

DATA ESTIMATED IN MASTER PLAN

Summary of financial estimation of O,M&M of water supply systems
at 6 District Towns (Bereina, Kwikila, Mutzing, Kupiano, Finschhafen and Oro Bay)

	Items / District Towns	Year 2005	Year 2010	Year 2015
1)	Target Population			
a)	Bereina	1,483	1,636	1,805
b)	Kwikila	3,230	3,564	3,564
c)	Mutzing	2,251	2,413	2,587
d)	Kupiano	2,227	5,514	10,495
e)	Finschhafen	4,532	4,858	5,209
f)	Oro Bay	1,385	2,043	6,062
	Total	15,109	20,027	29,723
2)	Total Water Consumption (m3 per month)			
a)	Bereina	3,028	3,795	4,642
b)	Kwikila	6,466	7,515	9,022
c)	Mutzing	4,807	6,059	7,383
d)	Kupiano	4,352	11,320	24,616
e)	Finschhafen	9,651	11,674	13,747
f)	Oro Bay	7,119	10,639	14,404
	Total			
3)	Total Bill Amount per month (Kina per month)			
a)	Bereina	1,194	1,513	1,842
b)	Kwikila	4,443	5,053	6,171
c)	Mutzing	3,437	4,355	5,404
d)	Kupiano	2,957	5,376	5,376
e)	Finschhafen	7,056	8,374	9,644
f)	Oro Bay	1,234	2,858	6,455
	Total	20,322	27,529	34,893
4)	Collected Amount (Kina per month)			
a)	Bereina	955	1,210	1,474
b)	Kwikila	3,554	4,042	4,937
c)	Mutzing	2,750	3,484	4,323
d)	Kupiano	2,366	4,301	4,301
e)	Finschhafen	4,233	5,024	5,786
f)	Oro Bay	987	2,287	5,164
	Total	14,846	20,349	25,986
5)	Total Cost of O, M & M (Kina per month)			
a)	Bereina	4,946	5,082	5,231
b)	Kwikila	4,746	4,813	4,909
c)	Mutzing	4,733	4,838	4,948
d)	Kupiano	4,444	4,497	4,599
e)	Finschhafen	4,890	4,982	5,076
f)	Oro Bay	4,352	4,387	4,441
	Total	28,111	28,599	29,205
6)	Balance of Revenue & Cost (Kina per month)			
a)	Bereina	-3,991	-3,872	-3,758
b)	Kwikila	-1,191	-771	28
c)	Mutzing	-1,983	-1,354	-625
d)	Kupiano	-2,078	-196	-297
e)	Finschhafen	-656	43	710
f)	Oro Bay	-3,365	-2,101	723
	Total	-13,265	-8,250	-3,219

Simulation of Financial Balance for O.M&M of WSS at District Centres

Bereina

CONDITIONS		Management under PNGWB's Southern Regional Office at POM		
Power source:	Solar for 6hours/day operation, Diesel engine generator for 2hours/day operation			
Stationed staff:	Operator	x	1 PNGWB's payroll	Grade7 stationed in Kupiano
	Assistant	x	1 PNGWB's payroll	Grade4 stationed in Kupiano
	Cashier	x	1 National Treasury Officer handles	
	*Regional Manager visits once a month from Regional Office.			
Office:	to be provided by the DA at free			
	Radiophon	x	1 Photocopy machine	x 0
	Fax	x	0 Furniture set	x 1
	Computer	x	0	
	Stationery minimum			
Security service:	Guard	x	0 Security system to be installed	
Store space:	to be provided by the DA at free			
Transportation:	Vehicle	x	0	
	Motorbike	x	0	
	Bicycle	x	1	

REVENUE ESTIMATED

		Year	2005	2010	2015
a)	Target Population	persons	1,483	1,636	1,805
b)	No. of Contracts with Users	contracts	225	248	274
c)	Total Water Consumption	m3 per month	3,028	3,795	4,642
d)	Average Daily Flow (ADF)	litre per day	99,545	124,777	152,600
e)	Planned Water Flow per month	m3 per month	3,633	4,554	5,570
f)	Total Bill Amount per month	Kina per month	1,194	1,513	1,842
g)	Collected Amount per month	Kina per month	955	1,210	1,474
	*Collection Ratio at	80%			

EXPENDITURE ITEMS

		2005	2010	2015	
l)	Energy cost for stand-by generator				
	Generator: 10KVA Fuel:K/litr 0.842 Fuel/h:litri 10				
	Operation/day: hour	2	3	3	
	Fuel cost:Kina/hour 8.42 Fuel cost:Kina/month	512.2	642.0	785.2	
m)	Chemical cost; chlorine (brieching powder)				
	Qty: supplied water x % 0.0001% Qty to be chlorined	3,633	4,554	5,570	
	Price: K per kg 6.35 (K177.84/40kg; 70%purity)	23.1	28.9	35.4	
aa)	Staff salaries, wages & allowances				
	Operator Grade 7 Full time PNGWB (5days/month)	1211.54	1211.54	1211.54	
	Assistant Grade 4 Full time PNGWB (5days/months)	807.7	807.7	807.7	
ab)	Staff Housing Allowance				
	Operator Grade 7 Full time PNGWB	166.7	166.7	166.7	
	Assistant Grade 4 Full time PNGWB	166.7	166.7	166.7	
ac)	Staff DMA				
	Operator Grade 7 Full time PNGWB	125	125	125	
	Insurance for the assets of K1.2million	416.7	416.7	416.7	
am)	Security equipment; depreciation				
	Table, chairs, others Assets (K) 1200 10yrs	10	10	10	
ap)	Security equipment; depreciati Assets (K) 3000 5yrs	50	50	50	
aq)	Transport; bicycle, depreciati Assets (K) 1000 5yrs	16.7	16.7	16.7	
at)	Travelling expence; transport				
	PMV cost Ber-POM-Ber 80 Amount per month (K)	160	160	160	
	Trips per month 2				
au)	Travelling expence; allowances				
	Allowance per trip 40 Amount per month (K)	80	80	80	
	Trips per month 2				
av)	Travelling expence; accommodation				
	Accommodation fee per trip 100 Amount per month (K)	200	200	200	
	Trips per month 2				
aw)	Administration cost of PNGWB Regional Office	L.S.	1,000	1,000	
	TOTAL	4,946	5,082	5,231	
BALANCE ESTIMATED		Year	2,005	2,010	2015
	Income - Expenditur =	Balance	-3,991	-3,872	-3,758

Simulation of Financial Balance for O,M&M of WSS at District Centres					Kwikila				
CONDITIONS Management under PNGWB's Southern Regional Office at POM									
Power source:	ELCOM's electricity								
Stationed staff:	Operator	x	1	PNGWB's payroll	Grade7	stationed in Kwikila			
	Assistant	x	1	PNGWB's payroll	Grade4	stationed in Kwikila			
	Cashier	x	1	National Treasury Officer handles					
*Regional Manager visits once a month from Regional Office.									
Office:	to be provided by the DA at free								
	Radiophon	x	1	Photocopy machine	x	0			
	Fax	x	0	Furniture set	x	1			
	Computer	x	0						
	Stationery minimum								
Security service:	Guard	x	0	Security system to be installed					
Store space:	to be provided by the DA at free								
Transportation:	Vehicle	x	0						
	Motorbike	x	0						
	Bicycle	x	1						
REVENUE ESTIMATED									
			Year		2005	2010	2015		
a)	Target Population		persons		3,230	3,564	3,564		
b)	No. of Contracts with Users		contracts		253	279	308		
c)	Total Water Consumption		m3 per month		6,466	7,515	9,022		
d)	Average Daily Flow (ADF)		litre per day		212,576	247,059	296,621		
e)	Planned Water Flow per month		m3 per month		7,759	9,018	10,827		
f)	Total Bill Amount per month		Kina per month		4,443	5,053	6,171		
g)	Collected Amount per month		Kina per month		3,554	4,042	4,937		
	*Collection Ratio at	80%							
EXPENDITURE ITEMS									
					2005	2010	2015		
k)	Energy cost; electricity from ELCOM								
	Pump: KW	3.84	Tariff: K/KWh	0.184					
	Operation/day: hour				17	20	24		
	KWh/month				365.4	424.6	509.8		
m)	Chemical cost; chlorine (brieching powder)								
	Qty: supplied water x %	0.0001%	Qty to be chlorined		7,759	9,018	10,827		
	Price: K per kg	6.35 (K177.84/40kg; 70%purity)			49.3	57.3	68.8		
aa)	Staff salaries, wages & allowances								
	Operator Grade 7	Full time	PNGWB (5days/month)		1211.54	1211.54	1211.54		
	Assistant Grade 4	Full time	PNGWB (5days/months)		807.7	807.7	807.7		
ab)	Staff Housing Allowance								
	Operator Grade 7	Full time	PNGWB		166.7	166.7	166.7		
	Assistant Grade 4	Full time	PNGWB		166.7	166.7	166.7		
ac)	Staff DMA								
	Operator Grade 7	Full time	PNGWB		125	125	125		
	Insurance for the assets of K1.2million				416.7	416.7	416.7		
am)	Security equipment; depreciation								
	Table, chairs, others	Assets (K)	1200	10yrs	10	10	10		
ap)	Security equipment; depreciati				Assets (K)	3000	5yrs	50	
aq)	Transport; bicycle, depreciator				Assets (K)	1000	5yrs	16.7	
at)	Travelling expence; transport				40				
	PMV Cost per Kwi-POM-Kwi	Amount per month (K)			80	80	80		
	Trips per month	2							
au)	Travelling expence; allowances				40				
	Allowance per trip	Amount per month (K)			80	80	80		
	Trips per month	2							
av)	Travelling expence; accommodation				100				
	Accommodation fee per trip	Amount per month (K)			200	200	200		
	Trips per month	2							
aw)	Administration cost of PNGWB Regional Office				L.S.	1,000	1,000	1,000	
	TOTAL				4,746	4,813	4,909		
BALANCE ESTIMATED					Year	2,005	2,010	2015	
	Income - Expenditur				=	Balance	-1,191	-771	28

Simulation of Financial Balance for O,M&M of WSS at District Centres

Mutzing

CONDITIONS		Management under PNGWB's Northern Regional Office at Lae			
Power source:	ELCOM's electricity				
Stationed staff:	Operator	x	1 PNGWB's payroll	Grade7	stationed in Mutzing
	Assistant	x	1 PNGWB's payroll	Grade4	stationed in Mutzing
	Cashier	x	1 National Treasury Officer handles		
	*Regional Manager visits once a month from Regional Office.				
Office:	to be provided by the DA at free				
	Radiophon	x	1 Photocopy machine	x	0
	Fax	x	0 Furniture set	x	1
	Computer	x	0		
	Stationery minimum				
Security service:	Guard	x	0 Security system to be installed		
Store space:	to be provided by the DA at free				
Transportation:	Vehicle	x	0		
	Motorbike	x	0		
	Bicycle	x	1		

REVENUE ESTIMATED

		Year	2005	2010	2015
a)	Target Population	persons	2,251	2,413	2,587
b)	No. of Contracts with Users	contracts	182	195	208
c)	Total Water Consumption	m3 per month	4,807	6,059	7,383
d)	Average Daily Flow (ADF)	litre per day	158,038	199,193	242,719
e)	Planned Water Flow per month	m3 per month	5,768	7,271	8,859
f)	Total Bill Amount per month	Kina per month	3,437	4,355	5,404
g)	Collected Amount per month	Kina per month	2,750	3,484	4,323
	*Collection Ratio at	80%			

EXPENDITURE ITEMS

		2005	2010	2015
k)	Energy cost; electricity from ELCOM			
	Pump: KW 3.84 Tariff: K/KWh 0.184			
	Operation/day: hour	17	21	26
	KWh/month	365.4	460.5	561.1
m)	Chemical cost; chlorine (brieching powder)			
	Qty: supplied water x % 0.0001% Qty to be chlorined	5,768	7,271	8,859
	Price: K per kg 6.35 (K177.84/40kg; 70%purity)	36.6	46.2	56.3
aa)	Staff salaries, wages & allowances			
	Operator Grade 7 Full time PNGWB (5days/month)	1211.54	1211.54	1211.54
	Assistant Grade 4 Full time PNGWB (5days/months)	807.7	807.7	807.7
ab)	Staff Housing Allowance			
	Operator Grade 7 Full time PNGWB	166.7	166.7	166.7
	Assistant Grade 4 Full time PNGWB	166.7	166.7	166.7
ac)	Staff DMA			
	Operator Grade 7 Full time PNGWB	125	125	125
	Insurance for the assets of K1.2million	416.7	416.7	416.7
am)	Security equipment; depreciation			
	Table, chairs, others Assets (K) 1200 10yrs	10	10	10
ap)	Security equipment; depreciati Assets (K) 3000 5yrs	50	50	50
aq)	Transport; bicycle, depreciator Assets (K) 1000 5yrs	16.7	16.7	16.7
at)	Travelling expence; transport	40		
	PMV Cost Mutzing-Lae-Mutzing Amount per month (K)	80	80	80
	Trips per month 2			
au)	Travelling expence; allowances	40		
	Allowance per trip Amount per month (K)	80	80	80
	Trips per month 2			
av)	Travelling expence; accommodation	100		
	Accommodation fee per trip Amcunt per month (K)	200	200	200
	Trips per month 2			
aw)	Administration cost of PNGWB Regional Office L.S.	1,000	1,000	1,000
	TOTAL	4,733	4,838	4,948

BALANCE ESTIMATED

		Year	2,005	2,010	2015
	Income - Expenditur =	Balance	-1,983	-1,354	-625

Simulation of Financial Balance for O,M&M of WSS at District Centres				Kupiano		
CONDITIONS Management under PNGWB's Southern Regional Office at POM						
Power source:	Solar for 6hours/day operation,					
Stationed staff:	Operator	x	1 PNGWB's payroll	Grade7	stationed in Kupiano	
	Assistant	x	1 PNGWB's payroll	Grade4	stationed in Kupiano	
	Cashier	x	1 National Treasury Officer handles			
	*Regional Manager visits once a month from Regional Office.					
Office:	to be provided by the DA at free					
	Radiophon	x	1 Photocopy machine	x	0	
	Fax	x	0 Furniture set	x	1	
	Computer	x	0			
	Stationery minimum					
Security service:	Guard	x	0 Security system to be installed			
Store space:	to be provided by the DA at free					
Transportation:	Vehicle	x	0			
	Motorbike	x	0			
	Bicycle	x	1			
REVENUE ESTIMATED						
			Year	2005	2010	2015
a)	Target Population		persons	2,227	5,514	10,495
b)	No. of Contracts with Users		contracts	158	684	1,489
c)	Total Water Consumption		m3 per month	4,352	11,320	24,616
d)	Average Daily Flow (ADF)		litre per day	143,080	372,153	809,289
e)	Planned Water Flow per month		m3 per month	5,222	13,584	29,539
f)	Total Bill Amount per month		Kina per month	2,957	5,376	5,376
g)	Collected Amount per month		Kina per month	2,366	4,301	4,301
	*Collection Ratio at	80%				
EXPENDITURE ITEMS						
				2005	2010	2015
l)	Energy cost for stand-by generator					
	Generator:	Tariff: K/KWh				
	Operation/day: hour			0	0	0
	KWh/month			0.0	0.0	0.0
m)	Chemical cost; chlorine (brieching powder)					
	Qty: supplied water x %	0.0001%	Qty to be chlorined	5,222	13,584	29,539
	Price: K per kg	6.35 (K177.84/40kg; 70%purity)		33.2	86.3	187.6
aa)	Staff salaries, wages & allowances					
	Operator Grade 7 Full time PNGWB (5days/month)			1211.54	1211.54	1211.54
	Assistant Grade 4 Full time PNGWB (5days/months)			807.7	807.7	807.7
ab)	Staff Housing Allowance					
	Operator Grade 7 Full time PNGWB			166.7	166.7	166.7
	Assistant Grade 4 Full time PNGWB			166.7	166.7	166.7
ac)	Staff DMA					
	Operator Grade 7 Full time PNGWB			125	125	125
	Insurance for the assets of K1.2million			416.7	416.7	416.7
am)	Security equipment; depreciation					
	Table, chairs, others	Assets (K)	1200 10yrs	10	10	10
ap)	Security equipment; depreciatic	Assets (K)	3000 5yrs	50	50	50
aq)	Transport; bicycle, depreciator	Assets (K)	1000 5yrs	16.7	16.7	16.7
at)	Travelling expence; transport		80			
	PMV cost Kup-POM-Kup	Amount per month (K)		160	160	160
	Trips per month	2				
au)	Travelling expence; allowances		40			
	Allowance per trip	Amount per month (K)		80	80	80
	Trips per month	2				
av)	Travelling expence; accommodation		100			
	Accommodation fee per trip	Amount per month (K)		200	200	200
	Trips per month	2				
aw)	Administration cost of PNGWB Regional Office	L.S.		1,000	1,000	1,000
		TOTAL		4,444	4,497	4,599
BALANCE ESTIMATED						
			Year	2,005	2,010	2015
	Income - Expenditur =	Balance		-2,078	-196	-297

Simulation of Financial Balance for O.M&M of WSS at District Centres					Finschhafen		
CONDITIONS		Management under PNGWB's Northern Regional Office at Lae					
Power source:	ELCOM's electricity						
Stationed staff:	Operator	x	1 PNGWB's payroll	Grade7	stationed in Finschhafen		
	Assistant	x	1 PNGWB's payroll	Grade4	stationed in Finschhafen		
	Cashier	x	1 National Treasury Officer handles				
*Regional Manager visits once a month from Regional Office.							
Office:	to be provided by the DA at free						
	Radiophon	x	1 Photocopy machine	x	0		
	Fax	x	0 Furniture set	x	1		
	Computer	x	0				
Stationery minimum							
Security service:	Guard	x	0 Security system to be installed				
Store space:	to be provided by the DA at free						
Transportation:	Vehicle	x	0				
	Motorbike	x	0				
	Bicycle	x	1				
REVENUE ESTIMATED							
			Year	2005	2010	2015	
a)	Target Population	persons		4,532	4,858	5,209	
b)	No. of Contracts with Users	contracts		371	397	426	
c)	Total Water Consumption	m3 per month		9,651	11,674	13,747	
d)	Average Daily Flow (ADF)	litre per day		317,299	383,788	451,966	
e)	Planned Water Flow per month	m3 per month		11,581	14,008	16,497	
f)	Total Bill Amount per month	Kina per month		7,056	8,374	9,644	
g)	Collected Amount per month	Kina per month		4,233	5,024	5,786	
			*Collection Ratio at	60%			
EXPENDITURE ITEMS							
			2005	2010	2015		
k)	Energy cost; electricity from ELCOM						
	Pump: KW	3.84	Tariff: K/KWh	0.184			
	Operation/day: hour			17	21	24	
	KWh/month			365.4	441.9	520.4	
m)	Chemical cost; chlorine (bleaching powder)						
	Qtty: supplied water x %	0.0001%	Qtty to be chlorined	11,581	14,008	16,497	
	Price: K per kg	6.35 (K177.84/40kg; 70%purity)		73.6	89.0	104.8	
aa)	Staff salaries, wages & allowances						
	Operator Grade 7	Full time PNGWB (5days/month)		1211.54	1211.54	1211.54	
	Assistant Grade 4	Full time PNGWB (5days/months)		807.7	807.7	807.7	
ab)	Staff Housing Allowance						
	Operator Grade 7	Full time PNGWB		166.7	166.7	166.7	
	Assistant Grade 4	Full time PNGWB		166.7	166.7	166.7	
ac)	Staff DMA						
	Operator Grade 7	Full time PNGWB		125	125	125	
	Insurance for the assets of K1.2million			416.7	416.7	416.7	
am)	Security equipment; depreciation						
	Table, chairs, others	Assets (K)	1200 10yrs	10	10	10	
ap)	Security equipment; depreciati	Assets (K)	3000 5yrs	50	50	50	
aq)	Transport; bicycle, depreciator	Assets (K)	1000 5yrs	16.7	16.7	16.7	
at)	Travelling expence; transport		100				
	Ferry Cost per Finsch-Lae-Finsch	Amount per month (K)		200	200	200	
	Trips per month	2					
au)	Travelling expence; allowances		40				
	Allowance per trip	Amount per month (K)		80	80	80	
	Trips per month	2					
av)	Travelling expence; accommodation		100				
	Accommodation fee per trip	Amount per month (K)		200	200	200	
	Trips per month	2					
aw)	Administration cost of PNGWB Regional Office		L.S.	1,000	1,000	1,000	
	TOTAL			4,890	4,982	5,076	
BALANCE ESTIMATED			Year	2,005	2,010	2015	
Income - Expenditure =			Balance	-656	43	710	

Simulation of Financial Balance for O,M&M of WSS at District Centres

Oro Bay

CONDITIONS		Management under PNGWB's Popondetta Office		
Power source:	Solar for 6hours/day operation,			
Stationed staff:	Operator	x	1 PNGWB's payroll	Grade7 stationed in Oro Bay
	Assistant	x	1 PNGWB's payroll	Grade4 stationed in Oro Bay
	Cashier	x	1 National Treasury Officer handles	
	*Regional Manager visits once a month from Regional Office.			
Office:	to be provided by the DA at free			
	Radiophon	x	1 Photocopy machine	x 0
	Fax	x	0 Furniture set	x 1
	Computer	x	0	
	Stationery minimum			
Security service:	Guard	x	0 Security system to be installed	
Store space:	to be provided by the DA at free			
Transportation:	Vehicle	x	0	
	Motorbike	x	0	
	Bicycle	x	1	

REVENUE ESTIMATED

		Year	2005	2010	2015
a)	Target Population	persons	1,385	2,043	6,062
b)	No. of Contracts with Users	contracts	208	258	804
c)	Total Water Consumption	m3 per month	7,119	10,639	14,404
d)	Average Daily Flow (ADF)	litre per day	92,132	243,615	474,542
e)	Planned Water Flow per month	m3 per month	3,363	8,892	17,321
f)	Total Bill Amount per month	Kina per month	1,234	2,858	6,455
g)	Collected Amount per month	Kina per month	987	2,287	5,164
	*Collection Ratio at	80%			

EXPENDITURE ITEMS

		2005	2010	2015
l)	Energy cost for stand-by generator			
	Generator: Tariff: K/KWh			
	Operation/day: hour	0	0	0
	KWh/month	0.0	0.0	0.0
m)	Chemical cost; chlorine (brieching powder)			
	Qty: supplied water x % 0.0001% Qty to be chlorined	3,363	8,892	17,321
	Price: K per kg 6.35 (K177.84/40kg; 70%purity)	21.4	56.5	110.0
aa)	Staff salaries, wages & allowances			
	Operator Grade 7 Full time PNGWB (5days/month)	1211.54	1211.54	1211.54
	Assistant Grade 4 Full time PNGWB (5days/months)	807.7	807.7	807.7
ab)	Staff Housing Allowance			
	Operator Grade 7 Full time PNGWB	166.7	166.7	166.7
	Assistant Grade 4 Full time PNGWB	166.7	166.7	166.7
ac)	Staff DMA			
	Operator Grade 7 Full time PNGWB	125	125	125
	Insurance for the assets of K1.2million	416.7	416.7	416.7
am)	Security equipment; depreciation			
	Table, chairs, others Assets (K) 1200 10yrs	10	10	10
ap)	Security equipment; depreciati Assets (K) 3000 5yrs	50	50	50
aq)	Transport; bicycle, depreciati Assets (K) 1000 5yrs	16.7	16.7	16.7
at)	Travelling expence; transport	40		
	PMV cost OroBay-Ppondetta-OroBay Amount per month (K)	80	80	80
	Trips per month 2			
au)	Travelling expence; allowances	40		
	Allowance per trip Amount per month (K)	80	80	80
	Trips per month 2			
av)	Travelling expence; accommodation	100		
	Accommodation fee per trip Amount per month (K)	200	200	200
	Trips per month 2			
aw)	Administration cost of PNGWB Regional Office L.S.	1,000	1,000	1,000
	TOTAL	4,352	4,387	4,441

BALANCE ESTIMATED

		Year	2,005	2,010	2015
	Income - Expenditure =	Balance	-3,365	-2,101	723

Financial Analysis : Revenue and Expenditure

District Town: **Bereina** Unit: Kina
 Project Period: 15 years Discount Rate:10%

	Year	Benefit		Cost			Year
		Water Rate	Total	Construction	OM&M Cost	Total	
1	2001	11,460	11,460	1,484,333	59,352	1,543,685	2001
2	2002	10,314	10,314		53,417	53,417	2002
3	2003	9,283	9,283		48,075	48,075	2003
4	2004	8,354	8,354		43,268	43,268	2004
5	2005	9,527	9,527		38,941	38,941	2005
6	2006	8,574	8,574		36,010	36,010	2006
7	2007	7,717	7,717		32,409	32,409	2007
8	2008	6,945	6,945		29,168	29,168	2008
9	2009	6,250	6,250		26,252	26,252	2009
10	2010	5,625	5,625	342,867	23,626	366,494	2010
11	2011	6,167	6,167		21,887	21,887	2011
12	2012	5,551	5,551		19,699	19,699	2012
13	2013	4,996	4,996		17,729	17,729	2013
14	2014	4,496	4,496		15,956	15,956	2014
15	2015	4,046	4,046	140,235	14,360	154,595	2015
Total Net Present Valu		109,305	109,305	1,967,435		1,967,435	

B/C= 0.08
 NPV= -1,858,130

District Town: **Kwikila** Unit: Kina
 Project Period: 15 years

	Year	Benefit		Cost			年次
		Water Rate	Total	Construction	OM&M Cost	Total	
1	2001	42,648	42,648	1,553,833	55,752	1,609,585	2001
2	2002	38,383	38,383		51,257	51,257	2002
3	2003	34,545	34,545		46,131	46,131	2003
4	2004	31,090	31,090		41,518	41,518	2004
5	2005	27,981	27,981		37,366	37,366	2005
6	2006	26,641	26,641		34,104	34,104	2006
7	2007	25,777	25,777		30,694	30,694	2007
8	2008	23,199	23,199		27,625	27,625	2008
9	2009	20,879	20,879		24,862	24,862	2009
10	2010	18,791	18,791	509,587	22,376	531,963	2010
11	2011	20,657	20,657		20,540	20,540	2011
12	2012	18,591	18,591		18,486	18,486	2012
13	2013	16,732	16,732		16,637	16,637	2013
14	2014	15,059	15,059		14,974	14,974	2014
15	2015	13,553	13,553	167,001	13,476	180,477	2015
Total Net Present Valu		376,529	376,529	2,230,421	455,798	2,686,219	

B/C= 0.14
 NPV= -2,309,689

District Town: **Mutzing** Unit: Kina
 Project Period: 15 years

	Year	Benefit		Cost			年次
		Water Rate	Total	Construction	OM&M Cost	Total	
1	2001	33,000	33,000	817,333	56,796	874,129	2001
2	2002	29,700	29,700		51,116	51,116	2002
3	2003	26,730	26,730		46,005	46,005	2003
4	2004	24,057	24,057		41,404	41,404	2004
5	2005	21,651	21,651		37,264	37,264	2005
6	2006	24,687	24,687		34,281	34,281	2006
7	2007	22,218	22,218		30,853	30,853	2007
8	2008	19,997	19,997		27,768	27,768	2008
9	2009	17,997	17,997		24,991	24,991	2009
10	2010	16,197	16,197	199,909	22,492	222,401	2010
11	2011	18,088	18,088		20,703	20,703	2011
12	2012	16,279	16,279		18,633	18,633	2012
13	2013	14,651	14,651		16,770	16,770	2013
14	2014	13,186	13,186		15,093	15,093	2014
15	2015	11,868	11,868		13,583	13,583	2015
Total Net Present Valu		310,307	310,307	1,017,242	457,753	1,474,995	

B/C= 0.21
 NPV= -1,164,688

District Town: Kupiano Unit: Kina
 Project Period: 15 years

	Year			Cost			年次
		Water Rate	Total	Construction	OM&M Cost	Total	
1	2001	28,392	28,392	3,431,167	53,328	3,484,495	2001
2	2002	25,553	25,553		47,995	47,995	2002
3	2003	22,998	22,998		43,196	43,196	2003
4	2004	20,698	20,698		38,876	38,876	2004
5	2005	18,628	18,628		34,989	34,989	2005
6	2006	30,476	30,476		31,865	31,865	2006
7	2007	27,429	27,429		28,679	28,679	2007
8	2008	24,686	24,686		25,811	25,811	2008
9	2009	22,217	22,217		25,828	25,828	2009
10	2010	19,996	19,996	1,040,030	20,907	1,060,937	2010
11	2011	17,996	17,996		19,243	19,243	2011
12	2012	16,196	16,196		17,319	17,319	2012
13	2013	14,577	14,577		15,587	15,587	2013
14	2014	13,119	13,119		14,028	14,028	2014
15	2015	11,807	11,807	750,893	12,625	763,518	2015
Total Net Present Valu		314,767	314,767	5,222,090	430,274	5,652,364	

B/C= 0.06
 NPV= -5,337,597

District Town: Finschhafen
 Project Period: 15 years

	Year			Cost			年次
		Water Rate	Total	Construction	OM&M Cost	Total	
1	2001	50,796	50,796	1,970,500	58,680	2,029,180	2001
2	2002	45,716	45,716		52,812	52,812	2002
3	2003	41,145	41,145		47,531	47,531	2003
4	2004	37,030	37,030		42,778	42,778	2004
5	2005	33,327	33,327		38,500	38,500	2005
6	2006	35,599	35,599		35,302	35,302	2006
7	2007	32,040	32,040		31,772	31,772	2007
8	2008	28,836	28,836		28,595	28,595	2008
9	2009	25,952	25,952		25,735	25,735	2009
10	2010	23,357	23,357	609,768	23,162	632,929	2010
11	2011	24,209	24,209		21,239	21,239	2011
12	2012	21,788	21,788		19,115	19,115	2012
13	2013	19,610	19,610		17,203	17,203	2013
14	2014	17,649	17,649		15,483	15,483	2014
15	2015	15,884	15,884	518,159	13,726	531,885	2015
Total Net Present Valu		452,938	452,938	3,098,427	471,631	3,570,058	

B/C= 0.13
 NPV= -3,117,120

District Town: Oro Bay Unit: Kina
 Project Period: 15 years

	Year			Cost			年次
		Water Rate	Total	Construction	OM&M Cost	Total	
1	2001	11,844	11,844	2,119,700	52,224	2,171,924	2001
2	2002	10,660	10,660		47,002	47,002	2002
3	2003	9,594	9,594		42,301	42,301	2003
4	2004	8,634	8,634		38,071	38,071	2004
5	2005	7,771	7,771		34,264	34,264	2005
6	2006	16,205	16,205		31,086	31,086	2006
7	2007	14,585	14,585		27,977	27,977	2007
8	2008	13,126	13,126		25,179	25,179	2008
9	2009	11,814	11,814		22,662	22,662	2009
10	2010	10,632	10,632	1,061,687	20,395	1,082,082	2010
11	2011	21,607	21,607		18,582	18,582	2011
12	2012	19,446	19,446		16,724	16,724	2012
13	2013	17,502	17,502		15,051	15,051	2013
14	2014	15,751	15,751		13,546	13,546	2014
15	2015	14,176	14,176	3,008,300	12,192	3,020,491	2015
Total Net Present Valu		203,348	203,348	6,189,687	417,256	6,606,943	

B/C= 0.03
 NPV= -6,403,595

Economic Analysis : Revenue and Expenditure

District Town: **Bereina**

Project Period: 15 years

Discount Rate: 10%

Unit: Kina

	Year	Benefit in NPV			Cost in NPV			Year
		Saved subsidy of Gov.	Economic Benefit	Total	Construction	OM&M Cost	Total	
1	2001	62,000	200,191	262,191	1,484,333	59,352	1,543,685	2001
2	2002	55,800	180,172	235,972		53,417	53,417	2002
3	2003	50,220	162,155	212,375		48,075	48,075	2003
4	2004	45,198	145,939	191,137		43,268	43,268	2004
5	2005	40,678	145,037	185,716		38,941	38,941	2005
6	2006	36,610	130,534	167,144		36,010	36,010	2006
7	2007	32,949	117,480	150,430		32,409	32,409	2007
8	2008	29,654	105,732	135,387		29,168	29,168	2008
9	2009	26,689	95,159	121,848		26,252	26,252	2009
10	2010	24,020	94,479	118,499	342,867	23,626	366,494	2010
11	2011	21,618	85,031	106,649		21,887	21,887	2011
12	2012	19,456	76,528	95,984		19,699	19,699	2012
13	2013	17,511	68,875	86,386		17,729	17,729	2013
14	2014	15,760	61,987	77,747		15,956	15,956	2014
15	2015	14,184	61,552	75,735	140,235	14,360	154,595	2015
Total Net Present Value		492,347	1,730,851	2,223,199	1,967,435	480,149	2,447,584	

B/C= 0.91

NPV= -224,386

District Town: **Kwikila**

Project Period: 15 years

Discount Rate: 10%

Unit: Kina

	Year	Benefit in NPV			Cost in NPV			Year
		Saved subsidy of Gov.	Economic Benefit	Total	Construction	OM&M Cost	Total	
1	2001	62,000	436,157	498,157	1,553,833	56,952	1,610,785	2001
2	2002	55,800	392,541	448,341		51,257	51,257	2002
3	2003	50,220	353,287	403,507		46,131	46,131	2003
4	2004	45,198	317,958	363,156		41,518	41,518	2004
5	2005	40,678	312,666	353,345		37,366	37,366	2005
6	2006	36,610	281,400	318,010		34,104	34,104	2006
7	2007	32,949	253,260	286,209		30,694	30,694	2007
8	2008	29,654	227,934	257,588		27,625	27,625	2008
9	2009	26,689	205,140	231,829		24,862	24,862	2009
10	2010	24,020	201,432	225,452	509,587	22,376	531,963	2010
11	2011	21,618	181,288	202,906		20,582	20,582	2011
12	2012	19,456	163,160	182,616		18,486	18,486	2012
13	2013	17,511	146,844	164,354		16,637	16,637	2013
14	2014	15,760	132,159	147,919		14,974	14,974	2014
15	2015	14,184	130,299	144,483	167,001	13,476	180,477	2015
Total Net Present Value		492,347	3,735,525	4,227,873	2,230,421	457,040	2,687,461	

B/C= 1.57

NPV= 1,540,412

District Town: **Mutzing**

Project Period: 15 years

Discount Rate: 10%

Unit: Kina

	Year	Benefit in NPV			Cost in NPV			Year
		Saved subsidy of Gov.	Economic Benefit	Total	Construction	OM&M Cost	Total	
1	2001	62,000	313,031	375,031	817,333	56,796	874,129	2001
2	2002	55,800	281,728	337,528		51,116	51,116	2002
3	2003	50,220	253,555	303,775		46,005	46,005	2003
4	2004	45,198	228,200	273,398		41,404	41,404	2004
5	2005	40,678	228,363	269,041		37,264	37,264	2005
6	2006	36,610	205,527	242,137		34,281	34,281	2006
7	2007	32,949	184,974	217,923		30,853	30,853	2007
8	2008	29,654	166,476	196,131		27,768	27,768	2008
9	2009	26,689	149,829	176,518		24,991	24,991	2009
10	2010	24,020	150,034	174,054	199,909	22,492	222,401	2010
11	2011	21,618	135,031	156,649		20,703	20,703	2011
12	2012	19,456	121,528	140,984		18,633	18,633	2012
13	2013	17,511	109,375	126,885		16,770	16,770	2013
14	2014	15,760	98,437	114,197		15,093	15,093	2014
15	2015	14,184	98,483	112,667		13,583	13,583	2015
Total Net Present Value		492,347	2,724,569	3,216,917	1,017,242	457,753	1,474,995	

B/C= 2.18

NPV= 1,741,922

District Town: Kupiano

Project Period: 15 years

Discount Rate: 10%

Unit: Kina

	Year	Benefit in NPV			Cost in NPV			Year
		Saved subsidy of Gov.	Economic Benefit	Total	Construction	OM&M Cost	Total	
1	2001	62,000	1,164,029	1,226,029	3,431,167	53,328	3,484,495	2001
2	2002	55,800	1,047,626	1,103,426		47,995	47,995	2002
3	2003	50,220	942,863	993,083		43,196	43,196	2003
4	2004	45,198	848,577	893,775		38,876	38,876	2004
5	2005	40,678	843,133	883,811		34,989	34,989	2005
6	2006	36,610	758,820	795,430		31,865	31,865	2006
7	2007	32,949	682,938	715,887		28,679	28,679	2007
8	2008	29,654	614,644	644,298		25,811	25,811	2008
9	2009	26,689	553,180	579,869		23,230	23,230	2009
10	2010	24,020	549,259	573,279	1,040,030	20,907	1,060,937	2010
11	2011	21,618	494,333	515,951		19,243	19,243	2011
12	2012	19,456	444,900	464,356		17,319	17,319	2012
13	2013	17,511	400,410	417,920		15,587	15,587	2013
14	2014	15,760	360,369	376,128		14,028	14,028	2014
15	2015	14,184	357,887	372,071	750,893	12,625	763,518	2015
Total Net Present Value		492,347	10,062,967	10,555,314	5,222,090	427,676	5,649,766	

B/C= 1.87

NPV= 4,905,549

District Town: Finschhafen

Project Period: 15 years

Discount Rate: 10%

Unit: Kina

	Year	Benefit in NPV			Cost in NPV			Year
		Saved subsidy of Gov.	Economic Benefit	Total	Construction	OM&M Cost	Total	
1	2001	62,000	630,236	692,236	1,970,500	58,680	2,029,180	2001
2	2002	55,800	567,212	623,012		52,812	52,812	2002
3	2003	50,220	510,491	560,711		47,531	47,531	2003
4	2004	45,198	459,442	504,640		42,778	42,778	2004
5	2005	40,678	443,229	483,907		38,500	38,500	2005
6	2006	36,610	398,906	435,516		35,302	35,302	2006
7	2007	32,949	359,015	391,965		31,772	31,772	2007
8	2008	29,654	323,114	352,768		28,595	28,595	2008
9	2009	26,689	290,803	317,492		25,735	25,735	2009
10	2010	24,020	280,549	304,569	609,768	23,162	632,929	2010
11	2011	21,618	252,494	274,112		21,239	21,239	2011
12	2012	19,456	227,245	246,701		19,115	19,115	2012
13	2013	17,511	204,520	222,031		17,203	17,203	2013
14	2014	15,760	184,068	199,828		15,483	15,483	2014
15	2015	14,184	177,631	191,814	518,159	13,935	532,094	2015
Total Net Present Value		492,347	5,308,956	5,801,303	3,098,427	471,840	3,570,267	

B/C= 1.62

NPV= 2,231,037

District Town: Oro Bay

Project Period: 15 years

Discount Rate: 10%

Unit: Kina

	Year	Benefit in NPV			Cost in NPV			Year
		Saved subsidy of Gov.	Economic Benefit	Total	Construction	OM&M Cost	Total	
1	2001	0	629,789	629,789	2,119,700	52,224	2,171,924	2001
2	2002	0	566,810	566,810		47,002	47,002	2002
3	2003	0	510,129	510,129		42,301	42,301	2003
4	2004	0	459,116	459,116		38,071	38,071	2004
5	2005	0	466,505	466,505		34,264	34,264	2005
6	2006	0	419,855	419,855		31,086	31,086	2006
7	2007	0	377,869	377,869		27,977	27,977	2007
8	2008	0	340,082	340,082		25,179	25,179	2008
9	2009	0	306,074	306,074		22,662	22,662	2009
10	2010	0	311,099	311,099	1,061,687	20,395	1,082,082	2010
11	2011	0	279,989	279,989		18,582	18,582	2011
12	2012	0	251,990	251,990		16,724	16,724	2012
13	2013	0	226,791	226,791		15,051	15,051	2013
14	2014	0	204,112	204,112		13,546	13,546	2014
15	2015	0	207,469	207,469	300,830	12,192	313,021	2015
Total Net Present Value		0	5,557,680	5,557,680	3,482,217	417,256	3,899,473	

B/C= 1.43

NPV= 1,658,207

Assumptions for economic analysis
Estimated economic cost in the District Town

Name of District Town: Bereina

Year 2001-2004			
1	Provincial Government is allocating budget for O, M&M of WSS at district town	Kina	50,000 per year
2	Provincial Government or Dept. of Works is paying salary of the water operator	Kina	12,000 per year
3	Cost of medical care in case of water related diseases		
1)	Occurrence of water related diseases Assumed as follows:		
	Population in 2015		1,343
	Population 1,343 x 1 times / year =	Cases	1,343 per year
2)	Cost of medical care per case assumed at Kina 5 per case x 1,343 cases/year =	Kina	6,715 per year
3)	Duration of sickness Required days to be cured per case 3 days/case 1,343 cases/year =		4,029 days/year
4)	Cost of not workable period due to sickness Labour fee: Kina 10 per day x 4,029 days/year =	Kina	40,290 per year
4	Water fetching time and energy		
1)	Walking time for water fetching 15 minutes/time		
2)	Water fetching times 1 times per day 15 minutes per day =		0.25 hour/day
3)	Total water fetching time 0.25 hour/day = (8hours=1day) day		11.4 per year
	Population 1,343 x 11.4 days per person per year =	day	15,319 per year
4)	Cost of not workable period for water fetching Labour fee: Kina 10 per day x 15,319 days/year =	Kina	153,186 per year
5	Total cost occurred for the entire District Town per year		
	Sum of the above listed 1, 2, 3-2), 3-4), 4-4)	Kina	262,191 per year

Year 2005-2009			
1	Provincial Government is allocating budget for O, M&M of WSS at district town	Kina	50,000 per year
2	Provincial Government or Dept. of Works is paying salary of the water operator	Kina	12,000 per year
3	Cost of medical care in case of water related diseases		
1)	Occurrence of water related diseases Assumed as follows:		
	Population in 2015		1,483
	Population 1,483 x 1 times / year =	Cases	1,483 per year
2)	Cost of medical care per case assumed at Kina 5 per case x 1,483 cases/year =	Kina	7,415 per year
3)	Duration of sickness Required days to be cured per case 3 days/case 1,483 cases/year =		4,449 days/year
4)	Cost of not workable period due to sickness Labour fee: Kina 10 per day x 4,449 days/year =	Kina	44,490 per year
4	Water fetching time and energy		
1)	Walking time for water fetching 15 minutes/time		
2)	Water fetching times 1 times per day 15 minutes per day =		0.25 hour/day
3)	Total water fetching time 0.25 hour/day = (8hours=1day) day		11.4 per year
	Population 1,483 x 11.4 days per person per year =	day	16,915 per year
4)	Cost of not workable period for water fetching Labour fee: Kina 10 per day x 16,915 days/year =	Kina	169,155 per year
5	Total cost occurred for the entire District Town per year		
	Sum of the above listed 1, 2, 3-2), 3-4), 4-4)	Kina	283,060 per year

Year 2010-2014			
1	Provincial Government is allocating budget for O, M&M of WSS at district town	Kina	50,000 per year
2	Provincial Government or Dept. of Works is paying salary of the water operator	Kina	12,000 per year
3	Cost of medical care in case of water related diseases		
1)	Occurrence of water related diseases Assumed as follows:		
	Population in 2015		1,636
	Population 1,636 x 1 times / year =	Cases	1,636 per year
2)	Cost of medical care per case assumed at Kina 5 per case x 1,636 cases/year =	Kina	8,180 per year
3)	Duration of sickness Required days to be cured per case 3 days/case 1,636 cases/year =		4,908 days/year
4)	Cost of not workable period due to sickness Labour fee: Kina 10 per day x 4,908 days/year =	Kina	49,080 per year
4	Water fetching time and energy		
1)	Walking time for water fetching 15 minutes/time		
2)	Water fetching times 1 times per day 15 minutes per day =		0.25 hour/day
3)	Total water fetching time 0.25 hour/day = (8hours=1day) day		11.4 per year
	Population 1,636 x 11.4 days per person per year =	day	18,661 per year
4)	Cost of not workable period for water fetching Labour fee: Kina 10 per day x 18,661 days/year =	Kina	186,606 per year
5	Total cost occurred for the entire District Town per year		
	Sum of the above listed 1, 2, 3-2), 3-4), 4-4)	Kina	305,866 per year

Year 2015			
1	Provincial Government is allocating budget for O, M&M of WSS at district town	Kina	50,000 per year
2	Provincial Government or Dept. of Works is paying salary of the water operator	Kina	12,000 per year
3	Cost of medical care in case of water related diseases		
1)	Occurrence of water related diseases Assumed as follows:		
	Population in 2015		1,805
	Population 1,805 x 1 times / year =	Cases	1,805 per year
2)	Cost of medical care per case assumed at Kina 5 per case x 1,805 cases/year =	Kina	9,025 per year
3)	Duration of sickness Required days to be cured per case 3 days/case 1,805 cases/year =		5,415 days/year
4)	Cost of not workable period due to sickness Labour fee: Kina 10 per day x 5,415 days/year =	Kina	54,150 per year
4	Water fetching time and energy		
1)	Walking time for water fetching 15 minutes/time		
2)	Water fetching times 1 times per day 15 minutes per day =		0.25 hour/day
3)	Total water fetching time 0.25 hour/day = (8hours=1day) day		11.4 per year
	Population 1,805 x 11.4 days per person per year =	day	20,588 per year
4)	Cost of not workable period for water fetching Labour fee: Kina 10 per day x 20,588 days/year =	Kina	205,883 per year
5	Total cost occurred for the entire District Town per year		
	Sum of the above listed 1, 2, 3-2), 3-4), 4-4)	Kina	331,058 per year

Assumptions for economic analysis
Estimated economic cost in the District Town

Name of District Town: Kwikila

Year 2001-2004			
1	Provincial Government is allocating budget for O, M&M of WSS at district town	Kina	50,000 per year
2	Provincial Government or Dept. of Works is paying salary of the water operator	Kina	12,000 per year
3	Cost of medical care in case of water related diseases		
1)	Occurrence of water related diseases Assumed as follows:		
	Population in 2015		2,926
	Population 2,926 x 1 times / year =	Cases	2,926 per year
2)	Cost of medical care per case assumed at Kina 5 per case x 2,926 cases/year =	Kina	14,630 per year
3)	Duration of sickness Required days to be cured per case 3 days/case 2,926 cases/year =		8,778 days/year
4)	Cost of not workable period due to sickness Labour fee: Kina 10 per day x 8,778 days/year =	Kina	87,780 per year
4	Water fetching time and energy		
1)	Walking time for water fetching 15 minutes/time		
2)	Water fetching times 1 times per day 15 minutes per day =		0.25 hour/day
3)	Total water fetching time 0.25 hour/day = (8hours=1day) day		11.4 per year
	Population 2,926 x 11.4 days per person per year =	day	33,375 per year
4)	Cost of not workable period for water fetching Labour fee: Kina 10 per day x 33,375 days/year =	Kina	333,747 per year
5	Total cost occurred for the entire District Town per year		
	Sum of the above listed 1, 2, 3-2), 3-4), 4-4)	Kina	498,157 per year

Year 2005-2009			
1	Provincial Government is allocating budget for O, M&M of WSS at district town	Kina	50,000 per year
2	Provincial Government or Dept. of Works is paying salary of the water operator	Kina	12,000 per year
3	Cost of medical care in case of water related diseases		
1)	Occurrence of water related diseases Assumed as follows:		
	Population in 2015		3,197
	Population 3,197 x 1 times / year =	Cases	3,197 per year
2)	Cost of medical care per case assumed at Kina 5 per case x 3,197 cases/year =	Kina	15,985 per year
3)	Duration of sickness Required days to be cured per case 3 days/case 3,197 cases/year =		9,591 days/year
4)	Cost of not workable period due to sickness Labour fee: Kina 10 per day x 9,591 days/year =	Kina	95,910 per year
4	Water fetching time and energy		
1)	Walking time for water fetching 15 minutes/time		
2)	Water fetching times 1 times per day 15 minutes per day =		0.25 hour/day
3)	Total water fetching time 0.25 hour/day = (8hours=1day) day		11.4 per year
	Population 3,197 x 11.4 days per person per year =	day	36,466 per year
4)	Cost of not workable period for water fetching Labour fee: Kina 10 per day x 36,466 days/year =	Kina	364,658 per year
5	Total cost occurred for the entire District Town per year		
	Sum of the above listed 1, 2, 3-2), 3-4), 4-4)	Kina	538,553 per year

Year 2010-2014			
1	Provincial Government is allocating budget for O, M&M of WSS at district town	Kina	50,000 per year
2	Provincial Government or Dept. of Works is paying salary of the water operator	Kina	12,000 per year
3	Cost of medical care in case of water related diseases		
1)	Occurrence of water related diseases Assumed as follows:		
	Population in 2015		3,488
	Population 3,488 x 1 times / year =	Cases	3,488 per year
2)	Cost of medical care per case assumed at Kina 5 per case x 3,488 cases/year =	Kina	17,440 per year
3)	Duration of sickness Required days to be cured per case 3 days/case 3,488 cases/year =		10,464 days/year
4)	Cost of not workable period due to sickness Labour fee: Kina 10 per day x 10,464 days/year =	Kina	104,640 per year
4	Water fetching time and energy		
1)	Walking time for water fetching 15 minutes/time		
2)	Water fetching times 1 times per day 15 minutes per day =		0.25 hour/day
3)	Total water fetching time 0.25 hour/day = (8hours=1day) day		11.4 per year
	Population 3,488 x 11.4 days per person per year =	day	39,785 per year
4)	Cost of not workable period for water fetching Labour fee: Kina 10 per day x 39,785 days/year =	Kina	397,850 per year
5	Total cost occurred for the entire District Town per year		
	Sum of the above listed 1, 2, 3-2), 3-4), 4-4)	Kina	581,930 per year

Year 2015			
1	Provincial Government is allocating budget for O, M&M of WSS at district town	Kina	50,000 per year
2	Provincial Government or Dept. of Works is paying salary of the water operator	Kina	12,000 per year
3	Cost of medical care in case of water related diseases		
1)	Occurrence of water related diseases Assumed as follows:		
	Population in 2015		3,821
	Population 3,821 x 1 times / year =	Cases	3,821 per year
2)	Cost of medical care per case assumed at Kina 5 per case x 3,821 cases/year =	Kina	19,105 per year
3)	Duration of sickness Required days to be cured per case 3 days/case 3,821 cases/year =		11,463 days/year
4)	Cost of not workable period due to sickness Labour fee: Kina 10 per day x 11,463 days/year =	Kina	114,630 per year
4	Water fetching time and energy		
1)	Walking time for water fetching 15 minutes/time		
2)	Water fetching times 1 times per day 15 minutes per day =		0.25 hour/day
3)	Total water fetching time 0.25 hour/day = (8hours=1day) day		11.4 per year
	Population 3,821 x 11.4 days per person per year =	day	43,583 per year
4)	Cost of not workable period for water fetching Labour fee: Kina 10 per day x 43,583 days/year =	Kina	435,833 per year
5	Total cost occurred for the entire District Town per year		
	Sum of the above listed 1, 2, 3-2), 3-4), 4-4)	Kina	631,568 per year

Assumptions for economic analysis
Estimated economic cost in the District Town

Name of District Town: Mutzing

Year 2001-2004			
1	Provincial Government is allocating budget for O, M&M of WSS at district town	Kina	50,000 per year
2	Provincial Government or Dept. of Works is paying salary of the water operator	Kina	12,000 per year
3	Cost of medical care in case of water related diseases		
1)	Occurrence of water related diseases Assumed as follows:		
	Population in 2015		2,100
	Population 2,100 x 1 times / year =	Cases	2,100 per year
2)	Cost of medical care per case assumed at Kina 5 per case x 2,100 cases/year =	Kina	10,500 per year
3)	Duration of sickness		
	Required days to be cured per case 3 days/case 2,100 cases/year =		6,300 days/year
4)	Cost of not workable period due to sickness		
	Labour fee: Kina 10 per day x 6,300 days/year =	Kina	63,000 per year
4	Water fetching time and energy		
1)	Walking time for water fetching 15 minutes/time		
2)	Water fetching times 1 times per day 15 minutes per day =		0.25 hour/day
3)	Total water fetching time 0.25 hour/day = (8hours=1day) day		11.4 per year
	Population 2,100 x 11.4 days per person per year =	day	23,953 per year
4)	Cost of not workable period for water fetching		
	Labour fee: Kina 10 per day x 23,953 days/year =	Kina	239,531 per year
5	Total cost occurred for the entire District Town per year		
	Sum of the above listed 1, 2, 3-2), 3-4), 4-4)	Kina	375,031 per year

Year 2005-2009			
1	Provincial Government is allocating budget for O, M&M of WSS at district town	Kina	50,000 per year
2	Provincial Government or Dept. of Works is paying salary of the water operator	Kina	12,000 per year
3	Cost of medical care in case of water related diseases		
1)	Occurrence of water related diseases Assumed as follows:		
	Population in 2015		2,335
	Population 2,335 x 1 times / year =	Cases	2,335 per year
2)	Cost of medical care per case assumed at Kina 5 per case x 2,335 cases/year =	Kina	11,675 per year
3)	Duration of sickness		
	Required days to be cured per case 3 days/case 2,335 cases/year =		7,005 days/year
4)	Cost of not workable period due to sickness		
	Labour fee: Kina 10 per day x 7,005 days/year =	Kina	70,050 per year
4	Water fetching time and energy		
1)	Walking time for water fetching 15 minutes/time		
2)	Water fetching times 1 times per day 15 minutes per day =		0.25 hour/day
3)	Total water fetching time 0.25 hour/day = (8hours=1day) day		11.4 per year
	Population 2,335 x 11.4 days per person per year =	day	26,634 per year
4)	Cost of not workable period for water fetching		
	Labour fee: Kina 10 per day x 26,634 days/year =	Kina	266,336 per year
5	Total cost occurred for the entire District Town per year		
	Sum of the above listed 1, 2, 3-2), 3-4), 4-4)	Kina	410,061 per year

Year 2010-2014			
1	Provincial Government is allocating budget for O, M&M of WSS at district town	Kina	50,000 per year
2	Provincial Government or Dept. of Works is paying salary of the water operator	Kina	12,000 per year
3	Cost of medical care in case of water related diseases		
1)	Occurrence of water related diseases Assumed as follows:		
	Population in 2015		2,598
	Population 2,598 x 1 times / year =	Cases	2,598 per year
2)	Cost of medical care per case assumed at Kina 5 per case x 2,598 cases/year =	Kina	12,990 per year
3)	Duration of sickness		
	Required days to be cured per case 3 days/case 2,598 cases/year =		7,794 days/year
4)	Cost of not workable period due to sickness		
	Labour fee: Kina 10 per day x 7,794 days/year =	Kina	77,940 per year
4	Water fetching time and energy		
1)	Walking time for water fetching 15 minutes/time		
2)	Water fetching times 1 times per day 15 minutes per day =		0.25 hour/day
3)	Total water fetching time 0.25 hour/day = (8hours=1day) day		11.4 per year
	Population 2,598 x 11.4 days per person per year =	day	29,633 per year
4)	Cost of not workable period for water fetching		
	Labour fee: Kina 10 per day x 29,633 days/year =	Kina	296,334 per year
5	Total cost occurred for the entire District Town per year		
	Sum of the above listed 1, 2, 3-2), 3-4), 4-4)	Kina	449,264 per year

Year 2015			
1	Provincial Government is allocating budget for O, M&M of WSS at district town	Kina	50,000 per year
2	Provincial Government or Dept. of Works is paying salary of the water operator	Kina	12,000 per year
3	Cost of medical care in case of water related diseases		
1)	Occurrence of water related diseases Assumed as follows:		
	Population in 2015		2,888
	Population 2,888 x 1 times / year =	Cases	2,888 per year
2)	Cost of medical care per case assumed at Kina 5 per case x 2,888 cases/year =	Kina	14,440 per year
3)	Duration of sickness		
	Required days to be cured per case 3 days/case 2,888 cases/year =		8,664 days/year
4)	Cost of not workable period due to sickness		
	Labour fee: Kina 10 per day x 8,664 days/year =	Kina	86,640 per year
4	Water fetching time and energy		
1)	Walking time for water fetching 15 minutes/time		
2)	Water fetching times 1 times per day 15 minutes per day =		0.25 hour/day
3)	Total water fetching time 0.25 hour/day = (8hours=1day) day		11.4 per year
	Population 2,888 x 11.4 days per person per year =	day	32,941 per year
4)	Cost of not workable period for water fetching		
	Labour fee: Kina 10 per day x 32,941 days/year =	Kina	329,413 per year
5	Total cost occurred for the entire District Town per year		
	Sum of the above listed 1, 2, 3-2), 3-4), 4-4)	Kina	482,493 per year

Assumptions for economic analysis
Estimated economic cost in the District Town

Name of District Town: Kupiano

Year 2001-2004			
1	Provincial Government is allocating budget for O, M&M of WSS at district town	Kina	50,000 per year
2	Provincial Government or Dept. of Works is paying salary of the water operator	Kina	12,000 per year
3	Cost of medical care in case of water related diseases		
1)	Occurrence of water related diseases Assumed as follows:		
	Population in 2015		7,809
	Population 7,809 x 1 times / year =	Cases	7,809 per year
2)	Cost of medical care per case assumed at Kina 5 per case x 7,809 cases/year =	Kina	39,045 per year
3)	Duration of sickness Required days to be cured per case 3 days/case 7,809 cases/year =		23,427 days/year
4)	Cost of not workable period due to sickness Labour fee: Kina 10 per day x 23,427 days/year =	Kina	234,270 per year
4	Water fetching time and energy		
1)	Walking time for water fetching 15 minutes/time		
2)	Water fetching times 1 times per day 15 minutes per day =		0.25 hour/day
3)	Total water fetching time 0.25 hour/day = (8hours=1day) day		11.4 per year
	Population 7,809 x 11.4 days per person per year =	day	89,071 per year
4)	Cost of not workable period for water fetching Labour fee: Kina 10 per day x 89,071 days/year =	Kina	890,714 per year
5	Total cost occurred for the entire District Town per year		
	Sum of the above listed 1, 2, 3-2), 3-4), 4-4)	Kina	1,226,029 per year

Year 2005-2009			
1	Provincial Government is allocating budget for O, M&M of WSS at district town	Kina	50,000 per year
2	Provincial Government or Dept. of Works is paying salary of the water operator	Kina	12,000 per year
3	Cost of medical care in case of water related diseases		
1)	Occurrence of water related diseases Assumed as follows:		
	Population in 2015		8,621
	Population 8,621 x 1 times / year =	Cases	8,621 per year
2)	Cost of medical care per case assumed at Kina 5 per case x 8,621 cases/year =	Kina	43,105 per year
3)	Duration of sickness Required days to be cured per case 3 days/case 8,621 cases/year =		25,863 days/year
4)	Cost of not workable period due to sickness Labour fee: Kina 10 per day x 25,863 days/year =	Kina	258,630 per year
4	Water fetching time and energy		
1)	Walking time for water fetching 15 minutes/time		
2)	Water fetching times 1 times per day 15 minutes per day =		0.25 hour/day
3)	Total water fetching time 0.25 hour/day = (8hours=1day) day		11.4 per year
	Population 8,621 x 11.4 days per person per year =	day	98,333 per year
4)	Cost of not workable period for water fetching Labour fee: Kina 10 per day x 98,333 days/year =	Kina	983,333 per year
5	Total cost occurred for the entire District Town per year		
	Sum of the above listed 1, 2, 3-2), 3-4), 4-4)	Kina	1,347,068 per year

Year 2010-2014			
1	Provincial Government is allocating budget for O, M&M of WSS at district town	Kina	50,000 per year
2	Provincial Government or Dept. of Works is paying salary of the water operator	Kina	12,000 per year
3	Cost of medical care in case of water related diseases		
1)	Occurrence of water related diseases Assumed as follows:		
	Population in 2015		9,511
	Population 9,511 x 1 times / year =	Cases	9,511 per year
2)	Cost of medical care per case assumed at Kina 5 per case x 9,511 cases/year =	Kina	47,555 per year
3)	Duration of sickness Required days to be cured per case 3 days/case 9,511 cases/year =		28,533 days/year
4)	Cost of not workable period due to sickness Labour fee: Kina 10 per day x 28,533 days/year =	Kina	285,330 per year
4	Water fetching time and energy		
1)	Walking time for water fetching 15 minutes/time		
2)	Water fetching times 1 times per day 15 minutes per day =		0.25 hour/day
3)	Total water fetching time 0.25 hour/day = (8hours=1day) day		11.4 per year
	Population 9,511 x 11.4 days per person per year =	day	108,485 per year
4)	Cost of not workable period for water fetching Labour fee: Kina 10 per day x 108,485 days/year =	Kina	1,084,848 per year
5	Total cost occurred for the entire District Town per year		
	Sum of the above listed 1, 2, 3-2), 3-4), 4-4)	Kina	1,478,733 per year

Year 2015			
1	Provincial Government is allocating budget for O, M&M of WSS at district town	Kina	50,000 per year
2	Provincial Government or Dept. of Works is paying salary of the water operator	Kina	12,000 per year
3	Cost of medical care in case of water related diseases		
1)	Occurrence of water related diseases Assumed as follows:		
	Population in 2015		10,495
	Population 10,495 x 1 times / year =	Cases	10,495 per year
2)	Cost of medical care per case assumed at Kina 5 per case x 10,495 cases/year =	Kina	52,475 per year
3)	Duration of sickness Required days to be cured per case 3 days/case 10,495 cases/year =		31,485 days/year
4)	Cost of not workable period due to sickness Labour fee: Kina 10 per day x 31,485 days/year =	Kina	314,850 per year
4	Water fetching time and energy		
1)	Walking time for water fetching 15 minutes/time		
2)	Water fetching times 1 times per day 15 minutes per day =		0.25 hour/day
3)	Total water fetching time 0.25 hour/day = (8hours=1day) day		11.4 per year
	Population 10,495 x 11.4 days per person per year =	day	119,709 per year
4)	Cost of not workable period for water fetching Labour fee: Kina 10 per day x 119,709 days/year =	Kina	1,197,086 per year
5	Total cost occurred for the entire District Town per year		
	Sum of the above listed 1, 2, 3-2), 3-4), 4-4)	Kina	1,826,411 per year

Assumptions for economic analysis
Estimated economic cost in the District Town

Name of District Town: Finsohhafen

Year 2001-2004			
1	Provincial Government is allocating budget for O, M&M of WSS at district town	Kina	50,000 per year
2	Provincial Government or Dept. of Works is paying salary of the water operator	Kina	12,000 per year
3	Cost of medical care in case of water related diseases		
1)	Occurrence of water related diseases Assumed as follows:		
	Population in 2015		4,228
	Population 4,228 x 1 times / year =	Cases	4,228 per year
2)	Cost of medical care per case assumed at Kina 5 per case x 4,228 cases/year =	Kina	21,140 per year
3)	Duration of sickness		
	Required days to be cured per case 3 days/case 4,228 cases/year =		12,684 days/year
4)	Cost of not workable period due to sickness		
	Labour fee: Kina 10 per day x 12,684 days/year =	Kina	126,840 per year
4	Water fetching time and energy		
1)	Walking time for water fetching 15 minutes/time		
2)	Water fetching times 1 times per day 15 minutes per day =		0.25 hour/day
3)	Total water fetching time 0.25 hour/day = (8hours=1day) day =		11.4 per year
	Population 4,228 x 11.4 days per person per year =	day	48,226 per year
4)	Cost of not workable period for water fetching		
	Labour fee: Kina 10 per day x 48,226 days/year =	Kina	482,256 per year
5	Total cost occurred for the entire District Town per year		
	Sum of the above listed 1, 2, 3-2), 3-4), 4-4)	Kina	682,236 per year

Year 2005-2009			
1	Provincial Government is allocating budget for O, M&M of WSS at district town	Kina	50,000 per year
2	Provincial Government or Dept. of Works is paying salary of the water operator	Kina	12,000 per year
3	Cost of medical care in case of water related diseases		
1)	Occurrence of water related diseases Assumed as follows:		
	Population in 2015		4,532
	Population 4,532 x 1 times / year =	Cases	4,532 per year
2)	Cost of medical care per case assumed at Kina 5 per case x 4,532 cases/year =	Kina	22,660 per year
3)	Duration of sickness		
	Required days to be cured per case 3 days/case 4,532 cases/year =		13,596 days/year
4)	Cost of not workable period due to sickness		
	Labour fee: Kina 10 per day x 13,596 days/year =	Kina	135,960 per year
4	Water fetching time and energy		
1)	Walking time for water fetching 15 minutes/time		
2)	Water fetching times 1 times per day 15 minutes per day =		0.25 hour/day
3)	Total water fetching time 0.25 hour/day = (8hours=1day) day =		11.4 per year
	Population 4,532 x 11.4 days per person per year =	day	51,693 per year
4)	Cost of not workable period for water fetching		
	Labour fee: Kina 10 per day x 51,693 days/year =	Kina	516,931 per year
5	Total cost occurred for the entire District Town per year		
	Sum of the above listed 1, 2, 3-2), 3-4), 4-4)	Kina	737,551 per year

Year 2010-2014			
1	Provincial Government is allocating budget for O, M&M of WSS at district town	Kina	50,000 per year
2	Provincial Government or Dept. of Works is paying salary of the water operator	Kina	12,000 per year
3	Cost of medical care in case of water related diseases		
1)	Occurrence of water related diseases Assumed as follows:		
	Population in 2015		4,858
	Population 4,858 x 1 times / year =	Cases	4,858 per year
2)	Cost of medical care per case assumed at Kina 5 per case x 4,858 cases/year =	Kina	24,290 per year
3)	Duration of sickness		
	Required days to be cured per case 3 days/case 4,858 cases/year =		14,574 days/year
4)	Cost of not workable period due to sickness		
	Labour fee: Kina 10 per day x 14,574 days/year =	Kina	145,740 per year
4	Water fetching time and energy		
1)	Walking time for water fetching 15 minutes/time		
2)	Water fetching times 1 times per day 15 minutes per day =		0.25 hour/day
3)	Total water fetching time 0.25 hour/day = (8hours=1day) day =		11.4 per year
	Population 4,858 x 11.4 days per person per year =	day	55,412 per year
4)	Cost of not workable period for water fetching		
	Labour fee: Kina 10 per day x 55,412 days/year =	Kina	554,116 per year
5	Total cost occurred for the entire District Town per year		
	Sum of the above listed 1, 2, 3-2), 3-4), 4-4)	Kina	786,146 per year

Year 2015			
1	Provincial Government is allocating budget for O, M&M of WSS at district town	Kina	50,000 per year
2	Provincial Government or Dept. of Works is paying salary of the water operator	Kina	12,000 per year
3	Cost of medical care in case of water related diseases		
1)	Occurrence of water related diseases Assumed as follows:		
	Population in 2015		5,209
	Population 5,209 x 1 times / year =	Cases	5,209 per year
2)	Cost of medical care per case assumed at Kina 5 per case x 5,209 cases/year =	Kina	26,045 per year
3)	Duration of sickness		
	Required days to be cured per case 3 days/case 5,209 cases/year =		15,627 days/year
4)	Cost of not workable period due to sickness		
	Labour fee: Kina 10 per day x 15,627 days/year =	Kina	156,270 per year
4	Water fetching time and energy		
1)	Walking time for water fetching 15 minutes/time		
2)	Water fetching times 1 times per day 15 minutes per day =		0.25 hour/day
3)	Total water fetching time 0.25 hour/day = (8hours=1day) day =		11.4 per year
	Population 5,209 x 11.4 days per person per year =	day	59,415 per year
4)	Cost of not workable period for water fetching		
	Labour fee: Kina 10 per day x 59,415 days/year =	Kina	594,152 per year
5	Total cost occurred for the entire District Town per year		
	Sum of the above listed 1, 2, 3-2), 3-4), 4-4)	Kina	838,467 per year

Assumptions for economic analysis
Estimated economic cost in the District Town

Name of District Town: Oro Bay

Year 2001-2004			
1	Provincial Government is allocating budget for O, M&M of WSS at district town	Kina	0 per year
2	Provincial Government or Dept. of Works is paying salary of the water operator	Kina	0 per year
3	Cost of medical care in case of water related diseases		
1)	Occurrence of water related diseases Assumed as follows:		
	Population in 2015		4,225
	Population 4,225 x 1 times / year =	Cases	4,225 per year
2)	Cost of medical care per case assumed at Kina 5 per case x 4,225 cases/year =	Kina	21,125 per year
3)	Duration of sickness Required days to be cured per case 3 days/case 4,225 cases/year =		12,675 days/year
4)	Cost of not workable period due to sickness Labour fee: Kina 10 per day x 12,675 days/year =	Kina	126,750 per year
4	Water fetching time and energy		
1)	Walking time for water fetching 15 minutes/time		
2)	Water fetching times 1 times per day 15 minutes per day =		0.25 hour/day
3)	Total water fetching time 0.25 hour/day = (8hours=1day) day =		11.4 per year
	Population 4,225 x 11.4 days per person per year =	day	48,191 per year
4)	Cost of not workable period for water fetching Labour fee: Kina 10 per day x 48,191 days/year =	Kina	481,914 per year
5	Total cost occurred for the entire District Town per year		
	Sum of the above listed 1, 2, 3-2), 3-4), 4-4)	Kina	629,789 per year

Year 2005-2009			
1	Provincial Government is allocating budget for O, M&M of WSS at district town	Kina	0 per year
2	Provincial Government or Dept. of Works is paying salary of the water operator	Kina	0 per year
3	Cost of medical care in case of water related diseases		
1)	Occurrence of water related diseases Assumed as follows:		
	Population in 2015		4,770
	Population 4,770 x 1 times / year =	Cases	4,770 per year
2)	Cost of medical care per case assumed at Kina 5 per case x 4,770 cases/year =	Kina	23,850 per year
3)	Duration of sickness Required days to be cured per case 3 days/case 4,770 cases/year =		14,310 days/year
4)	Cost of not workable period due to sickness Labour fee: Kina 10 per day x 14,310 days/year =	Kina	143,100 per year
4	Water fetching time and energy		
1)	Walking time for water fetching 15 minutes/time		
2)	Water fetching times 1 times per day 15 minutes per day =		0.25 hour/day
3)	Total water fetching time 0.25 hour/day = (8hours=1day) day =		11.4 per year
	Population 4,770 x 11.4 days per person per year =	day	54,408 per year
4)	Cost of not workable period for water fetching Labour fee: Kina 10 per day x 54,408 days/year =	Kina	544,078 per year
5	Total cost occurred for the entire District Town per year		
	Sum of the above listed 1, 2, 3-2), 3-4), 4-4)	Kina	711,028 per year

Year 2010-2014			
1	Provincial Government is allocating budget for O, M&M of WSS at district town	Kina	0 per year
2	Provincial Government or Dept. of Works is paying salary of the water operator	Kina	0 per year
3	Cost of medical care in case of water related diseases		
1)	Occurrence of water related diseases Assumed as follows:		
	Population in 2015		5,387
	Population 5,387 x 1 times / year =	Cases	5,387 per year
2)	Cost of medical care per case assumed at Kina 5 per case x 5,387 cases/year =	Kina	28,935 per year
3)	Duration of sickness Required days to be cured per case 3 days/case 5,387 cases/year =		16,161 days/year
4)	Cost of not workable period due to sickness Labour fee: Kina 10 per day x 16,161 days/year =	Kina	161,610 per year
4	Water fetching time and energy		
1)	Walking time for water fetching 15 minutes/time		
2)	Water fetching times 1 times per day 15 minutes per day =		0.25 hour/day
3)	Total water fetching time 0.25 hour/day = (8hours=1day) day =		11.4 per year
	Population 5,387 x 11.4 days per person per year =	day	61,445 per year
4)	Cost of not workable period for water fetching Labour fee: Kina 10 per day x 61,445 days/year =	Kina	614,455 per year
5	Total cost occurred for the entire District Town per year		
	Sum of the above listed 1, 2, 3-2), 3-4), 4-4)	Kina	803,000 per year

Year 2015			
1	Provincial Government is allocating budget for O, M&M of WSS at district town	Kina	0 per year
2	Provincial Government or Dept. of Works is paying salary of the water operator	Kina	0 per year
3	Cost of medical care in case of water related diseases		
1)	Occurrence of water related diseases Assumed as follows:		
	Population in 2015		6,084
	Population 6,084 x 1 times / year =	Cases	6,084 per year
2)	Cost of medical care per case assumed at Kina 5 per case x 6,084 cases/year =	Kina	30,420 per year
3)	Duration of sickness Required days to be cured per case 3 days/case 6,084 cases/year =		18,252 days/year
4)	Cost of not workable period due to sickness Labour fee: Kina 10 per day x 18,252 days/year =	Kina	182,520 per year
4	Water fetching time and energy		
1)	Walking time for water fetching 15 minutes/time		
2)	Water fetching times 1 times per day 15 minutes per day =		0.25 hour/day
3)	Total water fetching time 0.25 hour/day = (8hours=1day) day =		11.4 per year
	Population 6,084 x 11.4 days per person per year =	day	69,396 per year
4)	Cost of not workable period for water fetching Labour fee: Kina 10 per day x 69,396 days/year =	Kina	693,956 per year
5	Total cost occurred for the entire District Town per year		
	Sum of the above listed 1, 2, 3-2), 3-4), 4-4)	Kina	906,896 per year

Planned Population for Water Supply and Estimated Amount of Water Bill

	District Town	Households Year 2000	Population Year 2000	Person per household	Planned Population for Water Supply			Estimated No. of Household		
					Year 2005	Year 2010	Year 2015	Year 2005	Year 2010	Year 2015
1)	Bereina	194	1,343	7	1,483	1,636	1,805	214	236	261
2)	Kupiano	837	7,809	9	8,621	9,511	10,495	924	1,019	1,125
3)	Kwikila	211	2,926	14	3,197	3,488	3,821	231	252	276
4)	Finschhafen	297	4,228	14	4,532	4,858	5,209	318	341	366
5)	Mutzing	163	2,100	13	2,335	2,598	2,888	181	202	224
6)	Oro Bay	467	4,225	9	4,770	5,387	6,084	527	595	672

	Estimated Water Bill per Household (Kina/month)				Total Amount of Water Bills (domestic users, Kina/month)			
	Year2000	Year2005	Year2010	Year2015	Year2000	Year2005	Year2010	Year2015
1)	3.50	3.50	3.50	3.50	679	750	827	913
2)	3.50	3.50	3.50	3.50	2,930	3,234	3,568	3,937
3)	3.50	3.50	3.50	3.50	739	807	880	964
4)	3.50	3.50	3.50	3.50	1,040	1,114	1,194	1,281
5)	3.50	3.50	3.50	3.50	571	634	706	785
6)	3.50	3.50	3.50	3.50	1,635	1,845	2,084	2,354

	Total Amount of Water Bills (institutional users, K/m)				Total Amount of Water Bills (all users, Kina/month)			
	Year2000	Year2005	Year2010	Year2015	Year2000	Year2005	Year2010	Year2015
1)	220	220	242	266	899	970	1,069	1,179
2)	2,000	2,000	2,200	2,420	4,930	5,234	5,768	6,357
3)	2,000	2,000	2,200	2,420	2,739	2,807	3,080	3,384
4)	2,000	2,000	2,200	2,420	3,040	3,114	3,394	3,701
5)	1,000	1,000	1,100	1,210	1,571	1,634	1,806	1,995
6)	50	50	55	61	1,685	1,895	2,139	2,414

Approximate Construction Cost of Water Supply System

	District Towns	Approximate Construction Cost of Water Supply System				
		Stage- I	Stage- II	Stage- III	Total (Aus\$)	Total (Kina)
1)	Bereina	890,600	531,000	367,800	1,789,400	2,982,333
2)	Kupiano	2,058,700	1,610,700	1,969,400	5,638,800	9,398,000
3)	Kwikila	932,300	789,200	438,000	2,159,500	3,599,167
4)	Finschhafen	1,182,300	944,350	1,359,000	3,485,650	5,809,417
5)	Mutzing	490,400	309,600	—	800,000	1,333,333
6)	Oro Bay	1,271,820	1,644,240	789,000	3,705,060	6,175,100

*Aus\$0.60=Kina1.00

Pilot Project Data

Data of Pre-registration for financial estimation

Bereina

Num.	1. Name	2. Location	3. Number	4. User Type			Consumption per capita (l/day)	Number of people	Consumption Monthly (m3)	Water Rate upto 12m3	K0.64/m3 13-30m3	K1.05/m3 over 30m3	Total Amount
				House	Public	Private							
1	Salome Veau	Lot6/Sec.5	5	House	1		65	5	9.89	3.5			3.50
2	Gaiamo Raga		8	House	1		65	8	15.82	3.5	2.44		5.94
3	Dastor L. Silona		6	House	1		65	6	11.86	3.5			3.50
4	Elizabeth English (Abiaoa)	Block 19	3	House	1		65	3	5.93	3.5			3.50
5	Santo Willie	Lot9/Sec.12	4	House	1		65	4	7.91	3.5			3.50
6	Louis & Bros Club	Lot6/Sec.3	6	Private Institution		1	65	6	11.86	3.5			3.50
7	Christian Life Centre	Lot12/Sec.6	6	Private Institution		1	65	6	11.86	3.5			3.50
8	Nathan Peter Aisa		10	House	1		65	10	19.77	3.5	4.97		8.47
9	Sinai Koko	Lot9-10/Sec.4		House	1		65	0	0.00	3.5			3.50
10	Kipale Magamaga	Lot15/Sec.6		House	1		65	0	0.00	3.5			3.50
11	Works	Lot1/Sec.5	8	Public Institution		1	33	8	8.03	3.5			3.50
12	Works	Lot3/Sec.8	8	Public Institution		1	33	8	8.03	3.5			3.50
13	Tariu Alova	Lot5/Sec.5	7	House	1		65	7	13.84	3.5	1.18		4.68
14	Mark Simon	Lot19/Sec.14	10	House	1		65	10	19.77	3.5	4.97		8.47
15	John Miria	Paikua Trading	5	House	1		65	5	9.89	3.5			3.50
16	Uku Laela	Lot13/Sec.5	4	House	1		65	4	7.91	3.5			3.50
17	Lousia Miria	Health 26	7	House	1		65	7	13.84	3.5	1.18		4.68
18	Henry S.V.Natbra	Commercial Block	8	House	1		65	8	15.82	3.5	2.44		5.94
19	Faroro Vaibi	Lot6/Sec.6	7	House	1		65	7	13.84	3.5	1.18		4.68
20	Manu Ambo	Lot16/Sec.15	7	House	1		65	7	13.84	3.5	1.18		4.68
21	Lucas Martin	Lot17/Sec.5	3	House	1		65	3	5.93	3.5			3.50
22	Koae Family	Sec.13(School Area)	5	House	1		65	5	9.89	3.5			3.50
23	Primary School	School Area	294	Public Institution		1	7	294	8.94	3.5			3.50
24	Moses Christopher	Lot11/Sec.14	5	House	1		65	5	9.89	3.5			3.50
25	Sir Charlie Mkino	Lot1/Sec.15	10	House	1		65	10	19.77	3.5	11.52		15.02
26	Simon Aitsi	Lot18/Sec.2	7	House	1		65	7	13.84	3.5	1.18		4.68
27	Mary Oa	Lot9/Sec.15	4	House	1		65	4	7.91	3.5			3.50
28	Patrick Oa	Lot1/Sec.4	7	House	1		65	7	13.84	3.5	1.18		4.68
29	Philip Weka	Lot6/Sec.9	8	House	1		65	8	15.82	3.5	2.44		5.94
30	William Mera	Lot4/Sec.9(Police Barrack)	10	House	1		65	10	19.77	3.5	4.97		8.47
31	Pastor Resident	Church Yard	5	House	1		65	5	9.89	3.5			3.50
32	United Church	Church Yard	100	Private Institution		1	5	100	2.77	3.5			3.50
33	Henry S.V.Natera		24	House	1		65	24	47.45	3.5	11.52	18.32	33.34
34	Steven & Brothers		20	Private Institution		1	65	20	39.54	3.5	11.52	10.02	25.04
35	Tarussius Kilei	Sec.6 8/9	10	House	1		65	10	19.77	3.5	4.97		8.47
36	Rapheal Koina	Lot4/Sec.19	1	House	1		65	1	1.98	3.5			3.50
37	Francis Aisi		20	This is settlement and not for connection.									
38	Kimen Wanebe	Lot1/Sec.19	7	House	1		65	7	13.84	3.5	1.18		4.68
39	George Maino	Lot11/Sec.12	8	House	1		65	8	15.82	3.5	2.44		5.94
40	Andrew Tou	Num.25/Sec.14	6	House	1		65	6	11.86	3.5			3.50
41	Itu Birug	Lot4/Sec.14	5	House	1		65	5	9.89	3.5			3.50
42	Verjus Formation House	Seminary	10	Private Institution		1	65	10	19.77	3.5	4.97		8.47
43	Office	Diocese Building	412	Private Institution		1	5	412	8.95	3.5			3.50
44	Lawrence Aminae	House Num.23	5	House	1		65	5	9.89	3.5			3.50
45	Henry Ameua	78/Opposite Catholic	7	House	1		65	7	13.84	3.5			3.50
46	Agatha Palu	Health Centre	4	House	1		65	4	7.91	3.5			3.50
47	Leo Oaoke	Lot4/Sec.14	7	House	1		65	7	13.84	3.5			3.50
48	Aloysius Lage	Lot11/Sec.6		House	1		65	0	0.00	3.5			3.50
49	Emmanuel Oa	Settlement Toorent	9										
50	John Tambag	Lot4/Sec.5	1	House	1		65	1	1.98	3.5			3.50

51	Magaret Erue		3	House				65	3	5.93	3.5			3.50	
52	District Office			Public Institution		1		33	0	0.00	3.5			3.50	
53	Aminae Joseph Aisa	C.M.Mission Area	7	House		1		65	7	13.84	3.5			3.50	
	Dept of Work PTB	Sec.15/PTB													
54	Bereina	Workshop	2	Public Institution		1		33	2	2.01	3.5			3.50	
55	Kevin Unobo	Lot4/Sec.2	5	House		1		65	5	9.89	3.5			3.50	
56	Tariu Alova	Lot7/Sec.5	5	House		1		65	5	9.89	3.5			3.50	
57	Work (PTB) House	Lot11/Sec.4		House		1		65	0	0.00	3.5			3.50	
58	Peter Katre	Lot10/Sec.8	8	House		1		65	8	15.82	3.5			3.50	
59	Gregory Ameua	Lot3/Sec.19	12	House		1		65	12	23.73	3.5			3.50	
60	George Mapai	Lot3/Sec.1		House		1		65	0	0.00	3.5			3.50	
61	Rakani Aisi	Lot11/Sec.15	8	House		1		65	8	15.82	3.5			3.50	
62	Tua Naima	Lot12/Sec.11		House		1		65	0	0.00	3.5			3.50	
63	Market (LLG)	Market Place	500	Public Institution		1		7	500	10.86	3.5			3.50	
64	LLG	Lot4/Sec.3	12	Public Institution		1		33	12	12.05	3.5	0.03		3.53	
65	Chamber	Lot4/Sec.3	30	Public Institution		1		5	30	4.56	3.5			3.50	
66	tor	Lot4/Sec.3	4	Public Institution		1		33	4	4.02	3.5			3.50	
67	Richard Naimg	Lot12/Sec.11	6	House		1		65	6	11.86	3.5			3.50	
68	Filoua Manau	Block	15	House		1		65	15	29.66	3.5	11.30		14.80	
69	DAL Compound	Admin Compornrd	25	Public Institution		1		45	25	34.22	3.5	11.52	4.43	19.45	
70	Fabianna Baelte	Lot6/Sec.7	5	House		1		65	5	9.89	3.5			3.50	
71	Geno Kala	Lot18/Sec.14	7	House		1		65	7	13.84	3.5			3.50	
72	Celistine Iova	Lot6/Sec.14	4	House		1		65	4	7.91	3.5			3.50	
73	Agnes Oae	Lot9/Sec.11	4	House		1		65	4	7.91	3.5			3.50	
74	Varina Koai	Lot1/Sec.7	5	House		1		65	5	9.89	3.5			3.50	
75	Kaiviti Perai	Lot2/Sec.7	5	House		1		65	5	9.89	3.5			3.50	
76	Bruce B. Moide	Lot7-8/Sec.4	1	House		1		65	1	1.98	3.5			3.50	
77	Mary Avia	Lot13/Sec.6	9	House		1		65	9	17.79	3.5			3.50	
78	Martin Jabu	Lot14/Sec.12	8	House		1		65	8	15.82	3.5			3.50	
79	Sam Hofaue Kawene	Lot13/Sec.14	4	House		1		65	4	7.91	3.5			3.50	
80	Henry Emai	Lot2/Sec.19	12	House		1		65	12	23.73	3.5			3.50	
81	Francis Aisi	Lot14/Sec.16	3	House		1		65	3	5.93	3.5			3.50	
82	Muruvu Karu		9	House	DAL	1		65	9	17.79	3.5			3.50	
83	Michael Willie	Lot8/Sec.12	6	House		1		65	6	11.86	3.5			3.50	
84	Koi One	Lot7/Sec.2	13	House		1		65	13	25.70	3.5			3.50	
85	Margaret Banam	Sect.23	6	House		1		65	6	11.86	3.5			3.50	
86	Mark Ame Orere	Lot6/Sec.5	1	House		1		65	1	1.98	3.5			3.50	
87	Zvori Vuatha	Lot6/Sec.4	7	House		1		65	7	13.84	3.5			3.50	
88	Paul B. Aitsi	Lot3/Sec.2	7	House		1		65	7	13.84	3.5			3.50	
	Sub-total Population		1891			70	11	6	Sub-total Station	1862	1027.1	301.0	100.3	32.8	434.1
	(Houses)		454						(Houses)		840.26				335.57
	(Public Institution)		883						(Public Institution)		92.71				50.98
	(Private Institution)		554						(Private Institution)		94.16				47.51
	Health Center In-patient		20						130	20	79.08				
	Health Center Out-patient		15						33	15	15.06				
	Health Center Staff		38						33	38	38.14				
	*not yet pre-registered						1		Sub-total of Health Center		132.28	3.5	11.52	107.40	122.42
1	Tooreno 1	7HH	41	Village					40litre/HH/d	7	8.52	3.50			3.50
2	Tooreno 2	9HH	47	Village					40litre/HH/d	9	10.95	3.50			3.50
3	Ponepone1	10HH	65	Village					40litre/HH/d	10	12.17	3.50	0.11		3.61
4	Ponepone2	10HH	65	Village					40litre/HH/d	10	12.17	3.50	0.11		3.61
5	Paikua	16HH	95	Village					40litre/HH/d	16	19.47	3.50	4.78		8.28
6	Kuroapaina	5HH	44	Village					40litre/HH/d	5	6.08	3.50			3.50
7	Baukeke	23HH	60	Village					40litre/HH/d	23	27.98	3.50	10.23		13.73
8	Hihive 1	11HH	56	Village					40litre/HH/d	11	13.38	3.50	0.89		4.39
9	Hihive 2	5HH	30	Village					40litre/HH/d	5	6.08	3.50			3.50
									Sub-total Village		116.80				47.61
									Grand Total		1276.2				504.08

Data of Pre-registration for financial estimation

Kwikila

Num.	1. Name	2. Location	3. Number	4. User Type	House			Consumption per capita (l/day)	Number of people	Consumption Monthly (m ³)	Water Rate upto 12m ³	K0.64/m ³ 13-30m ³	K1.05/m ³ over 30m ³	Total Amount
					House	Public	Private							
1	Ani Vali Eaterprises	Lot1&2	6	House	1			65	6	11.86	3.5			3.50
2	Laka Kila Residence	Lot17/Sec.15	20	House	1			65	20	39.54	3.5	17.63	10.02	31.15
3	Pastor James Abel Kunei	Sec.9	100	House	1			65	100	187.71	3.5	11.52	176.09	191.11
4	Mr.Kauri Bora	Makam Compound	9	this is settlement and not for connection										
5	Willie Vetari	Lot2/Sec.0004	10	House	1			65	10	19.77	3.5	4.97		8.47
6	Saka Henari	Portion (13) Married	8	House	1			65	8	15.82	3.5	2.44		5.94
7	Ruruga Henari Resident	Lot12/Sec.5	7	House	1			65	7	13.84	3.5	1.18		4.68
8	Tom Solomon	Sec.12 Gilegelena Str	1	House	1			65	1	1.98	3.5			3.50
9	Tanu Transport Ltd.	Lot4/Sec.3	20	Private Institution			1	65	20	39.54	3.5	17.63	10.02	31.15
10	Manafu Arau	Lot3/Sec.12	7	House	1			65	7	13.84	3.5	1.18		4.68
11	Ibara Seibore	Council Yard	11	House	1			33	11	11.04	3.5			3.50
12	Kere Iovai	164	20	House	1			33	20	20.08	3.5	5.17		8.67
13	Ravora Ravora	Gilegilewa Street	6	House	1			65	6	11.86	3.5			3.50
14	Kurowa Waimai	Kurowa Waimai	6	House	1			65	6	11.86	3.5			3.50
15	Tawa Gebia	Lot6/Sec.8/Res No 1	7	House	1			65	7	13.84	3.5	1.18		4.68
16	Inavu Vuatha	Married Quarters of	7	House	1			65	7	13.84	3.5	1.18		4.68
17	Kila Nocia Bistoff	Married Quarters H	10	House	1			65	10	19.77	3.5	4.97		8.47
18	Koru Pene	Corner H/W St	9	House	1			65	9	17.79	3.5	3.71		7.21
19	Atenamo Soso	Lot28/Sec.26	7	House	1			65	7	13.84	3.5	1.18		4.68
20	Pate Kawaimu	Rest 81 Marrega Ou	16	House	1			65	16	31.63	3.5	11.52	1.72	16.74
21	Gebby Golutulu	No.4-22 (MQC)	5	House	1			65	5	9.89	3.5			3.50
22	National Judicial Staff Se	Bodo Street	5	Public Institution			1	33	5	5.02	3.5			3.50
23	Magistrate (NJSS)	Lot02/Sec.08/Corner	6	House	1			65	6	11.86	3.5			3.50
24	Steven Abisai (NJSS)	Lot7/Sec.6/Corner H	14	House	1			65	14	27.68	3.5	10.03		13.53
25	National Judicial Staff Se	Court House	10	Public Institution			1	33	10	10.04	3.5	11.52		15.02
26	Nigona Daba		10	House	1			65	10	19.77	3.5	4.97		8.47
27	Desmond Bowre	Kwikila Tarven	30	House	1			65	30	59.31	3.5	11.52	30.78	45.80
28	Rigo Central LLG (Green	Ra Mareva	9	Public Institution			1	33	9	9.03	3.5			3.50
29	Iamo Rarona	259	9	House	1			65	9	17.79	3.5	3.71		7.21
30	A.M.Motisi Coorinator C	Lot10/Sec.10	7	House	1			65	7	13.84	3.5	1.18		4.68
31	Stephen Benjamin	190	7	House	1			65	7	13.84	3.5	1.18		4.68
32	Rigo LLG	Council Chamber	30	Public Institution			1	33	30	4.30	3.5			3.50
33	Central Prov. Govt	Manubara Street	7	Public Institution			1	33	7	7.03	3.5			3.50
34	Joel Doana	Lot82/Res No 211	6	House	1			65	6	11.86	3.5			3.50
35	Varca Porua	Council Yard	7	House	1			65	7	13.84	3.5	1.18		4.68
36	Puri Geno	Gilegilewa Street	7	House	1			65	7	13.84	3.5	1.18		4.68
37	Police Station	Police Stasion	10	Public Institution			1	33	10					
38	Police Kwikila	Police Barracks	5	House	1			65	5	9.89	3.5			3.50
39	Police Kwikila	Police Barracks(253	5	House	1			65	5	9.89	3.5			3.50
40	Police	Police Barracks(255	5	House	1			65	5	9.89	3.5			3.50
41	Police Kwikila	Police Barracks(258	5	House	1			65	5	9.89	3.5			3.50
42	Police Kwikila	Police Barracks	5	House	1			65	5	9.89	3.5			3.50
43	Police Kwikila	Police Barracks(252	5	House	1			65	5	9.89	3.5			3.50
44	Police Kwikila	Police Barracks(249	5	House	1			65	5	9.89	3.5			3.50
45	Police Kwikila	Police Barracks(261	5	House	1			65	5	9.89	3.5			3.50
46	James R. Runei	? Quarter	10	House	1			65	10	19.77	3.5	4.97		8.47
47	Iga Navu	Sec.23 M/Quarter	5	House	1			65	5	9.89	3.5			3.50
48	Gabi Nobone	Lot4/ Sc.4 Works Cc	20	House	1			65	20	39.54	3.5	11.52	10.02	25.04
49	Gawaga K. Bowame		10	House	1			65	10	19.77	3.5			3.50
50	Ruga Amo	Married Quarters	10	House	1			65	10	19.77	3.5	4.97		8.47
51	Police Kwikila	Police Barracks(251	5	House	1			65	5	9.89	3.5			3.50
52	District Administration	Single Quarters Work	4	Public Institution			1	33	4	4.02	3.5			3.50
53	Philip Nakurubu/Dept of V	Married Quarters/Ho	6	House	1			65	6	11.86	3.5			3.50
54	Raga Gabi	200	10	House	1			65	10	19.77	3.5	4.97		8.47
55	Mr. Gorua Dirona	Lot6/Sec.13	20	House	1			65	20	39.54	3.5	11.52	10.02	25.04
56	Hebena Besoru	267 82	11	House	1			65	11	21.75	3.5	6.24		9.74
57	Jerry V. Rua	Kwikila	12	House	1			65	12	23.73	3.5	7.50		11.00
58	Police Kwikila	Police Barracks(262	5	House	1			65	5	9.89	3.5			3.50

59	Police	Police Barracks(247	5	House	1			65	5	9.89	3.5			3.50	
60	Police Kwilika	Police Barracks(250	5	House	1			65	5	9.89	3.5			3.50	
61	Mr. Mareva Gamoga	Ruatoka Primary Sch	10	House	1			65	10	19.77	3.5	4.97		8.47	
62	Treatment Plant (Adminis	Resident No.400	14	House	1			65	14	27.68	3.5	10.03		13.53	
63	Administration House (Government)		6	Public Institution				33	6	6.02	3.5			3.50	
64	Kwilika Secondary(Fred P	Kwilika Secondary	1000	Public Institution	1			55	1000	1,672.92	3.5	11.52	1,725.06	1,740.08	
65	Belajura Trs/Peter Tamilo	Lot5&6/Sec.3	8	House	1			65	8	15.82	3.5	2.44		5.94	
66	Ani Vali Garage	Lot3/Sec.4	10	Private Institution				65	10	19.77	3.5	4.97		8.47	
67	Ani Vali Enterprices	Lot234/Sec.1	10	Private Institution				65	10	19.77	3.5	4.97		8.47	
68	Kilage Anitali	House #1 (Flat)	4	House	1			65	4	7.91	3.5			3.50	
69	Students Dormitory	Boys Dorm	20	House	1			65	20	39.54	3.5	11.52	10.02	25.04	
70	Muri Barea	Ibo Transport Block	6	House	1			65	6	11.86	3.5			3.50	
71	Hagana Haroro	Lot9/Sec.10	7	House	1			65	7	13.84	3.5	1.18		4.68	
72	Silona Niagara		20	House	1			65	20	39.54	3.5	11.52	10.02	25.04	
73	Leala Tagka	Maria Street	7	House	1			65	7	13.84	3.5	1.18		4.68	
74	Atenamo Soso	Thboro Street	7	House	1			65	7	13.84	3.5	1.18		4.68	
75	Agnes Reata	Makia Street	4	House	1			65	4	7.91	3.5			3.50	
76	Edward Enoka Tom	Lot12/Sec.10	11	House	1			65	11	21.75	3.5	6.24		9.74	
77	Virgil Waisa		6	House	1			65	6	11.86	3.5			3.50	
78	Mero Seseka	114	4	House	1			65	4	7.91	3.5			3.50	
79	Tom Solomon		1	House	1			65	1	1.98	3.5			3.50	
80	Mrs. Rosemary Ahi	Lot20/Sec.8/Residen	7	House	1			65	7	13.84	3.5	1.18		4.68	
81	John Verave Kwarena	Lot22/Sec.8/R No 24	7	House	1			65	7	13.84	3.5	1.18		4.68	
82	Rhcisa Selapui	212	6	House	1			65	6	11.86	3.5			3.50	
83	Soldier Bale	Lot13/Sec.8/20	4	House	1			65	4	7.91	3.5			3.50	
84	5 Teacher Residence	House #5	1	House	1			65	1	1.98	3.5			3.50	
85	Keith Gaidoa	House #6	5	House	1			65	5	9.89	3.5			3.50	
86	Lalau Burawa	House #4	4	House	1			65	4	7.91	3.5			3.50	
87	Fnia Arum	House #2	3	House	1			65	3	5.93	3.5			3.50	
88	Vane Uke	House #8	1	House	1			65	1	1.98	3.5			3.50	
89	Home Economie C/Room	Bottom Class Room	1	House	1			65	1	1.98	3.5			3.50	
90	New uncomplete house		1	House	1			65	1	1.98	3.5			3.50	
91		House #3	1	House	1			65	1	1.98	3.5			3.50	
92	Alison Sikisi	Res No 30	3	House	1			65	3	5.93	3.5			3.50	
93	A Atop	Res 243	10	House	1			33	10	10.04	3.5			3.50	
94	District Office	District Office Buildin	30	Public Institution	1			33	30	30.11	3.5	11.52	0.12	15.14	
95	Harry Maiani	Ruatoka Primary Sch	10	House	1			65	10	19.77	3.5	4.97		8.47	
96	Unabe Vali	Ruatoka Primary Sch	8	House	1			65	8	15.82	3.5	2.44		5.94	
97	Gideon Aruhe		6	House	1			65	6	11.86	3.5			3.50	
98	Mr. Waoka Gaina	Location 6/Block 8	7	House	1			65	7	13.84	3.5	1.18		4.68	
99	Mr. Adka Albert	Kwilika H/C	6	House	1			65	6	11.86	3.5			3.50	
100	Bala Soldier	Kwilika Health Center	6	House	1			65	6	11.86	3.5			3.50	
101	Launce Vetari	Lot8/Sec.3	20	House	1			65	20	39.54	3.5	11.52	10.02	25.04	
102	Magini Raga		20	House	1			65	20	39.54	3.5	11.52	10.02	25.04	
		Sub-total Population	1,966		86	10	3	Sub-total Station		3,381.19	350.00	300.85	2013.92	2,664.77	
		(Houses)	815					(Houses)		1,553.62				825.43	
		(Public Institution)	1,111					(Public Institution)		1,748.48				1,791.24	
		(Private Institution)	40					(Private Institution)		79.08				48.09	
	Health Center In-patient		21						130	21	83.04				
	Health Center Out-patient		69						33	69	89.28				
	Health Center Staff		24						33	24	24.09				
								Sub-total of Health Center		176.39	3.5	11.52	153.71	168.73	
	Community School		303						7	303	9.22	3.5		3.50	
	Vocational Center		38						33	38	38.14	3.5	11.52	8.55	23.57
	*not yet pre-registered							Sub-total of not registered		223.75				195.80	
		27HH	180	Village						40litre/HH/d				8.52	3.50
								Sub-total of village		8.52				3.50	
								Grand Total		3,613.45				2,664.06	

Data of Pre-registration for financial estimation

Mutzing

Num.	1. Name	2. Location	3. Number	4. User Type	House			Consumption per capita (l/day)	Number of people	Consumption Monthly (m3)	Water Rate upto 12m3	K0.64/m3 13-30m3	K1.05/m3 over 30m3	Total Amount
					House	Public	Private							
1	Police Station		14	Public Institution				33	14	14.05	3.50	1.31	4.81	
2	DA Office(Main two stories)		2	Public Institution				33	6	6.02	3.50		3.50	
3	DA Office(one story)		16	Public Institution				33	16	16.08	3.50	2.60	6.10	
4	Edward Gurus		4	House	1			65		0.00	3.50		3.50	
5	District Treasurer(1)		5	House	1			65	6	11.86	3.50		3.50	
6	Weni Yabi		8	House	1			65	8	15.82	3.50	2.44	5.94	
7	Elcom Building		8	Public Institution				33	6	6.02	3.50		3.50	
8	Dakia Wokio		9	House	1			65	8	15.82	3.50	2.44	5.94	
9	John Nicholas		10	House	1			65	8	15.82	3.50	2.44	5.94	
10	Veronica Waffi		11	House	1			65	6	11.86	3.50		3.50	
11	Heo Residence		12	House	1			65	0	0.00	3.50		3.50	
12	Edwick Tally		13	House	1			65	7	13.84	3.50	1.18	4.68	
13	Sisters Quarters		14	House	1			65	4	7.91	3.50		3.50	
14	Wanti Wain		15	House	1			65	6	11.86	3.50		3.50	
15	Dick Marupi		16	House	1			65	6	11.86	3.50		3.50	
16	Joseph Busil		10	House	1			65	10	19.77	3.50	4.97	8.47	
17	Vacant House		18	House				65	0	0.00			0.00	
18	Dollig Kuingi		19	House	1			65	4	7.91	3.50		3.50	
19	Osa Akakavarn		20	House	1			65	10	19.77	3.50	4.97	8.47	
20	FAO House		21	Public Institution				33	0	0.00	3.50		3.50	
21	John Weslet		22	House	1			65	5	9.89	3.50		3.50	
22	District Treasurer(2)		24	House	1			65	4	7.91	3.50		3.50	
23	DAL Office		26	Public Institution				33	8	8.03	3.50		3.50	
24	Elementary School		27	Public Institution				33	60		3.50		3.50	
25	Paul Solok		28	House	1			65	9	17.79	3.50	3.71	7.21	
26	Arambi Kabung		29	House	1			65	6	11.86	3.50		3.50	
27	Martin Tetendau		30	House	1			65	5	9.89	3.50		3.50	
28	Serry Tuba		31	House	1			65	3	5.93	3.50		3.50	
29	Daniel Akau		32	House	1			65	2	3.95	3.50		3.50	
30	Baptist Church		33	Private Institution				65	0	0.00	3.50		3.50	
31	Fletuter Omba		34	House	1			65	9	17.79	3.50	3.71	7.21	
32	Kelly Unarb		35	House	1			65	4	7.91	3.50		3.50	
33	Alex Romosaso		36	House	1			65	8	15.82	3.50	2.44	5.94	
34	Jack Ombef		37	House	1			65	7	13.84	3.50	1.18	4.68	
35	Robert Unavo		38	House	1			65	8	15.82	3.50	2.44	5.94	
36	Rugum Tom		39	House	1			65	8	15.82	3.50	2.44	5.94	
37	Sam Maki		40	House	1			65	0	0.00	3.50		3.50	
38	Alexia Aris		41	House	1			65	5	9.89	3.50		3.50	
39	Ecare Kumangi		42	House	1			65	4	7.91	3.50		3.50	
40	John Hrali		43	House	1			65	7	13.84	3.50	1.18	4.68	
41	Ginga Singin		44	House	1			65	4	7.91	3.50		3.50	
42	Apo Posa		45	House	1			65	7	13.84	3.50	1.18	4.68	
43	Timothy Moses		46	House	1			65	6	11.86	3.50		3.50	
44	Kanigen Tawan		47	House	1			65	5	9.89	3.50		3.50	
45	Simon Are		48	House	1			65	6	11.86	3.50		3.50	
46	Desmond Timiyaso		49	House	1			65	7	13.84	3.50	1.18	4.68	
47	Vacant House		50	House				65	0	0.00			0.00	
48	Sr Latuo Ambrias		51	House	1			65	8	15.82	3.50	2.44	5.94	
49	Bruce Scty		52	House	1			65	6	11.86	3.50		3.50	
50	(MHC)		53	Public Institution				130		0.00				
51	MHC(Out Patient Section)		54	Public Institution				33		0.00				
52	MHC(Labour Ward)		55	Public Institution				33		0.00				
53	MHC(Ward 1/2)		56	Public Institution				33		0.00				
54	MHC(Ward 3/4)		57	Public Institution				33		0.00				
55	Block		58	Public Institution				33		0.00				
56	MHC(Administration Block)		59	Public Institution				33		0.00				
57	MHC(Intermediate Ward)		60	Public Institution				33		0.00				
74	MHC(Laboratory)		2	Public Institution				33		0.00				
	Health Center In-patient		40					130	40	158.17				

	Health Center Out-patient	89				33	69	69.28					
	Health Center Staff	53				33	53	53.20					
	*not yet pre-registered				1								
58	Vacant House	61	0	House		65	0	0.00				0.00	
59	Vacant House	62	0	House		65	0	0.00				0.00	
60	Joseph Sibron	63	10	House	1	65	10	19.77	3.50	4.97		8.47	
61	Joshva Moses	64	6	House	1	65	6	11.86	3.50			3.50	
62	John Liron	65	4	House	1	65	4	7.91	3.50			3.50	
63	Eddie Oyong	66	7	House	1	65	7	3.46	3.50			3.50	
64	Catholic Church	67	150	Private Institution		5	150	3.26	3.50			3.50	
65	Catechist House	68	10	House	1	65	10	19.77	3.50	4.97		8.47	
66	SDA Church	69	60	Private Institution		5	60	1.30	3.50			3.50	
67	Power House	70	0	Public Institution	1	33	0	0.00	3.50			3.50	
68	Mon Baraqua	71	7	House	1	65	7	13.84	3.50	1.18		4.68	
69	Otto Wawan	72	4	House	1	65	4	7.91	3.50			3.50	
70	Patryne Gabni	73	5	House	1	65	5	9.89	3.50			3.50	
71	Jim Aru	74	7	House	1	65	7	13.84	3.50	1.18		4.68	
72	Vacant House	75	0	House		65	0	0.00	3.50			3.50	
73	Pastor Yaki	76	8	House	1	65	8	15.82	3.50	2.44		5.94	
75	Mathias Silas	112	8	House	1	65	8	15.82	3.50	2.44		5.94	
76	Ben Jacob	120	4	House	1	65	4	7.91	3.50			3.50	
77	Timothy Moitz	108	3	House	1	65	3	5.93	3.50			3.50	
78	Clement Magun	113	6	House	1	65	6	11.86	3.50			3.50	
79	Therese Touta	121	7	House	1	65	7	13.84	3.50	1.18		4.68	
80	Kalova	107	8	House	1	65	8	15.82	3.50	2.44		5.94	
81	Elizah Timothy	MVH	4	House	1	65	4	7.91	3.50			3.50	
82	Wial Bobonga	115	8	House	1	65	8	15.82	3.50	2.44		5.94	
83	Simon S. Wakei	122	7	House	1	65	7	13.84	3.50	1.18		4.68	
84	Patrick Nembeli	110	6	House	1	65	6	11.86	3.50			3.50	
85	Stanis Gorei	111	8	House	1	65	8	15.82	3.50	2.44		5.94	
86	Francis Lani	MVH	12	House	1	65	12	23.73	3.50	7.50		11.00	
87	Philip Nuknuk	114	5	House	1	65	5	9.89	3.50			3.50	
88	Kosieng Sdagi	118	5	House	1	65	5	9.89	3.50			3.50	
89	D.Piliou Pindia	104	7	House	1	65	7	13.84	3.50			3.50	
90	Ben Yana	102	10	House	1	65	10	19.77	3.50	4.97		8.47	
91	Regina Kende	101	5	House	1	65	5	9.89	3.50			3.50	
	*Location number larger than 100 indicates resident in Markham Valley High School's boundary.												
	Sub-total Population	1,087			66	9	3	Sub-total Station	1,410.29	276.50	95.13	263.16	634.78
	(Houses)	583						(Houses)	1,074.92				592.37
	(Public Institution)	294						(Public Institution)	330.81				31.91
	(Private Institution)	210						(Private Institution)	4.56				10.50
	Markham Valley High School	632		Public Institution			55	632	1,057.28	3.50	11.52	1,078.65	1,093.67
	Mutzing Primary School	300		Public Institution		1	7	300	9.13	3.50			3.50
	Mutzing P.Sch. Teacher		5	House	1		65	5	9.89	3.50			3.50
	Mutzing P.Sch. Teacher		5	House	1		65	5	9.89	3.50			3.50
	Mutzing P.Sch. Teacher		5	House	1		65	5	9.89	3.50			3.50
	Mutzing P.Sch. Teacher		5	House	1		65	5	9.89	3.50			3.50
	Mutzing P.Sch. Teacher		5	House	1		65	5	9.89	3.50			3.50
	Mutzing P.Sch. Teacher		5	House	1		65	5	9.89	3.50			3.50
	Mutzing P.Sch. Teacher		5	House	1		65	5	9.89	3.50			3.50
	Mutzing P.Sch. Teacher		5	House	1		65	5	9.89	3.50			3.50
	Mutzing P.Sch. Teacher		5	House	1		65	5	9.89	3.50			3.50
	Mutzing P.Sch. Teacher		5	House	1		65	5	9.89	3.50			3.50
	Mutzing P.Sch.		5	House	1		65	5	9.89	3.50			3.50
	Shop along the road 1		5	Private Institution			65	5	9.89	3.50			3.50
	Shop along the road 2		5	Private Institution		1	65	5	9.89	3.50			3.50
	Shop along the road 3		5	Private Institution		1	65	5	9.89	3.50			3.50
	*not yet pre-registered												
	Sub-total of "not registered"								1,194.92	52.50	11.52	1,078.65	1,142.67
1	Mutzing Village	14HH	100	Village				40litre/HH/d	17.03	3.50	3.22		6.72
2	Sampubaguin Village	58HH	261	Village				40litre/HH/d	69.35	3.50	11.52	41.32	56.34
3	Intoaq Village	19HH	120	Village					45	3.50			
	Sub-total Village								98.38				63.06
	Grand Total								2,703.59				1,840.51

Simulation of Financial Balance for O,M&M of WSS at District Centres

Factors to be considered

INCOME

- a) Number of HH connected in town
- b) Number of HH using in villages
- c) Number of institution users connected
- d) Estimated water consumption of a) per month
- e) Estimated water consumption of b) per month
- f) Estimated water consumption of c) per month
- g) Water rate to be applied
- h) Water rate to be collected from a)
- i) *Water rate to be collected from b)*
- j) Water rate to be collected from c)

EXPENDITURE

- k) Energy cost; electricity from ELCOM (Kwikila,Mutzing)
- l) Energy cost; fuel for generator Bereina)
- m) Chemical cost; chlorine (brieching powder)
- n) Consumables cost; filter for generator (Bereina)
- o) Repair cost; submersible pump
- p) Repair cost; generator (Bereina)
- q) Repair cost; chlorinator
- r) Replacement cost; parts of solar pumping system (Bereina)
- s) Replacement cost; parts of pump
- t) Replacement cost; parts of generator (Bereina)
- u) Replacement cost; parts of chlorinator
- v) Replacement of valves
- w) Replacement cost; water meters
- x) Replacement cost; pipe PVC
- y) Replacement cost; pipe steel
- z) Replacement cost; others

- aa) *Staff salaries, wages & allowances*
- ab) *Staff Housing Allowance*
- ac) *Staff DMA*
- ad) *Staff cost; others*
- ae) *Communication; telephone/fax/postage*
- af) *Communication; internet provider*
- ag) *Fax & Copy machine; depreciation*
- ah)
- ai)
- aj) *Computer; hardware, depreciation*
- ak) *Computer; software*
- al) *Insurance; facility, equipment, staff, others*
- am) *Furnitures, depreciation*
- an) *Printing, stationery, sundry*
- ao) *Rent & rates; office*
- ap) *Security equipment; depreciation*
- aq) *Transport; bicycle, depreciation*
- ar) *Transport; maintenance*
- as) *Transport; fuel & oil*
- at) *Travelling expence; transport*
- au) *Travelling expence; allowances*
- av) *Travelling expence; accommodation*
- aw) *Administration cost of PNGWB Regional Office*

Summary of financial estimation of O.M&M at 3 Water District (Bereina, Kwikila and Mutzing)

	Name of Water District	Bereina	Kwikila	Mutzing	Total of 3 WDs
1)	Number of Users				
a)	Houses in Station (HH)	70	86	76	232
b)	Villages & Settlements (HH)	96	27	91	214
c)	Public & Private Institutions	12	16	17	45
	Total	178	129	184	491
2)	Estimated water consumption m3 per month in total				
a)	Houses in Station (HH)	840	1,554	1,174	3,568
b)	Villages & Settlements (HH)	117	9	98	224
c)	Public & Private Institutions	319	2,051	1,431	3,802
	Total	1,276	3,613	2,704	7,593
3)	Estimated bill amount Kina per month in total				
a)	Houses in Station (HH)	336	825	627	1,788
b)	Villages & Settlements (HH)	48	4	63	114
c)	Public & Private Institutions	221	2,035	1,150	3,406
	Total	604	2,864	1,841	5,309
4)	Requested subsidy of Provincial Government Kina per month	4,500	2,500	3,000	10,000
5)	Expected Revenue Kina per month	5,104	5,364	4,841	15,309
6)	Estimated Cost Kina per month				
X)	Energy and consumables	522	393	322	1,237
Y)	Personnel	2,478	2,478	2,478	7,433
Z)	Others	1,853	1,853	1,853	8,669
	Total	4,854	4,724	4,653	14,230
7)	Expected Financial Balance Kina per month	250	640	188	1,078

Simulation of Financial Balance for O,M&M of WSS at District Centres

Bereina

CONDITIONS	Management under PNGWB's Southern Regional Office at POM			
Power source:	Solar for 6hours/day operation, Diesel engine generator for 2hours/day operation			
Staff:	Operator	x	1 PNGWB's payroll	Grade7 stationed in Bereina
	Assistant	x	1 PNGWB's payroll	Grade4 stationed in Bereina
	Cashier	x	1 National Treasury Officer handles	
	*Regional Manager visits once a month from Regional Office.			
Office:	to be provided by the DA at free			
	Radiophon	x	1 Photocopy machine	x 0
	Fax	x	0 Furniture set	x 1
	Computer	x	0	
	Stationery	minimum		
Security service:	Guard	x	0 Security system to be installed	
Store space:	to be provided by the DA at free			
Transportation:	Vehicle	x	0	
	Motorbike	x	0	
	Bicycle	x	1	

REVENUE ESTIMATED

a)	Number of HH connected in town	70	HH		
b)	Number of HH using in villages	96	HH		
c)	Number of institution users connected	12	Institutions		
d)	Estimated water consumption of a) per month	840.26	m3		65L/c/d
e)	Estimated water consumption of b) per month	116.80	m3		120LHHc/d
f)	Estimated water consumption of c) per month	319.16	m3		Various
g)	Water rate to be applied		Standard		
h)	Water rate to be collected from a)	335.57		Total K/m	335.6
i)	Water rate to be collected from b)	47.61		Total K/m	47.6
j)	Water rate to be collected from c)	220.91		Total K/m	220.9
				Revenue in Month	604.1

EXPENDITURE ITEMS

				P/L basis	cashflow
i)	Energy cost; fuel for generator Bereina)				
	Generator: 10KVA Fuel:K/litr 0.842 Fuel/h:litre	10			
	Operation/day: hour 2 Fuel/m:lit	608	512.2	512.2	
m)	Chemical cost; chlorine (brieching powder)				
	Qty: supplied water x % 0.0001% 1.53				
	Price: K per kg 6.35 (K177.84/40kg; 70%purity)		9.7	9.7	
aa)	Staff salaries, wages & allowances				
	Operator Grade 7 Full time PNGWB (5days/month)		1211.54	1211.54	
	Assistant Grade 4 Full time PNGWB (5days/months)		807.7	807.7	
ab)	Staff Housing Allowance				
	Operator Grade 7 Full time PNGWB		166.7	166.7	
	Assistant Grade 4 Full time PNGWB		166.7	166.7	
ac)	Staff DMA				
	Operator Grade 7 Full time PNGWB		125	125	
ai)	Insurance; facility, equipment, staff, others				
	Insurance for the assets of K1.2million		416.7	416.7	
am)	Furnitures, depreciation				
	Table, chairs, others Assets (K) 1200 10yrs		10	0	
ap)	Security equipment; depreciatio Assets (K) 3000 5yrs		50	0	
aq)	Transport; bicycle, depreciation Assets (K) 1000 5yrs		16.7	0	
at)	Travelling expence; transport	40			
	PMV Cost per Ber-POM-Ber Amount per month (K)		80	80	
	Trips per month 2				
au)	Travelling expence; allowances	40			
	Allowance per trip Amount per month (K)		80	80	
	Trips per month 2				
av)	Travelling expence; accommodation	100			
	Accommodation fee per trip Amount per month (K)		200	200	
	Trips per month 2				
aw)	Administration cost of PNGWB Regional Office	L.S.	1,000	0	
	TOTAL		4,853	3,776	
BALANCE ESTIMATED		Basis	P/L	Cash flow	
	Income - Expenditure =	Balance	-4,249	-3,172	

Simulation of Financial Balance for O.M&M of WSS at District Centres

Kwikila

CONDITIONS		Management under PNGWB's Southern Regional Office at POM		
Power source:	ELCOM's electricity			
Stationed staff:	Operator	x	1 PNGWB's payroll	Grade7 stationed in Kwikila
	Assistant	x	1 PNGWB's payroll	Grade4 stationed in Kwikila
	Cashier	x	1 National Treasury Officer handles	
	*Regional Manager visits once a month from Regional Office.			
Office:	to be provided by the DA at free			
	Radiophon	x	1 Photocopy machine	x 0
	Fax	x	0 Furniture set	x 1
	Computer	x	0	
	Stationery	minimum		
Security service:	Guard	x	0 Security system to be installed	
Store space:	to be provided by the DA at free			
Transportation:	Vehicle	x	0	
	Motorbike	x	0	
	Bicycle	x	1	

REVENUE ESTIMATED

a)	Number of HH connected in town	86	HH		
b)	Number of HH using in villages	27	HH		
c)	Number of institution users connected	16	Institutions		
d)	Estimated water consumption of a) per month	1,553.62	m3		
e)	Estimated water consumption of b) per month	8.52	m3		
f)	Estimated water consumption of c) per month	2,051.31	m3		
g)	Water rate to be applied	Standard			
h)	Water rate to be collected from a)	825.43		Total K/m	825.4
i)	Water rate to be collected from b)	3.50		Total K/m	3.5
j)	Water rate to be collected from c)	2,035.13		Total K/m	2035.1
				Revenue in Month	2,864.1

EXPENDITURE ITEMS

		P/L basis	cashflow
k)	Energy cost; electricity from ELCOM (Kwikila, Mutzing)		
	Pump: KW 3.84 Tariff: K/KWh 0.184		
	Operation/day: hour 17 KWh/mont 1,986	365.4	365.4
m)	Chemical cost; chlorine (brieching powder)		
	Qty: supplied water x % 0.0001% 4.34		
	Price: K per kg 6.35 (K177.84/40kg; 70%purity)	27.5	27.5
aa)	Staff salaries, wages & allowances		
	Operator Grade 7 Full time PNGWB (5days/month)	1211.54	1211.54
	Assistant Grade 4 Full time PNGWB (5days/months)	807.7	807.7
ab)	Staff Housing Allowance		
	Operator Grade 7 Full time PNGWB	166.7	166.7
	Assistant Grade 4 Full time PNGWB	166.7	166.7
ac)	Staff DMA		
	Operator Grade 7 Full time PNGWB	125	125
	Insurance for the assets of K1.2million	416.7	416.7
am)	Security equipment; depreciation		
	Table, chairs, others Assets (K) 1200 10yrs	10	0
ap)	Security equipment; depreciatio Assets (K) 3000 5yrs	50	0
aq)	Transport; bicycle, depreciation Assets (K) 1000 5yrs	16.7	0
at)	Travelling expence; transport 40		
	PMV Cost per Kwi-POM-Kwi Amount per month (K)	80	80
	Trips per month 2		
au)	Travelling expence; allowances 40		
	Allowance per trip Amount per month (K)	80	80
	Trips per month 2		
av)	Travelling expence; accommodation 100		
	Accommodation fee per trip Amount per month (K)	200	200
	Trips per month 2		
aw)	Administration cost of PNGWB Regional Office L.S.	1,000	0
	TOTAL	4,724	3,647

BALANCE ESTIMATED

	Income - Expenditure =	Basis Balance	P/L -1,860	Cash flow -783
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Simulation of Financial Balance for O,M&M of WSS at District Centres

Mutzing

CONDITIONS		Management under PNGWB's Northern Regional Office at Lae			
Power source:	ELCOM's electricity				
Stationed staff:	Operator	x	1 PNGWB's payroll	Grade7	stationed in Mutzing
	Assistant	x	1 PNGWB's payroll	Grade4	stationed in Mutzing
	Cashier	x	1 National Treasury Officer handles		
	*Regional Manager visits once a month from Regional Office.				
Office:	to be provided by the Works free				
	Radiophon	x	1 Photocopy machine	x	0
	Fax	x	0 Furniture set	x	1
	Computer	x	0		
Security service:	Stationery	minimum			
	Guard	x	0 Security system to be installed		
Store space:	to be provided by the DA at free				
Transportation:	Vehicle	x	0		
	Motorbike	x	0		
	Bicycle	x	1		

REVENUE ESTIMATED

a)	Number of HH connected in town	76	HH		
b)	Number of HH using in villages	91	HH		
c)	Number of institution users connected	17	Institutions		
d)	Estimated water consumption of a) per month	1,173.77	m3		
e)	Estimated water consumption of b) per month	98.38	m3		
f)	Estimated water consumption of c) per month	1,431.44	m3		
g)	Water rate to be applied	Standard			
h)	Water rate to be collected from a)	627.37		Total K/m	627.4
i)	Water rate to be collected from b)	63.06		Total K/m	63.1
j)	Water rate to be collected from c)	1,150.08		Total K/m	1,150.1
				Revenue in Month	1,840.5

EXPENDITURE ITEMS

		P/L basis		cashflow	
k)	Energy cost; electricity from ELCOM (Mutzing)				
	Pump: KW 4.14 Tariff: K/KWh 0.184				
	Operation/day: hour 13 KWh/mont 1,637	301.2		301.2	
m)	Chemical cost; chlorine (brieching powder)				
	Qty: supplied water x % 0.0001% 3.24				
	Price: K per kg 6.35 (K177.84/40kg; 70%purity)	20.6		20.6	
aa)	Staff salaries, wages & allowances				
	Operator Grade 7 Full time PNGWB (5days/month)	1211.54		1211.54	
	Assistant Grade 4 Full time PNGWB (5days/months)	807.7		807.7	
ab)	Staff Housing Allowance				
	Operator Grade 7 Full time PNGWB	166.7		166.7	
	Assistant Grade 4 Full time PNGWB	166.7		166.7	
ac)	Staff DMA				
	Operator Grade 7 Full time PNGWB	125		125	
a)	Insurance; facility, equipment, staff, others				
	Insurance for the assets of K1.2million	416.7		416.7	
am)	Furnitures, depreciation				
	Table, chairs, others Assets (K) 1200 10yrs	10		0	
ap)	Security equipment; depreciatio Assets (K) 3000 5yrs	50		0	
aq)	Transport; bicycle, depreciation Assets (K) 1000 5yrs	16.7		0	
at)	Travelling expence; transport				
	PMV Cost per Mut-Lae-Mut Amount per month (K)	80		80	
	Trips per month 2				
au)	Travelling expence; allowances				
	Allowance per trip Amount per month (K)	80		80	
	Trips per month 2				
av)	Travelling expence; accommodation				
	Accommodation fee per trip Amount per month (K)	200		200	
	Trips per month 2				
aw)	Administration cost of PNGWB Regional Office				
	L.S.	1,000		0	
	TOTAL	4,653		3,576	
BALANCE ESTIMATED					
	Income - Expenditure =	Basis	P/L	Cash flow	
		Balance	-2,812	-1,736	