. The issues of the preventive matters as well as the current matters are solved.	3.0
5		Availability of Action Plan for O&M Management	Action Plan for O&M Management is not made	0.0	He has contributed to preparation of Action Plan.	2.0	He has contributed to preparation of Action Plan.	2.2	He contributed to preparation of Action Plan.	2.4	1. Action plan for O&M Management is made. 2. "Operation and Maintenance Plan" for SW is finalized.	3.0

Annex 11.2

No	Items	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of April 2016)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
6		Understanding of the activities of the Staff according to the O&M Management	Staff's activities relating to O&M Management are not fully understood.	2.0	His understanding has been slightly improved.	2.2	His understanding has been improved.	2.6	His understanding has been improved.	2.8		
7		Annual technical training plan for Staff	Annual technical training plan for the Staff are made but not enough.	2.0	Still not enough, but technical trainings have been conducted.	2.2	Still not enough, but technical trainings have been conducted.	2.4	Still not enough, but technical trainings have been conducted.	2.4	Annual staff's training plan for NRW Reduction Activity of SW is made	3.0
8		Procedure of handling the report and complaints from customers	Procedure of handling the report and complaints from customers are established but enough.	2.0	Procedure has been slightly improved.	2.2	Procedure has been slightly improved.	2.4	Procedure has been slightly improved.	2.4	The procedure of processing claims from customers are established in SW	3.0

Assessment Criteria
x≤30% : **0 (Serious)**
30%< x ≤60% : **1 (Not Good Enough)**
60%< x ≤80% : **2 (Good)**
80%< x : **3 (Very Good)**

Annex 11.2

No	Items	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of April 2016)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
8		Understanding of the issues of the current O&M	Almost understand the issues of the current O&M	2.0	Operation and Maintenance Plan has not been prepared.	2.0	Operation and Maintenance Plan has not been prepared.	2.0	Operation and Maintenance Plan has not been prepared.	2.0	Continue to update "Operation and Maintenance Plan" in SW.	3.0
9		Understanding of the current NRW ratio and Water Leakage ratio	Not understand the current NRW ratio and Water Leakage ratio with correct data	1.0	He understands the current NRW ratio and water leakage ratio, but not practically.	1.0	His understanding has been improved practically, but not enough.	1.5	His understanding has been improved practically, but not enough.	1.5	Continue to calculate NRW ratio and Water Leakage ratio in SW	3.0

Assessment Criteria
x≤30% : **0 (Serious)**
30%< x ≤60% : **1 (Not Good Enough)**
60%< x ≤80% : **2 (Good)**
80%< x : **3 (Very Good)**

Annex 11.2

No	Items	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of April 2016)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
7		Understanding of the current water leakage activity and repair works	Almost understand the current water leakage activity and repair works	2.0	Water leakage detection and repairs have been conducted by his supervision, but NRW has remained in some areas.	2.3	Water leakage detection and repairs have been conducted by his supervision, but NRW still remains in the selected DMAs.	2.4	Water leakage detection and repairs have been conducted by his supervision.	2.8	Continue water leakage activity and repair works in SW	3.0
8		Understanding of the issues of the current O&M	Almost understand the issues of the current O&M	2.0	Operation and Maintenance Plan has not been prepared, but his understanding has improved.	2.1	Operation and Maintenance Plan has not been prepared, but his understanding has improved more.	2.4	Operation and Maintenance Plan has not been prepared, but DMA monitoring has been implemented.	2.8	Continue to update "Operation and Maintenance Plan" in SW.	3.0
9		Understanding of the current NRW ratio and Water Leakage ratio	Not understand the current NRW ratio and Water Leakage ratio with correct data	1.5	NRW ratio and water leakage ratio in pilot project have been calculated, and shared through presentation in workshops.	2.1	NRW ratio and water leakage ratio in all pilot projects and DMAs were calculated, and shared through his presentation in workshops.	2.4	NRW ratio and water leakage ratio in all pilot projects and DMAs were calculated, and monitored and shared through his presentation in workshops.	2.8	Continue to calculate NRW ratio and Water Leakage ratio in SW	3.0

Assessment Criteria
x≤30% : **0 (Serious)**
30%< x ≤60% : **1 (Not Good Enough)**
60%< x ≤80% : **2 (Good)**
80%< x : **3 (Very Good)**

Annex 11.2

Table A11.2-5 Final Assessment of Capacity Development Plan (Mr. Moses Ramo, Customer Connections and Metering Management Assistant)

No	Items	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of April 2016)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
1	NRW reduction	Understanding of NRW	Not clearly understand NRW and causes of NRW	1.3	He understands NRW and causes of NRW, but not practically.	1.3	He understands NRW and causes of NRW, but not practically.	1.3	He understands NRW and causes of NRW, but not practically.	1.3	1. To continue to monitor and update NRW reduction plan 2. To continue to calculate NRW ratio by the data collected	3.0
2		Understanding of necessity of NRW reduction	Not clearly understand the measures for NRW reduction	1.3	He understands measures for NRW reduction but not practically.	1.3	He understands measures for NRW reduction but not practically.	1.3	He understands measures for NRW reduction but not practically.	1.3		3.0
3		Understanding of data for water audit and water audit analysis	Not clearly understand the data for water audit and water audit analysis	1.0	He understands data for audit and water audit analysis, but not practically.	1.0	He understands data for audit and water audit analysis, but not practically.	1.0	He understands data for audit and water audit analysis, but not practically.	1.0	Continue to conduct water audit analysis	3.0
4		Understanding of necessity of the facilities drawings	Not clearly understand necessity of the facilities drawings	1.0	He does not understand necessity of the facilities drawings	1.0	He does not understand necessity of the facilities drawings	1.0	He does not understand necessity of the facilities drawings	1.0	Continue to update GIS drawings in SW.	3.0
5		Understanding of water supply cost	Not understand the water supply cost	0.5	He does not understand the water supply cost.	0.5	He does not understand the water supply cost.	0.5	He does not understand the water supply cost.	0.5	Continue to calculate water supply cost by the data collected in SW	3.0
6		Understanding of importance of material supply and stock	Not understand clearly the importance of material supply and stock	1.0	He does not understand clearly the importance of material supply and stock	1.0	He does not understand clearly the importance of material supply and stock	1.0	He does not understand clearly the importance of material supply and stock	1.0	Conduct the timely material supply and adequate stock management in SW	3.0
7		Understanding of the current water leakage activity and repair works	Not understand clearly the current water leakage activity and repair works	1.0	Water leakage detection and repairs have been conducted, and he has contributed repair works	1.5	Water leakage detection and repairs have been conducted, and he has contributed repair works	1.5	Water leakage detection and repairs have been conducted, and he has contributed repair works	1.5	Continue water leakage activity and repair works in SW	3.0

Annex 11.2

Table A11.2-4 Final Assessment of Capacity Development Plan (Mr. Austin ATA, NRW Sub-Team Leader, Customer Connections and Metering Management)

No	Items	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of April 2016)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
1	NRW reduction	Understanding of NRW	Not clearly understand NRW and causes of NRW	1.3	He understands NRW and causes of NRW, but not practically.	1.3	He understands clearly NRW and causes of NRW as evidenced by exam results.	2.7	He understands clearly NRW and causes of NRW.	2.7	1. To continue to monitor and update NRW reduction plan 2. To continue to calculate NRW ratio by the data collected	3.0
2		Understanding of necessity of NRW reduction	Not clearly understand the measures for NRW reduction	1.8	He understands measures for NRW reduction, but not practically.	1.8	He almost understands measures for NRW reduction as evidenced by exam results.	2.8	He almost understands measures for NRW reduction.	2.8		3.0
3		Understanding of data for water audit and water audit analysis	Not clearly understand the data for water audit and water audit analysis	1.3	He understands data for audit and water audit analysis, but not practically.	1.3	He understands data for audit and water audit analysis, but not practically.	1.5	He understands data for audit and water audit analysis, but not practically.	1.5	Continue to conduct water audit analysis	3.0
4		Understanding of necessity of the facilities drawings	Almost understand necessity of the facilities drawings	2.0	Drawings of pilot projects have been updated, and he has contributed to point illegal connections.	2.2	Drawings of pilot projects have been updated, and he has contributed to point illegal connections.	2.2	Drawings of pilot projects have been updated, and he has contributed to point illegal connections.	2.2	Continue to update GIS drawings in SW.	3.0
5		Understanding of water supply cost	Not understand the water supply cost	1.0	Water supply cost for pilot project implementation have been calculated.	2.0	Water supply cost for pilot project implementation have been calculated.	2.2	Water supply cost for pilot project implementation have been calculated.	2.2	Continue to calculate water supply cost by the data collected in SW	3.0
6		Understanding of importance of material supply and stock	Almost understand the importance of material supply and stock	2.0	Materials have been timely supplied, and he has contributed to procurement of meters.	2.2	Materials have been timely supplied, and he has contributed to procurement of meters.	2.2	Materials have been timely supplied, and he has contributed to procurement of meters.	2.2	Conduct the timely material supply and adequate stock management in SW	3.0
7		Understanding of the current water leakage activity and repair works	Almost understand the current water leakage activity and repair works	2.0	Water leakage detection and repairs have been conducted, but NRW has remained in some areas.	2.2	Water leakage detection and repairs have been conducted, but NRW has remained in some areas.	2.2	Water leakage detection and repairs have been conducted, but NRW has remained in some areas.	2.2	Continue water leakage activity and repair works in SW	3.0

Annex 11.2

No	Items	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of April 2016)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
8		Understanding of the issues of the current O&M	Almost understand the issues of the current O&M	2.0	Operation and Maintenance Plan has not been prepared.	2.0	Operation and Maintenance Plan has not been prepared.	2.0	Operation and Maintenance Plan has not been prepared, but DMA monitoring has been implemented.	2.6	Continue to update "Operation and Maintenance Plan" in SW.	3.0
9		Understanding of the current NRW ratio and Water Leakage ratio	Not understand the current NRW ratio and Water Leakage ratio with correct data	1.5	NRW ratio and water leakage ratio in pilot project have been calculated, but his understanding is not enough.	1.8	NRW ratio and water leakage ratio in pilot project have been calculated, but his understanding is not enough.	1.8	NRW ratio and water leakage ratio in pilot project and DMAs have been calculated.	2.4	Continue to calculate NRW ratio and Water Leakage ratio in SW	3.0

Assessment Criteria
x≤30% : **0 (Serious)**
30%< x ≤60% : **1 (Not Good Enough)**
60%< x ≤80% : **2 (Good)**
80%< x : **3 (Very Good)**

Annex 11.2

No	Items	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of April 2016)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
8		Understanding of the issues of the current O&M	Almost understand the issues of the current O&M	2.0	Operation and Maintenance Plan has not been prepared.	2.0	Operation and Maintenance Plan has not been prepared.	2.0	Operation and Maintenance Plan has not been prepared.	2.0	Continue to update "Operation and Maintenance Plan" in SW.	3.0
9		Understanding of the current NRW ratio and Water Leakage ratio	Not understand the current NRW ratio and Water Leakage ratio with correct data	1.0	He understands the current NRW ratio and water leakage ratio, but not practically.	1.0	He understands the current NRW ratio and water leakage ratio, but not practically.	1.0	He understands the current NRW ratio and water leakage ratio, but not practically.	1.0	Continue to calculate NRW ratio and Water Leakage ratio in SW	3.0

Assessment Criteria
x≤30% : **0 (Serious)**
30%< x ≤60% : **1 (Not Good Enough)**
60%< x ≤80% : **2 (Good)**
80%< x : **3 (Very Good)**

S11.1-1-17

Annex 11.2

Table A11.2-7 Final Assessment of Capacity Development Plan (Mr. Mathias Bera, Head of Pipe Repair Team, Pipe Maintenance & Repair)

No	Items	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of April 2016)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
1	NRW reduction	Understanding of NRW	Not clearly understand NRW and causes of NRW	1.7	He understands clearly NRW and causes of NRW as evidenced by exam results.	2.7	He understands clearly NRW and causes of NRW as evidenced by exam results.	2.7	He fully understands clearly NRW and causes of NRW.	3.0	1. To continue to monitor and update NRW reduction plan 2. To continue to calculate NRW ratio by the data collected	3.0
2		Understanding of necessity of NRW reduction	Almost understand the measures for NRW reduction	2.3	He understands comprehensively measures for NRW reduction as evidenced by exam results.	2.7	He fully understands measures for NRW reduction as evidenced by exam results.	3,0	He fully understands measures for NRW reduction.	3.0		3.0
3		Understanding of data for water audit and water audit analysis	Not clearly understand the data for water audit and water audit analysis	1.7	He can categorize data and understand process of water audit as evidenced by exam results, but data quality has not been sometime ensured.	2.1	He can categorize data and understand process of water audit as evidenced by exam results, but data quality has not been still improved.	2.2	He can categorize data and understand process of water audit, and data quality has been improved.	2.6	Continue to conduct water audit analysis	3.0
4		Understanding of necessity of the facilities drawings	Not clearly understand necessity of the facilities drawings	1.0	Drawings of pilot projects have been updated, which he has contributed to.	2.4	Drawings of pilot projects and the selected DMAs have been updated, which he has contributed to.	2.6	Drawings of pilot projects and the selected DMAs have been updated, which he has contributed to.	2.6	Continue to update GIS drawings in SW.	3.0
5		Understanding of water supply cost	Not understand the water supply cost	0.5	Water supply cost for pilot project implementation have been calculated, which he has contributed to.	2.0	Water supply cost for all pilot project implementation was calculated, which he has contributed to.	2.2	Water supply cost for all pilot project and DMA implementation was calculated, which he has contributed to.	2.4	Continue to calculate water supply cost by the data collected in SW	3.0
6		Understanding of importance of material supply and stock	Almost understand the importance of material supply and stock	2.0	Materials have been timely supplied, and he has contributed to procurement of materials.	2.2	Materials have been timely supplied, and he has contributed well to procurement of materials.	2.6	Materials have been timely supplied, and he has contributed well to procurement of materials.	2.6	Conduct the timely material supply and adequate stock management in SW	3.0
7		Understanding of the current water leakage activity and repair works	Not understand clearly the current water leakage activity and repair works	1.0	Water leakage detection and repairs have been conducted, and he has contributed to repair works.	2.3	Water leakage detection and repairs have been conducted, and he has contributed to repair works.	2.4	Water leakage detection and repairs have been conducted, and he has contributed to repair works.	2.6	Continue water leakage activity and repair works in SW	3.0

Annex 11.2

Table A11.2-6 Final Assessment of Capacity Development Plan (Mr. Silas Talosui, NRW Sub-Team Leader, Network Maintenance & Repair)

No	Items	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of April 2016)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
1	NRW reduction	Understanding of NRW	Almost understand the NRW and causes of NRW	2.0	By observation, he understands NRW and causes of NRW, but not enough.	2.0	By observation, he understands NRW and causes of NRW, but not enough.	2.0	He understands clearly NRW and causes of NRW.	2.6	1. To continue to monitor and update NRW reduction plan 2. To continue to calculate NRW ratio by the data collected	3.0
2		Understanding of necessity of NRW reduction	Almost understand the measures for NRW reduction	2.5	By observation, he understands measures for NRW reduction.	2.5	By observation, he understands measures for NRW reduction.	2.5	He fully understands measures for NRW reduction.	3.0		3.0
3		Understanding of data for water audit and water audit analysis	Almost understand the data for water audit and water audit analysis	2.3	By observation, he understands data for audit and water audit analysis, but not enough.	2.3	By observation, he understands data for audit and water audit analysis, but not enough.	2.3	He understands data for audit and water audit analysis, but not enough.	2.4	Continue to conduct water audit analysis	3.0
4		Understanding of necessity of the facilities drawings	Almost understand the necessity of the facilities drawings	2.0	Drawings of pilot projects have been updated, which he has contributed to.	2.2	Drawings of pilot projects have been updated, which he has contributed to.	2.2	Drawings of pilot projects and DMAs have been updated, which he has contributed to.	2.6	Continue to update GIS drawings in SW.	3.0
5		Understanding of water supply cost	Almost understand the water supply cost	2.0	Water supply cost for pilot project implementation have been calculated, which he has contributed to.	2.1	Water supply cost for pilot project implementation have been calculated, which he has contributed to.	2.1	Water supply cost for pilot project and DMAs implementation have been calculated, which he has contributed to.	2.2	Continue to calculate water supply cost by the data collected in SW	3.0
6		Understanding of importance of material supply and stock	Almost understand the importance of material supply and stock	2.0	Materials have been timely supplied, and he has contributed to procurement of materials.	2.2	Materials have been timely supplied, and he has contributed to procurement of materials.	2.2	Materials have been timely supplied, and he has contributed to procurement of materials.	2.6	Conduct the timely material supply and adequate stock management in SW	3.0
7		Understanding of the current water leakage activity and repair works	Not understand clearly the current water leakage activity and repair works	1.5	Water leakage detection and repairs have been conducted, and he has contributed to repair works.	2.0	Water leakage detection and repairs have been conducted, and he has contributed to repair works.	2.0	Water leakage detection and repairs have been conducted in DMAs, and he has contributed to repair works.	2.8	Continue water leakage activity and repair works in SW	3.0

Annex 11.2

No	Items	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of April 2016)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
8		Understanding of the issues of the current O&M	Almost understand the issues of the current O&M	2.0	Operation and Maintenance Plan has not been prepared.	2.0	Operation and Maintenance Plan has not been prepared.	2.0	Operation and Maintenance Plan has not been prepared.	2.0	Continue to update "Operation and Maintenance Plan" in SW.	3.0
9		Understanding of the current NRW ratio and Water Leakage ratio	Not understand the current NRW ratio and Water Leakage ratio with correct data	0.5	NRW ratio and water leakage ratio in pilot project have been calculated, but he understands partly.	1.0	NRW ratio and water leakage ratio in pilot project have been calculated, but he understands partly.	1.0	NRW ratio and water leakage ratio in pilot project have been calculated, but he understands partly.	1.0	Continue to calculate NRW ratio and Water Leakage ratio in SW	3.0

Assessment Criteria
x≤30% : **0 (Serious)**
30%< x ≤60% : **1 (Not Good Enough)**
60%< x ≤80% : **2 (Good)**
80%< x : **3 (Very Good)**

Annex 11.2

No	Items	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of April 2016)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
8		Understanding of the issues of the current O&M	Almost understand the issues of the current O&M	2.0	Operation and Maintenance Plan has not been prepared, but his understating has improved.	2.1	Operation and Maintenance Plan has not been prepared, but his understanding has to be improved more.	2.4	Operation and Maintenance Plan has not been prepared, but his understanding has to be improved more.	2.4	Continue to update "Operation and Maintenance Plan" in SW.	3.0
9		Understanding of the current NRW ratio and Water Leakage ratio	Not understand the current NRW ratio and Water Leakage ratio with correct data	1.0	NRW ratio and water leakage ratio in pilot project have been calculated, and shared through presentation in workshops.	2.1	NRW ratio and water leakage ratio in all pilot projects and DMAs were calculated, and shared through his presentation in workshops.	2.4	NRW ratio and water leakage ratio in all pilot projects and DMAs were calculated, and shared through his presentation in workshops.	2.4	Continue to calculate NRW ratio and Water Leakage ratio in SW	3.0

Assessment Criteria
x≤30% : **0 (Serious)**
30%< x ≤60% : **1 (Not Good Enough)**
60%< x ≤80% : **2 (Good)**
80%< x : **3 (Very Good)**

Annex 11.2

Table A11.2-9 Final Assessment of Capacity Development Plan (Mr. Frank Daukalia, Head of Meter Repair/ Replacement Team, Pipe Materials Management and Procurement)

No	Items	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of April 2016)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
1	NRW reduction	Understanding of NRW	Almost understand the NRW and causes of NRW	2.0	He understands clearly NRW and causes of NRW as evidenced by exam results.	2.7	He understands clearly NRW and causes of NRW as evidenced by exam results.	2.7	He fully understands clearly NRW and causes of NRW.	3.0	Understand the issues and causes of NRW in SW	3.0
2		Understanding of necessity of NRW reduction	Not clearly understand the measures for NRW reduction	1.8	He understands comprehensively measures for NRW reduction as evidenced by exam results.	2.7	He fully understands measures for NRW reduction as evidenced by exam results.	3.0	He fully understands measures for NRW reduction.	3.0	Understand NRW reduction measure in SW	3.0
3		Understanding of data for water audit and water audit analysis	Not clearly understand the data for water audit and water audit analysis	1.3	He can categorize data and understand process of water audit as evidenced by exam results, but data quality has not been sometime ensured.	2.1	He can categorize data and understand process of water audit as evidenced by exam results, but data quality has been improved.	2.4	He can categorize data and understand process of water audit, and data quality has been improved.	2.8	Continue to conduct water audit analysis	3.0
4		Understanding of necessity of the facilities drawings	Almost understand the necessity of the facilities drawings	2.0	Drawings of pilot projects have been updated, which he has contributed to.	2.2	Drawings of pilot projects and the selected DMAs have been updated, which he has contributed to.	2.6	Drawings of pilot projects and the selected DMAs have been updated, which he has contributed to.	2.6	Continue to update GIS drawings in SW.	3.0
5		Understanding of water supply cost	Not understand the water supply cost	1.0	Water supply cost for pilot project implementation have been calculated, which he has contributed to.	2.0	Water supply cost for all pilot project and DMA implementation was calculated, which he has contributed to.	2.2	Water supply cost for all pilot project and DMA implementation was calculated, which he has contributed to.	2.6	Continue to calculate water supply cost by the data collected in SW	3.0
6		Understanding of importance of material supply and stock	Almost understand the importance of material supply and stock	2.0	Materials have been timely supplied, and he has contributed to procurement of materials.	2.2	Materials have been timely supplied, and he has contributed well to procurement of materials.	2.6	Materials have been timely supplied, and he has contributed well to procurement of materials.	2.6	Conduct the timely material supply and adequate stock management in SW	3.0

Annex 11.2

Table A11.2-8 Final Assessment of Capacity Development Plan (Mr. Layton Jacob, NRW Sub-Team Leader, Procurement)

No	Items	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of April 2016)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
1	NRW reduction	Understanding of NRW	Not clearly understand NRW and causes of NRW	1.7	He understands NRW and causes of NRW, but not practically.	1.7	He understands NRW and causes of NRW, but not practically.	1.7	He understands NRW and causes of NRW, but not practically.	1.7	Understand the issues and causes of NRW in SW	3.0
2		Understanding of necessity of NRW reduction	Not clearly understand the measures for NRW reduction	1.5	He understands measures for NRW reduction but not practically.	1.5	He understands measures for NRW reduction but not practically.	1.5	He understands measures for NRW reduction but not practically.	1.5	Understand NRW reduction measure in SW	3.0
3		Understanding of data for water audit and water audit analysis	Not clearly understand the data for water audit and water audit analysis	0.7	He understands data for audit and water audit analysis, but not practically.	1.0	He understands data for audit and water audit analysis, but not practically.	1.0	He understands data for audit and water audit analysis, but not practically.	1.0	Continue to conduct water audit analysis	3.0
4		Understanding of necessity of the facilities drawings	Not clearly understand necessity of the facilities drawings	1.0	Drawings of pilot projects have been updated, and he understands its necessity.	1.5	Drawings of pilot projects have been updated, and he understands its necessity.	1.5	Drawings of pilot projects have been updated, and he understands its necessity.	1.5	Continue to update GIS drawings in SW.	3.0
5		Understanding of water supply cost	Not understand the water supply cost	1.0	Water supply cost for pilot project implementation have been calculated by his supervision.	2.1	Water supply cost for pilot project implementation have been calculated by his supervision.	2.1	Water supply cost for pilot project implementation have been calculated by his supervision.	2.1	Continue to calculate water supply cost by the data collected in SW	3.0
6		Understanding of importance of material supply and stock	Not understand clearly the importance of material supply and stock	1.0	Materials have been timely supplied by his supervision.	2.4	Materials have been timely supplied by his good supervision.	2.6	Materials have been timely supplied by his good supervision.	2.6	Conduct the timely material supply and adequate stock management in SW	3.0
7		Understanding of the current water leakage activity and repair works	Not understand clearly the current water leakage activity and repair works	1.0	Water leakage detection and repairs have been conducted, but he understands partly.	1.2	Water leakage detection and repairs have been conducted, but he understands partly.	1.2	Water leakage detection and repairs have been conducted, but he understands partly.	1.2	Continue water leakage activity and repair works in SW	3.0

Annex 11.2

No	Items	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of April 2016)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
8		Understanding of the issues of the current O&M	Almost understand the issues of the current O&M	2.0	Operation and Maintenance Plan has not been prepared.	2.0	Operation and Maintenance Plan has not been prepared.	2.0	Operation and Maintenance Plan has not been prepared.	2.0	Continue to update "Operation and Maintenance Plan" in SW.	3.0
9		Understanding of the current NRW ratio and Water Leakage ratio	Not understand the current NRW ratio and Water Leakage ratio with correct data	1.0	NRW ratio and water leakage ratio in pilot project have been calculated, but he understands partly.	1.0	NRW ratio and water leakage ratio in pilot project have been calculated, but he understands partly.	1.0	NRW ratio and water leakage ratio in pilot project have been calculated, but he understands partly.	1.0	Continue to calculate NRW ratio and Water Leakage ratio in SW	3.0

Assessment Criteria
x≤30% : **0 (Serious)**
30%< x ≤60% : **1 (Not Good Enough)**
60%< x ≤80% : **2 (Good)**
80%< x : **3 (Very Good)**

Annex 11.2

No	Items	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of April 2016)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
7		Understanding of the current water leakage activity and repair works	Not understand clearly the current water leakage activity and repair works	1.5	Water leakage detection and repairs have been conducted, but NRW has remained in some areas.	2.3	Water leakage detection and repairs have been conducted, and he has contributed to repair works.	2.4	Water leakage detection and repairs have been conducted, and he has contributed to repair works.	2.6	Continue water leakage activity and repair works in SW	3.0
8		Understanding of the issues of the current O&M	Almost understand the issues of the current O&M	2.0	Operation and Maintenance Plan has not been prepared, but his understanding has improved.	2.1	Operation and Maintenance Plan has not been prepared, but his understanding has improved.	2.1	Operation and Maintenance Plan has not been prepared, but DMA monitoring has been implemented, which he has contributed to.	2.4	Continue to update "Operation and Maintenance Plan" in SW.	3.0
9		Understanding of the current NRW ratio and Water Leakage ratio	Not understand the current NRW ratio and Water Leakage ratio with correct data	1.0	NRW ratio and water leakage ratio in pilot project have been calculated, and shared through presentation in workshops.	1.7	NRW ratio and water leakage ratio in all pilot projects and DMAs were calculated, and he contributed to it.	2.0	NRW ratio and water leakage ratio in all pilot projects and DMAs were calculated, and monitored and shared through workshops.	2.4	Continue to calculate NRW ratio and Water Leakage ratio in SW	3.0

Assessment Criteria
x≤30% : **0 (Serious)**
30%< x ≤60% : **1 (Not Good Enough)**
60%< x ≤80% : **2 (Good)**
80%< x : **3 (Very Good)**

Annex 11.2

Table A11.2-10 Final Assessment of Capacity Development Plan (Mr. Chris Meriko, NRW Sub-Team Leader, Water Resources & Treatment)

No	Items	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of April 2016)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
1	NRW reduction	Understanding of NRW	Not clearly understand NRW and causes of NRW	1.3	By observation, he understands NRW and causes of NRW.	2.0	By observation, he understands NRW and causes of NRW.	2.0	By observation, he understands NRW and causes of NRW.	2.0	1. To continue to monitor and update NRW reduction plan 2. To continue to calculate NRW ratio by the data collected	3.0
2		Understanding of necessity of NRW reduction	Almost understand the measures for NRW reduction	2.3	By observation, he understands measures for NRW reduction.	2.3	By observation, he understands measures for NRW reduction.	2.3	By observation, he understands measures for NRW reduction.	2.3		3.0
3		Understanding of data for water audit and water audit analysis	Not clearly understand the data for water audit and water audit analysis	1.7	By observation, he cannot categorize data correctly and does not well understand process of water audit.	1.7	By observation, he cannot categorize data correctly and does not well understand process of water audit.	1.7	By observation, he cannot categorize data correctly and does not well understand process of water audit.	1.7	Continue to conduct water audit analysis	3.0
4		Understanding of necessity of the facilities drawings	Almost understand the necessity of the facilities drawings	2.0	Drawings of pilot projects have been updated, which he has contributed to.	2.2	Drawings of pilot projects have been updated, which he has contributed to.	2.2	Drawings of pilot projects have been updated, which he has contributed to.	2.2	Continue to update GIS drawings in SW.	3.0
5		Understanding of water supply cost	Not understand the water supply cost	1.0	Water supply cost for pilot project implementation have been calculated, which he has contributed to.	1.9	Water supply cost for pilot project implementation have been calculated, which he has contributed to.	1.9	Water supply cost for pilot project implementation have been calculated, which he has contributed to.	1.9	Continue to calculate water supply cost by the data collected in SW	3.0
6		Understanding of importance of material supply and stock	Not understand clearly the importance of material supply and stock	1.0	Materials have been timely supplied, which he has contributed to.	2.2	Materials have been timely supplied, which he has contributed to.	2.2	Materials have been timely supplied, which he has contributed to.	2.2	Conduct the timely material supply and adequate stock management in SW	3.0
7		Understanding of the current water leakage activity and repair works	Almost understand the current water leakage activity and repair works	2.0	Water leakage detection and repairs have been conducted, but he does not well understand.	2.0	Water leakage detection and repairs have been conducted, but he does not well understand.	2.0	Water leakage detection and repairs have been conducted, but he does not well understand.	2.0	Continue water leakage activity and repair works in SW	3.0

Annex 11.2

Table A11.2-13 Final Assessment of Capacity Development Plan (Ms. Sophia Tango, Leader, Community Relations & Media Team, Service Delivery & Communications Division)

No.	Item	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Goal of Achievement (At the End of Phase 3)	
			Status	Score (Max. 3.0)	Status	Score (Max. 3.0)	Status	Score (Max. 3.0)	Status	Score (Max. 3.0)
1	Management Skill	a) Understanding of missions and tasks of the team. b) Strategy to attain team's mission. c) Coordination with other teams.	-She is young and enthusiastic and she has various ideas to move team's activities forward.	1.0	She has made her effort to attain team's mission. She has been preparing for implementation of awareness program for school students	2.1	She has shown much improved on her effort to attain team's mission. She has implemented awareness program and school program with NRW action team.	2.7	- Enhancement of teaching material through discussion with other sections and JICA team. - Awareness meeting and school program will be held regularly and she will prepare annual activity plan of these programs.	3.0
2	Reporting Skill / Action	a) Speed and quality reporting to her/his boss. b) Speedy and proper instructions/actions.	-She has good communication skills with customers and a good footwork for community relations and media assistant activities.	2.0	She shows good communication skills with customers on Customer Survey.	2.0	Her efforts in the fields of communication with customers and school children enable that many people pay attention to SW water supply service.	2.4		3.0
3	Expertise (Knowledge)	a) Knowledge on community relations and media.	-What she needs is more experience on her tasks, which will expand her creativity and upgrade a manner of approaches to communities and media.	2.0	She has tried to improve her knowledge on community relations and media.	2.0	She has tried to improve her knowledge on community relations and media, and has gained much basic knowledge on water supply service.	2.4		3.0

Rating:
Poor: 0
Not good enough: 1
Good: 2
Very good: 3

Annex 11.2

Table A11.2-14 Final Assessment of Capacity Development Plan (Mr. Lawrence Iroi, Chief Accountant, Finance & Administration Division)

No.	Item	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Goal of Achievement (At the End of Phase 3)	
			Status	Score (Max. 3.0)	Status	Score (Max. 3.0)	Status	Score (Max. 3.0)	Status	Score (Max. 3.0)
1	Management Skill	a) Strategy to attain division's mission. b) Activities/program for upgrading of staff's skill.	-As a head of finance section, he is doing well in managing the teams (meter reading, billing, and revenue collection) under his section. -He understands the problems preventing good performance of each team. -He also knows capacity needs of each team leader under his section and sometimes he conducts OJT on the need of his junior staff.	2.0	He manages division's mission well and issues on meter reading and billing activities are improved.	2.4	As a head of finance section, he has acted to have a good communication among revenue collection and billing team. He understands the problems such as revenue collection and tackles to solve such problems.	2.7	- Making a plan against those who are non-payment customers and illegal users. - Tackling delay of billing due to delay of meter reading.	3.0
2	Reporting Skill / Action	a) Speedy and proper instructions/ actions.	-He needs more communication/coordination with each team leader of meter reading and billing.	2.0	He has improved communication/coordination with each team leader.	2.4	He tries to collect necessary information from the relative sections in order to solve the problems on delay of meter reading, non-payment customers and illegal users.	2.7		3.0
3	Expertise (Knowledge)	a) Knowledge on meter readings & billings.	-He has an experience of meter readings and billings and he has full knowledge of those.	3.0	His knowledge and experience can contribute to improve meter readers/billing team ability.	3.0	His advices to meter readers/billing team is contributed to improve their work.	2.5		3.0

Rating:
Poor: 0
Not good enough: 1
Good: 2
Very good: 3

Annex 11.2

Table A11.2-11 Final Assessment of Capacity Development Plan (Mr. Carlos Saliga, Sub-Leader, Customer Care Team, Service Delivery & Communications Division)

No.	Item	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Goal of Achievement (At the End of Phase 3)	
			Status	Score (Max. 3.0)	Status	Score (Max. 3.0)	Status	Score (Max. 3.0)	Expected Status	Score (Max. 3.0)
1	Management Skill	a) Understanding of missions and tasks of the team. b) Strategy to attain team's mission. c) Coordination with other teams.	-As a head of the team, analytical and innovative thinking to improve the situation may not be so strong.	1.0	He understands missions and tasks of the team; however he needs to pay more attention to his team.	1.4	He shows a good ability as a Customer Care Team Leader despite the short experience in SW.	2.7	- Good management of the team. - Enhance the radio program. - Prepare cartoon as newsletter. - Establishment of effective use of FACEBOOK for the customers.	3.0
2	Reporting Skill / Action	a) Speed and quality reporting to her/his boss. b) Speedy and proper instructions/actions.	-He understands the problems preventing the performances of the team but lack in idea and in actions to change such a situation.	1.0	Speed and quality reporting to his boss is not good enough.	1.6	He has created some brochures on reducing NRW, he has conducted public relations on the radio every week and established Facebook Social page.	2.7		3.0
3	Expertise (Knowledge)	a) Knowledge on customer service care services.	-In spite of the experience of the one year at SW, he knows her daily routine tasks.	1.0	He has sufficiency about basic knowledge of customer service & care service based on a good score prepared by expert team.	2.1	He understands and has enough basic knowledge on customer care services.	2.6		3.0

Rating:
Poor: 0
Not good enough: 1
Good: 2
Very good: 3

Annex 11.2

Table A11.2-12 Final Assessment of Capacity Development Plan (Ms. Beverly Saohu, Leader, Customer Care Team, Service Delivery & Communications Division)

No.	Item	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Goal of Achievement (At the End of Phase 3)	
			Status	Score (Max. 3.0)	Status	Score (Max. 3.0)	Status	Score (Max. 3.0)	Status	Score (Max. 3)
1	Management Skill	a) Understanding of missions and tasks of the team. b) Strategy to attain team's mission. c) Coordination with other teams.	-As a head of the team, analytical and innovative thinking to improve the situation may not be so strong.	1.0	She understands missions and tasks of the team; however she needs to pay more attention to her team.	1.4	She understands missions and tasks of the team. Her long experience in SW enables for her to improve customer's request and complaint and she is fed back to the responsible section.	2.7	- Verification of the effect to introduce photo reading system in order to reduce complaints/inquires on meter reading. - Improvement of the form on inquires/complaints from the customers through discussions with relative sections.	3.0
2	Reporting Skill / Action	a) Speed and quality reporting to her/his boss. b) Speedy and proper instructions/actions.	-She understands the problems preventing the performances of the team but lack in idea and in actions to change such a situation.	1.0	She has worked on customer's request & complains to the related section, however speed and quality reporting to her boss are not good enough.	1.4	She shows enough efforts to share customer's inquiry and complaints to the relative sections.	2.4		3.0
3	Expertise (Knowledge)	b) Knowledge on customer service care services.	-She knows her daily routine tasks.	2.0	She has enough knowledge on her work.	2.1	She has enough knowledge on her work, and understands basic knowledge regarding water supply service.	2.6		3.0

Rating:
Poor: 0
Not good enough: 1
Good: 2
Very good: 3

Annex 11.2

Table A11.2-17 Final Assessment of Capacity Development Plan (12 Meter Readers, Meter Reading Team, Finance & Administration Division)

No.	Item	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Goal of Achievement (At the End of Phase 3)	
			Status	Score (Max. 3.0)	Status	Score (Max. 3.0)	Status	Score (Max. 3.0)	Status	Score (Max. 3.0)
1	Management Skill	a) Judgment on the readings (normal or abnormal). b) Calculation of current unit & billing amount. c) Knowledge on a new water tariff. d) Skills to use handheld devices. e) Appearance of meter readers.	-Their basic skills on calculation of current unit & billing amount is poor. -Majority of them are not able to complete their tasks within the given time frame.	0.0	-Meter readers have improved their basic skills on calculation of current unit & billing amount. -Their tasks within the given time frame are completed.	1.6	Despite the half of the members came in to replace, meter reading team is maintaining a certain level in their activities.	2.2	- Recognition of issues related to meter reading. - Tackling to these issues with the team leader. - Growing up shallow experienced meter readers	3.0
2	Reporting Skill / Action	a) Greetings. b) Reading data (current unit and water charge). c) Possibility of leaks, defective meter, unpaid bill, new water tariff, etc. d) Listening and understanding of customer's complains, needs, expectation.	-A few of them has a good communication skill with customers, however, majority of them are very poor in communication skills.	0.0	Communication skill of meter readers is improved through role-play.	1.4	For shallow experienced young meter readers, other experienced meter readers has shared their good experience and skills such as communication with customers. Communication skill of meter readers is improved through this activity.	1.7		3.0
3	Expertise (Knowledge)	a) Speed & Quality reporting.	-There is no concrete system reporting the result of daily activities to their boss.	1.0	Meter readers understand SOP on reporting skill. They give the report on illegal connection and leakage in an appropriate way to their boss.	1.9	Photo leading system that was introduced in August 2104, has contributed to improvement of their meter reading accuracy. Meter readers use this system for confirmation of meter reading result.	2.4		3.0

Rating:
Poor: 0
Not good enough: 1
Good: 2
Very good: 3

Annex 11.2

Table A11.2-15 Final Assessment of Capacity Development Plan (Ms. Mary Tafoa, Leader, Billing Team, Finance & Administration Division)

No.	Item	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Goal of Achievement (At the End of Phase 3)	
			Status	Score (Max. 3.0)	Status	Score (Max. 3.0)	Status	Score (Max. 3.0)	Status	Score (Max. 3.0)
1	Management Skill	a) Time management of billing activity(sometimes the team fails to complete billings by the end of month). b) Deep understanding of strong and weak points (capacity needs) of billing clerks. c) Development of OJT program for upgrading knowledge and skills of billing clerks.	-As a head of the team, analytical and innovative thinking to improve the situation may not be so strong.	1.0	She has improved time management of billing activity.	2.1	Sincere attitude toward her work has a positive impact on many of the staff. Her good experience as a leader of Billing Team may assist to solve one of a main reason of many delay of payment	2.7	-Manage to delay of billing of water charges due to delay of meter reading.	3.0
2	Reporting Skill / Action	a) Speed and quality reporting to her/his boss. b) Speedy and proper instructions/actions.	-She understands the problems preventing the performance of the team but lack in idea and in actions to change such a situation.	1.0	She is necessary more often to share information on much delay of payment with Account, Finance & Administration team.	1.5	She has made much efforts to reorganize Meter Reading teams in order to avoid delay of payment. She understands this issue and the Project should deal with this issue with her.	2.4		3.0
3	Expertise (Knowledge)	a) Knowledge on how the NCS system operates.	-She has little knowledge on NCS system which operates company's accounting aspect.	2.0	She operates the NCS system better than before.	2.1	NCS system is operated by her better than before.	2.6		3.0

Rating:
Poor: 0
Not good enough: 1
Good: 2
Very good: 3

Annex 11.2

Table A11.2-16 Final Assessment of Capacity Development Plan (Ms. Daisy Menaga, Leader, Meter Reading Team, Finance & Administration Division)

No.	Item	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Goal of Achievement (At the End of Phase 3)	
			Status	Score (Max. 3.0)	Status	Score (Max. 3.0)	Status	Score (Max. 3.0)	Status	Score (Max. 3.0)
1	Management Skill	a) Capacity to listen to reader's voices. b) Time management of meter reading activities(sometimes the team fails to complete readings by the end of month). c) Deep understanding of strong and weak points(capacity needs) of meter readers. d) Development of OJT program for upgrading knowledge and skills of meter readers.	-She understands the problems preventing the performance of the team. -She is still trying to prioritize the issues to be addressed for better performance. -She needs to establish trust relationship soonest and to work more closely with meter readers in respective manner.	1.0	She shows good management skill to meter readers. However she needs more her efforts to improve management skill.	1.2	She showed a great deal of progress on management of meter reading team. Photo reading system that is established under cooperation with her effort and relative section staff contributes a lot in order to reduce number of complaints on meter reading.	2.7	- Find the issues on meter reading and delivery of billing through discussion with other teams. - Manage these issues with meter readers - Implementation of OJT to meter readers on proper communication and finding illegal connection/leakage after water meter. - Education to new meter readers.	3.0
2	Reporting Skill / Action	a) Speedy and quality reporting skill to her boss (Accountant). b) Speedy and proper instruction/actions to meter readers.	-Progress of reading and problems are not reported to her boss on regular basis in proper manner. -Actions against problems are not so responsive.	1.0	Speedy and quality report on her duty such as leakage and illegal connection has improved	1.4	Reports on leakage and illegal connection from meter readers is immediately submitted to the relative sections.	2.4		3.0
3	Expertise (Knowledge)	a) Knowledge on customer's data.	-Customers data are not properly managed.	2.0	She has enough knowledge on her work.	2.1	She understands missions and tasks of the team. Her good experience in SW enables for her to improve customer's request and complaint and she is fed back to the responsible section.	2.6		3.0

Rating:
Poor: 0
Not good enough: 1
Good: 2
Very good: 3

Annex 11.2

Table A11.2-20 Final Assessment of Capacity Development Plan (Mr. Japhliet Rouhana, GIS Technician)

No.	Items	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of October 2015)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3)
1	Capacity of Solution	Capacity of Solution	Have a judgment and analytical skills	2.0	He can find the issue, but sometimes can't decide the best solution He doesn't have much confidence, in except IT solution.	1.4	He can find the issue, but sometimes can't decide the best solution He doesn't have much confidence, in except IT solution.	1.4	He is a judicial staff to solve various problems and has analytical skills.	3.0	Through pilot projects, the issues in Phase3 have been resolved	2.7
2	Knowledge of GIS	Knowledge of GIS	Read some books.	1.0	He has the basic knowledge, but not enough.	2.0	He has the basic knowledge, but not enough.	1.9	He has enough standard knowledge for current work.	3.0	Spatial analysis using existing data be able to feed back to the daily work	2.7
3	Experience of GIS	Experience of GIS	Less than 1 year, and less than 5 Hours/week	0.0	He is inexperienced in the data collection and basic editing.	1.0	He has not experienced in the data collection.	1.2	He has enough experience of basic operation.	2.6	GIS work more than 40 hours a week	2.5
4	Utilization of software	Utilization of software	Only view the existing data	1.0	He can only view the existing data. However, he is continuing self-study.	1.2	He can only view the existing data. However, he is continuing self-study.	1.3	He can operate the software on a basic use for current work. He examines the open source software to work on GIS efficiently.	3.0	Can edit other attributes using attribute filter or spatial search	2.7
5	Attitude to GIS work	Attitude to GIS work	Motivated	2.0	He is interested in GIS, but be reluctant for actual work.	1.0	He is interested in GIS, but is forced to spend much his time with IT task.	1.1	He is motivated in the daily operations. He learns the information sharing method by Geo Server.	3.0	Create one original map of the Solomon Islands	2.5
6	Capacity of Planning	Capacity of Planning	Considered in the past, but no acted.	1.0	He considered the plan, but not acted. Because he had no chance to do it.	1.0	He has no chance to make a plan because of Mr. Gavin's role.	1.1	He has no chance to make a plan because of Mr. Gavin's role.	2.5	Revise a data development plan of the water supply network and meter location for the Solomon Water supply area	2.5
7	Preparation of Operation Manual	Preparation of Operation Manual	Not at all	0.0	He created a draft edition.	1.0	He just learnt the manuals.	1.1	He partially reviewed the manuals.	2.5	Review and revise an operational manual of the water supply network and meter location.	2.5

Annex 11.2

(5) Final Assessment of Capacity Development at Individual Level (GIS Sub-Team)

Table A11.2-18 Final Assessment of Capacity Development Plan (Mr. Gavin Bare, Sub-Team Leader)

No.	Items	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of October 2015)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3)
1	Capacity of Solution	Capacity of Solution	Find the issue, but can't decide the best solution	1.0	He can find the issue, and think about the best solution.	2.1	He is a judicial staff to solve various problems and has analytical skills.	2.7	He is a judicial staff to solve various problems and has analytical skills.	3.0	Through pilot projects, the issues in Phase3 have been resolved	3.0
2	Knowledge of GIS	Knowledge of GIS	Read some books.	1.0	He has the knowledge of data collection and basic editing.	2.1	He has enough basic knowledge and examines the manner of technical information to work on GIS efficiently.	2.5	He has enough standard knowledge and examines the manner of technical information to work on GIS efficiently.	3.0	Spatial analysis using existing data be able to feed back to the daily work	3.0
3	Experience of GIS	Experience of GIS	Over 1 year, or more than 20 Hours/week	1.0	He has enough experience of data collection and basic editing.	2.0	He has enough experience of data collection and basic operation. He can train these activities to other SW staff members.	2.3	He has enough experience of data collection and standard operation. He can train these activities to other SW staff members.	3.0	GIS work more than 40 hours a week	3.0
4	Utilization of software	Utilization of software	Only view the existing data	1.0	He can operate the software on a basic use.	2.1	He can operate the software on a basic use for current work. He acquired an interchange of GIS and three-dimensional modeling recently.	2.7	He can operate the software on a standard use for current work. He makes various field maps for SW staff member's demand.	3.0	Can edit other attributes using attribute filter or spatial search	3.0
5	Attitude to GIS work	Attitude to GIS work	Be interested in GIS	1.0	He works positively as daily operations.	2.0	He collects the Geospatial information technology aggressively.	2.7	He collects the Geospatial information technology aggressively.	3.0	Create one original map of the Solomon Islands	3.0
6	Capacity of Planning	Capacity of Planning	Considered in the past, but not acted.	1.0	He considered the data collection plan once. However, he couldn't continue.	1.2	He tries to make a survey plan but sometimes does not follow the plan.	2.2	He tries to make a survey plan but sometimes does not follow the plan.	2.5	Revise a data development plan of the water supply network and meter location for the Solomon Water supply area	3.0
7	Preparation of Operation Manual	Preparation of Operation Manual	Not at all	0.0	He created a draft edition.	1.0	He partially reviewed the manuals.	1.8	He reviewed and revised the manuals.	3.0	Review and revise an operational manual of the water supply network and meter location.	3.0

Annex 11.2

Table A11.2-19 Final Assessment of Capacity Development Plan (Mr. Yaxley Solomon, GIS Assistant)

No.	Items	Capacity Needs	Baseline (*1) (At the Beginning of Phase 1)		Achievement (*1) (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of October 2015)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3)
1	Capacity of Solution	Capacity of Solution	-	-	-	-	He is a judicial staff to solve various problems and has analytical skills.	2.7	He is a judicial staff to solve various problems and has analytical skills.	2.7	Through pilot projects, the issues in Phase3 have been resolved	3.0
2	Knowledge of GIS	Knowledge of GIS	-	-	-	-	He has enough basic knowledge for current work.	2.4	He has enough basic knowledge for current work.	2.4	Spatial analysis using existing data be able to feed back to the daily work	3.0
3	Experience of GIS	Experience of GIS	-	-	-	-	He has enough experience of data collection and basic operation.	1.9	He has enough experience of data collection and basic operation.	2.6	GIS work more than 40 hours a week	3.0
4	Utilization of software	Utilization of software	-	-	-	-	He can operate the software on a basic use for current work.	2.4	He can operate the software on a basic use for current work.	2.4	Can edit other attributes using attribute filter or spatial search	3.0
5	Attitude to GIS work	Attitude to GIS work	-	-	-	-	He is motivated in the daily operations.	1.6	He is motivated in the daily operations.	2.0	Create one original map of the Solomon Islands	3.0
6	Capacity of Planning	Capacity of Planning	-	-	-	-	He has no chance to make a plan because of Mr. Gavin's role.	1.6	He has no chance to make a plan because of Mr. Gavin's role.	2.0	Revise a data development plan of the water supply network and meter location for the Solomon Water supply area	3.0
7	Preparation of Operation Manual	Preparation of Operation Manual	-	-	-	-	He just learnt the manuals.	1.4	He partially reviewed the manuals.	2.0	Review and revise an operational manual of the water supply network and meter location.	3.0

*1: Baseline and Achievement-1 don't exist, because he participated from April 2014.

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No.	Item	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of September 2015)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
4-7	Metal Pipe Locator	Improvement of detection ability.	having a little skill	1.0	He can enough operate it on a basic use.	2.0	He understands well the principle and the purpose.	2.3	He is able to operate well without any difficulty. He is able to train his colleagues how to use it well.	3.0	To be able to determine accurately and teach to colleagues.	3.0
4-8	Ultrasonic Flow Meter	Operation, data transfer and analyze.	Can be operated if someone gives a help.	1.0	He can install it and download the stored data. Sometime, pointed MNF value is not accurate.	1.8	He understands well the principle and the purpose and is able to operate it at site.	2.4	He is able to operate it well and is also able to train his colleagues how to use it in the activities.	3.0	To be able to determine accurately and teach to colleagues.	3.0
4-9	Water Pressure Logger	Operation, data transfer and analyze.	No experience	0.0	He can install it and download the stored data. Creation of combination graph is needed.	1.8	He understands well the principle and the purpose, and is able to operate it at site.	2.3	He is able to operate it well and is also able to train his colleagues how to use it in the activities.	3.0	To be able to determine accurately and teach to colleagues.	3.0

Annex 11.2

(6) Final Assessment of Capacity Development at Individual Level (Leakage Detection Sub-Team)

Table A11.2-21 Final Assessment of Capacity Development Plan (Mr. Eric Unga, Sub-Team Leader)

No.	Item	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of September 2015)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
1	Knowledge of Leak Detection	・Understanding of NRW basics. ・Understanding of leak detection method	Having a little knowledge about leak detection	1.0	He has about basic knowledge of NRW general based on having a high score on the technical test prepared by expert team.	2.1	His knowledge about leak detection and NRW has been improved greatly, and it shows the high score on the technical examination.	2.8	His knowledge about NRW reduction and his leadership has been improved as the leader of the LD-team. It shows the full score on the technical examination.	3.0	Planning of leak detection is implemented with acquired knowledge.	3.0
2	Skill of Leak Detection	・Skill of visible leak survey ・Skill of underground leak survey. ・Ability of planning identifying leak sound . ・Ability of planning identifying leak sound .	Visible survey has only been implementing	1.0	He has done leak detection in 10 pilot project areas.	1.9	He has much experience and skill of leak detection technique at the pilot areas by only using basic equipment.	2.4	He have well acquired the skill of the standard equipment, but still needs more experience in using advanced equipment. He is able to train his colleagues.	2.8	To be able to utilize correlator to the routine work, and train it to colleagues.	3.0
3	Plan and Action	・Ability of planning leak detection ・Ability of cooperative relationship with other teams	Periodical patrol and customer report has been implemented.	1.0	He has a good relationship among other sub-teams, and shares the problems through communication. He shares the problems with other sub-teams through the weekly meeting.	1.8	He is able to make a suitable plan for leak detection survey in various types of areas. It was showed by the high score especially on his detailed description on the technical examination.	2.4	He is able to make an appropriate plan for leak detection in various types of DMAs. It was shown by the full score on his detailed description on planning of leak detection of the technical test.	3.0	To be able to acquire the knowledge of leak detection and planning.	3.0
4-1	Listening Stick	To distinguish the various sounds.	Can be find out the loud sound	1.0	He can enough distinguish the basic sound of leakage.	2.0	He understands the principle and the purpose of the equipment	2.4	He acquired it sufficiently, and is able to train his colleagues how to use it.	3.0	To be able to determine accurately and teach to colleagues.	3.0

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Table A11.2-22 Final Assessment of Capacity Development Plan (Mr. Matthew Mafe, Assistant)

No.	Item	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of September 2015)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
1	Knowledge of Leak Detection	・Understanding of NRW basics. ・Understanding of leak detection method	No knowledge of leak detection at all.	0.0	He has about basic knowledge of NRW general based on having a high score on the technical test prepared by expert team.	2.2	His knowledge about leak detection and NRW has been improved greatly, and it shows on the high score on the technical examination.		His knowledge about NRW reduction has been significantly improved from level of the phase 3, and it shows the full score on the technical examination.	3.0	Knowledge of NRW reduction is implemented.	3.0
2	Skill of Leak Detection	・Skill of visible leak survey ・Skill of underground leak survey. ・Ability of planning identifying leak sound . ・Ability of planning identifying leak sound .	Visible survey has only been implementing	0.0	He has done leak detection in pilot project areas under sub-team.	1.7	He has much experience and skill of leak detection at pilot areas only using basic equipment. He will acquire those of advanced equipment through the activities in DMAs	2.2	He has well acquired the operation skill of the standard equipment, but still needs more experiences in using advanced equipment. He is able to train his colleagues how to operate them.	2.8	To be able to utilize his experience to the leak detection.	3.0
3	Plan and Action	・Ability of planning leak detection ・Ability of cooperative relationship with other teams	No experience	0.0	Not covered	-	The project does not expect him to reach this level. However, he will be capable of making a suitable plan if he becomes more experience	1.8	His understanding about planning of leak has been improved detection more than our expected target. It was shown by the full score on detailed description on planning of leak detection of the technical test. However, he needs more experiences under his leader to be a leader in future.	2.7	To be able to acquire the knowledge of leak detection and planning.	2.5-

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No.	Item	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of September 2015)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
4-2	Electric listening Stck	To distinguish the various sounds.	Can find out the loud sound	1.0	He can enough distinguish the basic sound of leakage.	2.0	He understands well the principle and the purpose	2.4	He is able to distinguish real leak sound by this equipment and train his colleagues how to use it.	3.0	To be able to determine accurately and teach to colleagues.	3.0
4-3	Water Leak Detector	Improvement of detection ability.	Can operate the leak point though accuracy is low.	1.0	He can identify the leak point roughly.	1.8	He understands well the principle and the basic operation. However, he does not have enough experience yet and needs practice through activities at town area.	2.3	He is able to distinguish a general leak sound. However, he needs more experiences through DMA activities. He is able to train his colleagues how to use it.	2.7	To be able to determine accurately and teach to colleagues.	3.0
4-4	Correlator	Improvement of detection ability.	Having a little knowledge.	1.0	He can operate it on a basic use.	1.8	He understands well the principle and the basic operation. However, he does not have enough experience yet and needs practice through activities at town area.	2.3	He is able to operate it properly. However, he needs more experiences through DMA activities. He is able to train his colleagues how to use it.	2.7	To be able to determine accurately and teach to colleagues.	3.0
4-5	Confirmation Equipment	Improvement of detection ability.	No experience	0.0	He can identify the leakage point roughly.	1.8	He understands well the principle and the basic operation. However, he does not have enough experience yet.	1.9	He understands well the basic operation. However, he need more experiences through DMA activities He is able to train his colleagues how to use it.	2.7	To be able to detect the point with high accuracy.	3.0
4-6	Valve Locator	Improvement of detection ability.	Having a little skill.	1.0	He can enough operate it on a basic use.	2.0	He understands well the principle and the purpose	2.4	He is able to operate well. He is able to train his colleagues how to use it properly in the activities.	3.0	To be able to determine accurately and teach to colleagues.	3.0

Annex 11.2

Table A11.2-23 Final Assessment of Capacity Development Plan (Mr. David Akoeasi, Assistant)

No.	Item	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of September 2015)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
1	Knowledge of Leak Detection	・Understanding of NRW basics. ・Understanding of leak detection method	No knowledge of leak detection at all.	0.0	He has insufficiency about basic knowledge of NRW general based on having a low score on the technical test prepared by expert team.	1.0	He does not achieve the pass mark on the technical examination. However, knowledge about NRW reduction has steadily improved.	2.3	His knowledge about leak detection and NRW has been improved greatly. It is shown on the high score on the technical examination	3.0	Knowledge of NRW reduction is implemented.	3.0
2	Skill of Leak Detection	・Skill of visible leak survey ・Skill of underground leak survey. ・Ability of planning identifying leak sound . ・Ability of planning identifying leak sound .	Visible survey has only been implementing	0.0	He has done leak detection in few pilot project areas under sub-team.	1.1	He does not have enough experience and skill of leak detection now. He needs an ability to make good use of advanced equipment.	2.0	He has well acquired the skill for the standard equipment, but still need more experience for using advanced equipment. He is able to train his colleagues.	2.8	To be able to utilize his experience to the leak detection.	3.0
3	Plan and Action	・Ability of planning leak detection ・Ability of cooperative relationship with other teams	No experience	0.0	Not covered	-	The project does not expect him to reach this level. However, he will be capable of making a suitable plan if he becomes more experience.	1.6	He generally understands importance of making a plan for leak detection in the DMAs. It was shown by the high score especially on his detailed description on planning of leak detection of the technical examination. However, he needs more practical training and experience from his team leader..	2.5	To be able to acquire the knowledge of leak detection and planning.	2.5

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No.	Item	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of September 2015)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
4-1	Listening Stick	To distinguish the various sounds.	No experience	0.0	He can distinguish the basic sound of leakage.	1.5	He understands well the principle and the purpose	2.4	He acquired it sufficiently and is able to train his colleagues how to use it.	3.0	To be able to determine accurately and demonstrate it to his colleagues.	3.0
4-2	Electric Listening Stick	To distinguish the various sounds.	No experience	0.0	He can distinguish the basic sound of leakage.	1.5	He understands well the principle and the purpose.	2.3	He is able to distinguish a leak sound by this equipment and train his colleagues how to use it .	3.0	To be able to determine accurately and demonstrate it to his colleagues.	3.0
4-3	Water Leak Detector	Improvement of detection ability.	No experience	0.0	He can use it, but he sometimes needs advice to identify the leak point.	1.0	He understands well the principle and the basic operation.	2.3	He is able to distinguish a typical leakage sound. However, he needs more experience through DMA activities. He is able to train his colleagues how to use it.	2.7	To be able to determine accurately and demonstrate it to his colleagues.	3.0
4-4	Correlator	Improvement of detection ability.	No experience	0.0	He can use it, but he sometimes needs advice to identify the leak point.	1.0	He understands well the principle and the basic operation.	2.3	He is able to operate it easily. However, he need to keep an experience through DMA activities. He is able to train his colleagues how to use it.	2.7	To be able to detect the point with high accuracy and demonstrate it to his colleagues.	3.0
4-5	Confirmation Equipment	Improvement of detection ability.	No experience	0.0	He can use it, but he sometimes needs advice to identify the leak point.	1.0	He understands well the principle and the basic operation.	1.9	He understands well the basic operation. However, he needs to gain more experience through DMA activities. He is able to train his colleagues how to use it.	2.7	To be able to determine accurately and demonstrate it to his colleagues.	3.0
4-6	Valve Locator	Improvement of detection ability.	No experience	0.0	He can operate it on a basic use.	1.5	He understands well the principle and the purpose.	2.4	He is able to operate it well. He is able to train his colleagues how to use it.	3.0	To be able to determine accurately and demonstrate it to his colleagues.	3.0

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No.	Item	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of September 2015)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
4-1	Listening Stick	To distinguish the various sounds.	No experience	0.0	He can distinguish the basic sound of leakage.	1.5	He understands well the principle and the purpose	2.4	He acquired it sufficiently and is able to train his colleagues how to use it.	3.0	To be able to determine accurately and demonstrate it to his colleagues.	3.0
4-2	Electric Listening Stick	To distinguish the various sounds.	No experience	0.0	He can distinguish the basic sound of leakage.	1.5	He understands well the principle and the purpose.	2.3	He is able to distinguish a leak sound by this equipment and train his colleagues how to use it .	3.0	To be able to determine accurately and demonstrate it to his colleagues.	3.0
4-3	Water Leak Detector	Improvement of detection ability.	No experience	0.0	He can use it, but he sometimes needs advice to identify the leak point.	1.0	He understands well the principle and the basic operation.	2.3	He is able to distinguish a typical leakage sound. However, he needs more experience through DMA activities. He is able to train his colleagues how to use it.	2.7	To be able to determine accurately and demonstrate it to his colleagues.	3.0
4-4	Correlator	Improvement of detection ability.	No experience	0.0	He can use it, but he sometimes needs advice to identify the leak point.	1.0	He understands well the principle and the basic operation.	2.3	He is able to operate it easily. However, he need to keep an experience through DMA activities. He is able to train his colleagues how to use it.	2.7	To be able to detect the point with high accuracy and demonstrate it to his colleagues.	3.0
4-5	Confirmation Equipment	Improvement of detection ability.	No experience	0.0	He can use it, but he sometimes needs advice to identify the leak point.	1.0	He understands well the principle and the basic operation.	1.9	He understands well the basic operation. However, he needs to gain more experience through DMA activities. He is able to train his colleagues how to use it.	2.7	To be able to determine accurately and demonstrate it to his colleagues.	3.0
4-6	Valve Locator	Improvement of detection ability.	No experience	0.0	He can operate it on a basic use.	1.5	He understands well the principle and the purpose.	2.4	He is able to operate it well. He is able to train his colleagues how to use it.	3.0	To be able to determine accurately and demonstrate it to his colleagues.	3.0

Annex 11.2

No.	Item	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of September 2015)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
4-1	Listening Stick	To distinguish the various sounds.	No experience	0.0	He can enough distinguish the basic sound of leak.	2.0	He understands well the principle and the purpose	2.4	He acquired the operation skill sufficiently and is able to train his colleagues how to use it.	3.0	To be able to determine accurately and demonstrate it to his colleagues.	3.0
4-2	Electric Listening Stick	To distinguish the various sounds.	No experience	0.0	He can distinguish the basic sound of leak.	2.0	He understands well the principle and the purpose.	2.4	He is able to distinguish a leak sound by this equipment and train his colleagues how to use it.	3.0	To be able to determine accurately and demonstrate it to his colleagues.	3.0
4-3	Water Leak Detector	Improvement of detection ability.	No experience	0.0	He can identify the leakage point roughly.	1.7	He understands well the principle and the basic operation.	2.4	He is able to distinguish like a general leak sound. However, he needs to gain more experience in the DMA activities. He is able to train his colleagues how to use it.	2.7	To be able to determine accurately and demonstrate it to his colleagues.	3.0
4-4	Correlator	Improvement of detection ability.	No experience	0.0	He can operate it on a basic use.	1.7	He understands well the principle and the basic operation.	2.4	He is able to operate it mostly. However, he need to gain more experience in the DMA activities. He is able to train his colleagues how to use it.	2.7	To be able to detect the point with high accuracy and demonstrate it to his colleagues.	3.0
.4-5	Confirmation Equipment	Improvement of detection ability.	No experience	0.0	He can identify the leakage point roughly.	1.7	He understands well the principle and the basic operation..	1.9	He understands well the basic operation. However, he should have more experience through DMA activities. He is able to train his colleagues how to use it.	2.7	To be able to determine accurately and demonstrate it to his colleagues.	3.0

Annex 11.2

No.	Item	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of September 2015)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
4-6	Valve Locator	Improvement of detection ability.	No experience	0.0	He can enough operate it on a basic use.	2.0	He understands well the principle and the purpose.	2.2	He is able to operate it well. He is able to train his colleagues how to use it.	3.0	To be able to determine accurately and demonstrate it to his colleagues.	3.0
4-7	Metal Pipe Locator	Improvement of detection ability.	No experience	0.0	He can enough operate it on a basic use.	2.0	He understands well the principle and the purpose.	2.3	He is able to operate it well without any difficulty. He is able to train his colleagues how to use it.	3.0	To be able to determine accurately and demonstrate it to his colleagues.	3.0
4-8	Ultrasonic Flow Meter	Operation, data transfer and analyze.	No experience	0.0	He can install it and store data to memory inside. Downloading procedure is required.	1.5	He understands well the principle and the purpose.	2.3	He is basically able to operate well and train his colleagues. However, he needs more experiences for calculation of NRW ratio and graph creation.	2.7	To be able to determine accurately and demonstrate it to his colleagues.	3.0
4-9	Water Pressure Logger	Operation, data transfer and analyze.	No knowledge of leakage detection at all.	0.0	He can install it. He needs to become familiar with operation for data setting and downloading using software.	1.5	He understands well the principle and the purpose.	2.2	He is basically able to operate well and train his colleagues. However, he needs more experiences for calculation of NRW ratio and graph creation.	2.7	To be able to determine accurately and teach it to his colleagues.	3.0

Remarks: In consideration of his motivation for learning and actual achievement, the Project changed rating at goal of achievement from 2.0 to 3.0 in Interim Assessment.

Annex 11.2

No.	Item	Capacity Needs	Baseline (At the Beginning of Phase 1)		Achievement (At the End of Phase 2)		Achievement (At the End of Phase 3)		Achievement (as of September 2015)		Goal of Achievement (At the End of Phase 4)	
			Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Status	Rating (Max. 3.0)	Expected Status	Rating (Max. 3.0)
4-7	Metal Pipe Locator	Improvement of detection ability.	No experience	0.0	He can operate it on a basic use.	1.5	He understands well the principle and the purpose.	2.2	He is able to operate well without any difficulty. He is able to train his colleagues how to use it.	3.0	To be able to determine accurately and demonstrate it to his colleagues.	3.0
4-8	Ultrasonic Flow Meter	Operation, data transfer and analyze.	No experience	0.0	He can install it and store data to memory inside if sub-team staffs give advice.	1.0	He understands well the principle and the purpose.	2.1	He is basically able to operate it well and train his colleagues. However, he needs more experience for calculation of NRW ratio and graph creation.	2.7	To be able to determine accurately and demonstrate it to his colleagues.	3.0
4-9	Water Pressure Logger	Operation, data transfer and analyze.	No knowledge of leak detection at all.	0.0	He can install it and store data to memory inside if sub-team staffs give advice	1.0	He understands well the principle and the purpose.	2.2	He is basically able to operate well and train his colleagues. However, he needs more experience for calculation of NRW ratio and graph creation.	2.7	To be able to determine accurately and teach it to his colleagues.	3.0

Remarks: In consideration of his motivation for learning and actual achievement, the Project changed rating at goal of achievement from 2.0 to 3.0 in Interim Assessment.

第 13 章　会議およびワークショップ

S13.1-1 第 1 回 JCC の発表資料

The Project for Improvement of Non-Revenue Water Reduction Capacity for SIWA in Solomon Islands

Overview of the Project

April, 2013

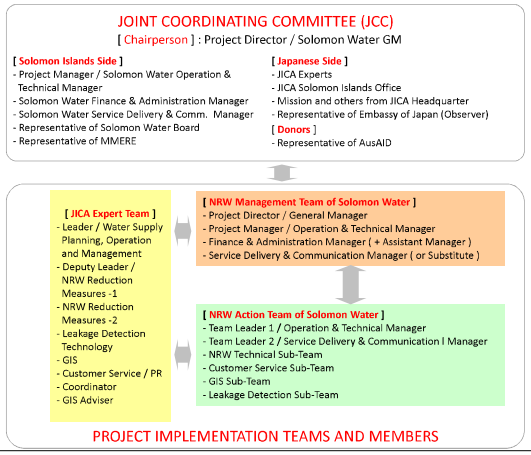
Project Team

Contents

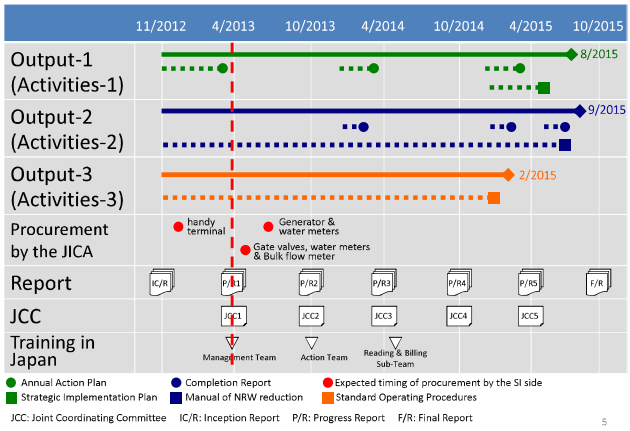
Four Key Factors for Project Success

- ✓ 1. **Maximum**, **Multiplied** and **Synergetic** Effects
- ✓ 2. **Efficient** and **Smooth** Implementation
- ✓ 3. **Voluntary Activities** of Counterpart
- ✓ 4. **Sustainability** of NRW Reduction Measures

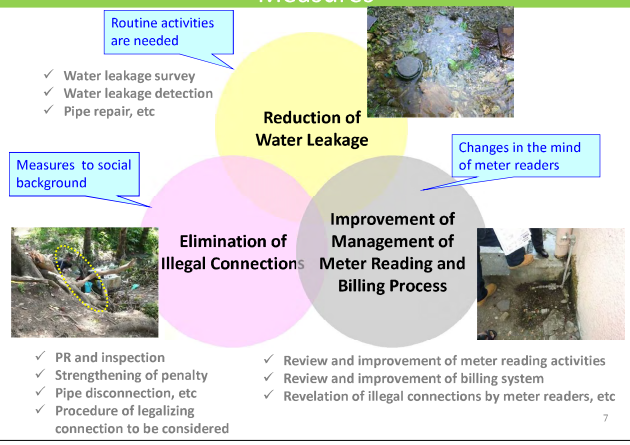
Project Implementation Structure



Schedule of the Project



Three Major Components of NRW Reduction Measures



Concept of Technology Transfer

Activities-1

- Selection of the Pilot Project Areas
- Monitoring of the Pilot Project
- Preparation of Annual Action Plan and Strategic Plan

Activities-2

- Measure of current NRW ratio
- Countermeasure
- Measure of the NRW ratio after countermeasure

Activities-3

- Improvement of management on meter reading and billing
- Support of process of legalization and authorization
- Public Relation (PR)

Concept of Technology Transfer

Sequence of Effective Implementation of Pilot Project on NRW Reduction

1. Preparation and/or updating of **drawings of distribution network** including service pipes in pilot project .
2. Installation of necessary gate valves and flow meters, and measurement of the **NRW ratio before pilot project** implementation.
3. Identification survey on **causes for NRW** such as leakage, illegal connection, metering inaccuracies and so on.
4. Based on survey of existing conditions, implementation of NRW reduction measures including **repair of leaking pipe, legalization of illegal connection, authorization, replacement of defective meter**, and measurement of the **NRW ratio after pilot project**.
5. Preparation of **report** of pilot project, including cost of NRW reduction measures and increase in billed water consumption, and **feedback to NRW Management Team**.

Procurement of Equipment, Vehicle and Machine

Equipment to be procured by the JICA Expert Team

No	Item	Quantity	From	No	Item	Quantity	From
1	Ultrasonic flow meter	1	Japan	13	Acoustic rod	2	Japan
2	Data logger	1	Japan	14	Residual chlorine analyzer	2	Japan
3	DC battery	1	Japan	15	Bulk flow meter	10	SI
4	Water leak detector (Leak noise correlator)	1	Japan	16	Gate valve	48	SI
5	Water leak detector (Acoustic type)	1	Japan	17	Water meter	500	SI
6	Non-metal pipe Locator	2	Japan	18	Test meter	1	Japan
7	Electronic acoustic Rod	1	Japan	19	Handy terminal (Data recorder)	9	SI
8	Distance meter	2	Japan	20	GPS	2	Japan
9	Hammer drill	2	Japan	21	Personal computer	3	Japan
10	Drill bit	10	Japan	22	Plotter	1	Japan
11	Boring bar	2	Japan	23	Printer	1	Japan
12	Generator	2	SI	24	Multifunction copier	1	Japan

Note: Quantity of items is estimated.

Vehicle and Machine to be procured by the JICA Solomon Islands Office

No	Item	Quantity	From
1	Small-size excavator	1	SI
2	Pick-up truck	2	SI

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Undertakings by the Solomon Islands side

1) Arrangement of **Solomon Water staff**
2) Provision of **office space and furniture** for the Project
3) **Expenses for implementation** of pilot projects on NRW reduction
4) **Expenses of operation and utilities** for the Project
5) **Expenses of domestic travel** and **daily allowance** for Solomon Water staff
6) **Tax exemption** of necessary goods and services to be procured under the Project

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Solomon Water

JICA

The Project for Improvement of Non-Revenue Water Reduction Capacity for SIWA in Solomon Islands

Progress of Pilot Project

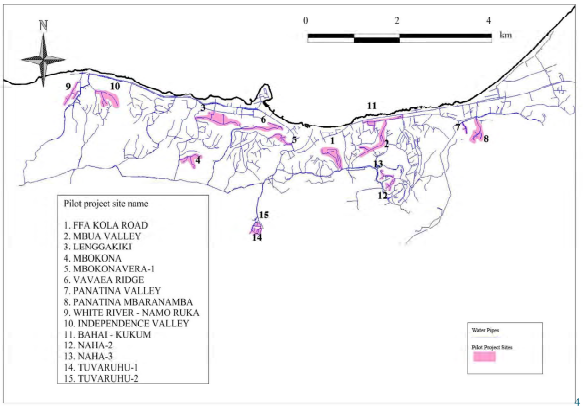
April, 2013

Project Team

Contents

Chapter 1 Project Area

Project Area



Chapter 2 Capacity Assessment

2.1 Capacity Assessment at Organizational Level

2.2 Capacity Assessment at Individual Level

2.3 Assessment of Social & Institutional Aspects surrounding Solomon Water

2.1 Capacity Assessment at Organizational Level Performance Index

Relevant Output in PDM	Category 1	Category 2	Index	Baseline Data for Entire Honiara City (as of 2011)
1, 2, 3	Technical Aspects	Measurers of NRW	NRW ratio (%)	52.5
			- Unbilled metered consumption (%)	0.2
			- Unbilled un-metered consumption (%)	0.8
			- Unauthorized consumption (%)	14.8
			- Metering in accuracies and data handling errors (%)	1.8
			- Leakage on pipes (%)	33.7
			- Leakage & overflow at storage (%)	1.2
2			Water production (m^3/day)	22,142
3			Billed water (m^3/day)	10,178
3			Ratio of water meter installation (%)	60.5
2, 3	Non-technical aspects	Financial performance	Unit operational cost for water (SBD/m^3)	11.2
2, 3			Average revenue for water (SBD/m^3)	7.4
2		Training	Total number of training days in the year on water supply sector (days/annual/staff)	1.14
3		Customer relations	Number of customer complaints responded to within 10 days (%)	N.A.

Note: Source of NRW ratio is different from that of water production and billed water.

2.2 Capacity Assessment at Individual Level Number of targeted Counterpart

Solomon Water Team	Number of Counterpart
■NRW Management Team	3
■NRW Action Team	
➢NRW Technical Sub-Team	8
➢Customer Service Sub-Team	5(6)
➢GIS Sub-Team	2
➢Leakage Detection Sub-Team	3
Total	21

Note: One person out of (6) is engaged in NRW Management.

2.3 Assessment of Social & Institutional Aspects surrounding Solomon Water

- Influence by external condition
- Law and regulation

Chapter 3 Capacity Development

3.1 Capacity Development Plan at Organizational Level
3.2 Capacity Development Plan at Individual Level
3.3 Approach to Social & Institutional Aspect

3.1 Capacity Development Plan at Organizational Level

- Establish the system required for preparation of NRW action plan and guideline
- Develop inventory of machinery and materials
- Sustain the work in the dedicated team
- Regular training for staff

3.2 Capacity Development Plan at Individual Level

- Preparation of NRW reduction action plan
- Daily activities of NRW
- Leakage detection
- Develop the existing information by using GIS, etc.
- Water meter reading, revelation of illegal connection and water leakage

3.3 Approach to Social & Institutional Aspect

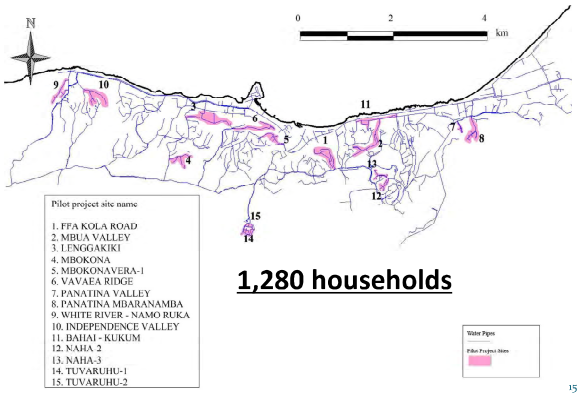
- Cooperation approach among the Project, AusAID and PIAC is unified as much as possible through information sharing.
- Water pressure management on Two-Year Plan will affect NRW reduction efficiently.
- The Project will desire understanding of custom office and relevant Ministry on simplified procedure for customs, and procurement.
- Development of the water policy and water Act including penalty for illegal connection is significant management in water supply service.

Chapter 4 Activities for Output-1

4.1 NRW Management Team

Name	Position in the Project (Position in Solomon Water)
Mr. Richard AUSTIN	Project Director (General Manager)
Mr. Ray ANDRESEN	Project Manager (Operation & Technical Manager)
Mr. Ronald DAVIES	(Finance & Administration Manager)
Ms. Tima KOFANA	(Human Resources Manager)
Ms. Ellen INAHIA	(Service delivery & Communications Manager)

4.2 Selected Pilot Areas



1,280 households

Chapter 5 Activities for Output-2

5.1 NRW Action Team (Activity 2-1)

Name	Position in the Project (Position in Solomon Water)
Technical Sub-Team	
Mr. Benjamin BILLY	Action Team Leader 1 / Sub-Team Leader (NRW Taskforce Leader)
Mr. Austin ATA	Deputy Sub-Team Leader (Customer Connections)
Mr. Moses RAMO	(Customer Connections)
Mr. Silas TALOSUI	Deputy Sub-Team Leader (Network Maintenance & Repair)
Mr. Mathias BERA	Pipe Repair (Network Maintenance & Repair)
Mr. Layten JACOB	Deputy Sub-Team Leader (Procurement)
Mr. Frank DAUKALIA	Meter Repair/Replacement (Pipe Materials Management & Procurement)
Mr. Chris MERIKO	Deputy Sub-Team Leader (Water Resources & Treatment)
Customer Service Sub-Team	
Ms. Ellen INAHIA	Action Team Leader 2 / Sub-Team Leader (Customer Care & Com. Manager)
Ms. Beverly SAOHU	Deputy Sub-Team Leader (Customer Care)
Ms. Sophia TANGO	(Community Relations & Media Assistant)
Ms. Daisy MENAGA	Deputy Sub-Team Leader (Meter Reading)
Ms. Mary TAFOA	Deputy Sub-Team Leader (Billing)
Mr. Lawrence IROI	(Chief Accountant)
GIS Sub-Team	
Mr. Japhliet ROUHANA	Sub-Team Leader (IT Administration)
Mr. Gavin BARE	(GIS Technician)
Leakage Detection Sub-Team	
Mr. Eric UNGA	Sub-Team Leader (Leakage)
Mr. Matthew MAFE	(Plumber)
Mr. David AKOEASI	(Plumber)

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5.2 Check existing flow meters and replace malfunctioning meters with new ones at all(Activity 2-2)

No.	System	Locations	Sizes (mm)	Status
1	White River Pumping	Tasahe Tank	300	New installation
2	Titinge	Titinge Tank	225	Newly installed with 200mm
3	Rove Gravity	Rove pump house	225	Replaced with 200mm
4	Rove Pump	Rove pump house	100	New installation
5	Lengikiki Tank	Lengikiki Ridge	150	Replaced with the same size
6	White River Pumping	Skyline Tank	200	Replaced with the same size
7	Mataniko SIWA	Low west Tank	225	Replaced with 200mm
8	Kombito Spring	Kobito Pumps	200	New installation
9	Gilbert Camp pumping	Boader Tank Out let	200	New installation
10	Panatina	Panatina Tanks	225	Newly installed with 200mm
Numbers of Bulk Flow Meter by Diameter			300	1
			200	7
			150	1
			100	1
Total				10

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5.3 Conduct training on NRW reduction for the NRW Action Team (Activity 2-3)

(1) How to Measure Flow Rate



Using test device on the technical training → Leakage Detection Sub-Team Leader explains to staff → Data Downloading

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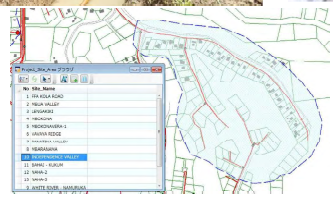
(2) How to Measure Coordinates by Using GPS and Upload to GIS Database





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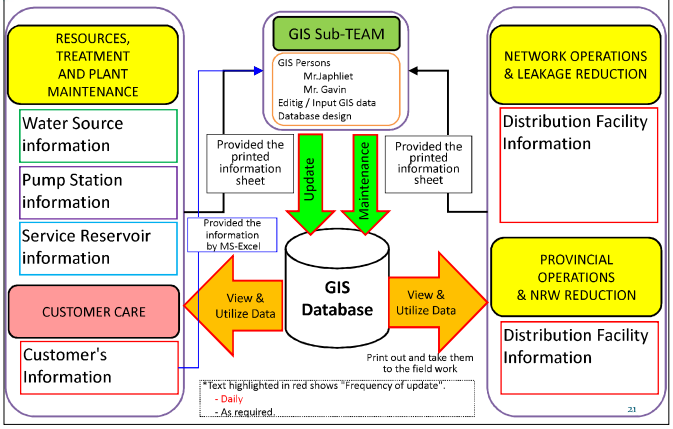
5.4 Workflow for GIS Database



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5.6 Identify causes of NRW through OJT (Activity 2-6)

Items	Information on Customers	Places
Legal Connection	Registered customers with water meter	12
	● Registered customers with well-functioning water meter	6
	● Registered customers in metered rate with meter inaccuracy	6
	Registered customers without water meter in flat rate (Direct lines or malfunctioning meters)	29
	New customers to be registered	0
Illegal Connection	Illegal users (Originally registered customers)	21
	Illegal users	1
Non-existence Customer	Customers who do not receive SW's water supply service or vacant households.	15
Total Number of Customers	Six water meters in unit of 'Gallon' are included in the quantity to replace to that of 'm³'.	78

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5.5 Isolate pilot project areas and measure NRW ratio before implementation (Activity 2-5)

At Namo Ruka, White River)

Component				Initial Measurement			
				Q (m³/day)		Proportion	
RW	Billed Authorized Consumption		Billed (Metered)	18.366	49.106	14.2%	14.2%
			Billed (Unmetered)	30.740			
NRW	Unbilled Authorized Consumption	Unbilled Unmetered Consumption		0	0	0%	85.8%
	Apparent Losses	Unauthorized Consumption	Illegal use(Direct connection)	20.140	43.180	12.5%	
			Illegal use for 24hr	23.040			
		Metering Inaccuracy	MI (Meter inaccuracy)	3.910		1.1%	
			M Ⅱ (Loss by unmetered rate) Used water for 24hr	75.720		21.8%	
	Real Loss		Real Loss	174.814		50.4%	
Total System Input Volume				346.730		100.0%	100.0%

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5.7 Implement NRW reduction and measure NRW ratio after implementation (Activity 2-7)

Less time

Much time

- Pipe repairing
- Installation of new water meters
- Replacement of defective water meters
- Water pressure control

- Legalization and registration of illegal connections
- Disconnection of illegal connections

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Chapter 6 Activities for Output-3

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6.1 Formulate work schedule and staffing plan for water meter readers. (Activities 3-1)

- Clarified the responsibility, scope of works among **meter reading team leader**, **meter readers**, **billing team leader** and **billing clerks**.
- Established daily task procedure with timeframe among **them**.
- Prepared monthly schedule (deadline) of reading and billing activities.

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Chapter 7 Project Operation and Management

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	Main Event
• 22 November 2012	Introductory meeting for NRW Management Team and NRW Action Team
• 14 December 2012	Capacity Assessment at organizational & Individual Level
• 5 to 27 April 2013	Training in Japan for four staff members
• 24 April 2013	1st JCC

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