

CHAPTER 6
WATER SOURCE DEVELOPMENT

6. WATER SOURCE DEVELOPMENT

6.1 General

This chapter discusses the potential water sources and their development for domestic water supply for the province of Sulu. More emphasis is given to the available groundwater because of its better quality and economical use as this can require minimal treatment or none at all. The potential of major rivers as possible water source were also considered.

A Groundwater Availability Map (also referred to as Hydrogeologic Map, Figure 6-1) for the province was prepared to identify areas or geologic formations with available groundwater. This was done through the correlation and evaluation of pump well and ground geology data to determine the groundwater potential of the different geologic units.

In its Rapid Assessment of Water Supply Sources, the National Water Resources Board (NWRB) classifies groundwater as shallow well, deep well, or difficult areas. Instead of using this classification, this study categorized groundwater availability in terms of the potentials and hydrogeologic properties of geologic units underlying the province.

Most of the data and information used in this study were obtained from the following sources:

- ♦ Mines and Geo-sciences Bureau (MGB),
- ♦ National Mapping and Resources Information Administration (NAMRIA),
- ♦ National Water Resources Board (NWRB),
- ♦ Local Waterworks Utilities Administration (LWUA),
- ♦ Local Government Units (LGUs),
- ♦ Provincial Planning and Development Office (PPDO), and
- ♦ Department of Public Works and Highways (DPWH).

Majority of the geologic reports and maps and some hydrogeologic reports were obtained from the MGB. Some water resources investigation reports and well data were gathered from the NWRB. These gathered data and information were supplemented by those gathered from field investigations and through questionnaires provided to the local government offices.

The Groundwater Availability Map may be used for provincial or even municipal level master plans and feasibility studies. However, certain investigations may have to be conducted prior to detailed design and implementation of the water supply work.

6.2 Geology

6.2.1 General Statement

Sulu Island consists of Pliocene to Quaternary volcanics and its erosional by-products. The volcanic mounds, lava domes, vents, cinder cones and other peaks are made up of Quaternary volcanic rocks (QV). The Quaternary Pyroclastics (QVP) overlies the Quaternary Volcanics

Recent deposits (R) include limited alluvial deposits, beach and swamp deposits, residual clays and corals.

The small islands are made up of either Quaternary Volcanics or limestone/corals.

Geologic information indicates that the Quaternary Volcanic Plains (QVP) can be considered as important groundwater reservoir in the area. The Quaternary Volcanics are generally hard and massive and therefore too tight to contain and yield significant amount of water.

Brackish or salt water is to be expected in some localities particularly those near the coast.

6.2.2 Groundwater in the Geologic Units

The crystalline igneous rocks (QV) do not contain pumpable groundwater unless they are sufficiently fractured and/or weathered.

Groundwater in the Quaternary pyroclastic deposits (QVP) may occur both in unconfined and confined conditions.

Unconfined groundwater occurs within the sand and/or gravel deposits of the recent alluvium (R).

The thickness of the fresh water lens in the different islands is governed by the island size, the hydraulic conductivity (permeability) of the aquifer materials and the amount and frequency of groundwater recharge. Larger islands will have thicker fresh groundwater than smaller islands. For small islands, fresh water is often the thickest in the middle or center part.

The following geologic units are present in the study area.

Recent Alluvium (R). This unit consists of limited alluvium, beach deposits, residual clays and corals. Sand, gravel, mud, and silt with some decayed organic matter are usually found along the river channels. Swamp deposits include organic matter, silt, fine sand and mud deposited along the shoreline. These deposits usually grade into reefs towards the shoreline.

Well depths do not exceed 10m in most localities. Near the coast, the wells, mostly dug wells, are only a few meters deep. Only shallow hand-pumped wells and/or dug wells are recommended.

Saltwater intrusion is common in most of the wells near the coastline.

Quaternary Volcanics (QV). The volcanic cone central areas are reported to consist of Pliocene to Pleistocene hornblende andesite which is generally gray, massive and hard. The dacitic phases occur as lava flows. Agglomerates and ash flows also occur.

There are reported wells in this formation but springs are possible.

Pliocene to Recent Pyroclastics (QVP). This formation, consisting predominantly of tuffaceous sandstone, siltstone, shale, agglomerates and tuff, practically covers major portions of Sulu Island. The pyroclastic rocks are partly cemented to loosely compacted.

The aquifers occur as lenses and pods; of larger area when reworked. Groundwater occurs under water table (unconfined) and artesian (confined) conditions.

Several productive wells have been drilled in this formation. Available well records show well depths of less than 15 m to about 100 m. A 161 m deep well was reported in Barangay Tayungan in Panamao. Measured static water levels ranged from 3 m to about 46 m below ground surface. Reported actual capacities and actual specific capacities ranged from 0.32 to about 0.95 lps and 0.21 to more than 1.0 lps per meter of drawdown respectively. The low capacities of these wells can be attributed to improper well design and construction. In addition most of these wells are made of small diameter pipes. Properly designed and constructed wells will therefore be expected to give higher capacities.

Some springs with significant discharges may emanate from this formation.

6.3 Groundwater Availability in the Province

The Groundwater Availability Map of the province is presented in Figure 6-1. Majority of the data used in the preparation of the map were obtained from the MGB and NWRB. The available well data by barangay are presented in Table 6-1 and the Well Location Map is shown in Figure 6-2.

On the map, each geologic unit is described separately as to their lithologic composition and their groundwater holding capability. The hydrogeologic properties are included in the explanation.

In general, the Quaternary Volcanics cannot be considered as dependable sources of pumpable groundwater. The Quaternary Pyroclastics (QVP) which underlie major portion of Sulu Island can be considered as potential sources of significant quantity of pumpable groundwater. The Quaternary Pyroclastics can be considered as both shallow and deep well area though most of the wells drilled in this formation are relatively deep.

The Recent deposits, which also include the young limestone/coral deposits, are shallow well areas.

For planning purposes, the different rock units in the province can be classified into the following in terms of groundwater availability. It should be noted that there are rock units wherein groundwater occur both in unconfined and confined conditions and can be classified as both shallow and deep well areas like those underlain by the pyroclastics (QVP).

- ♦ *Shallow well areas.* By definition these are areas having water-bearing formations where water can be withdrawn up to the depth of not more than 20 m from the ground surface. These are the areas underlain mostly by Recent Alluvium, Recent limestone/corals and Pliocene to Recent Pyroclastics (QVP).
- ♦ *Deep well areas.* In deep well areas, the aquifers exist to depth of more than 20 m from the ground surface. These can be found in areas underlain by QVP.
- ♦ *Difficult areas.* These are areas not suitable for well development. In the province the areas under this category are underlain by the Quaternary Volcanics (QV).

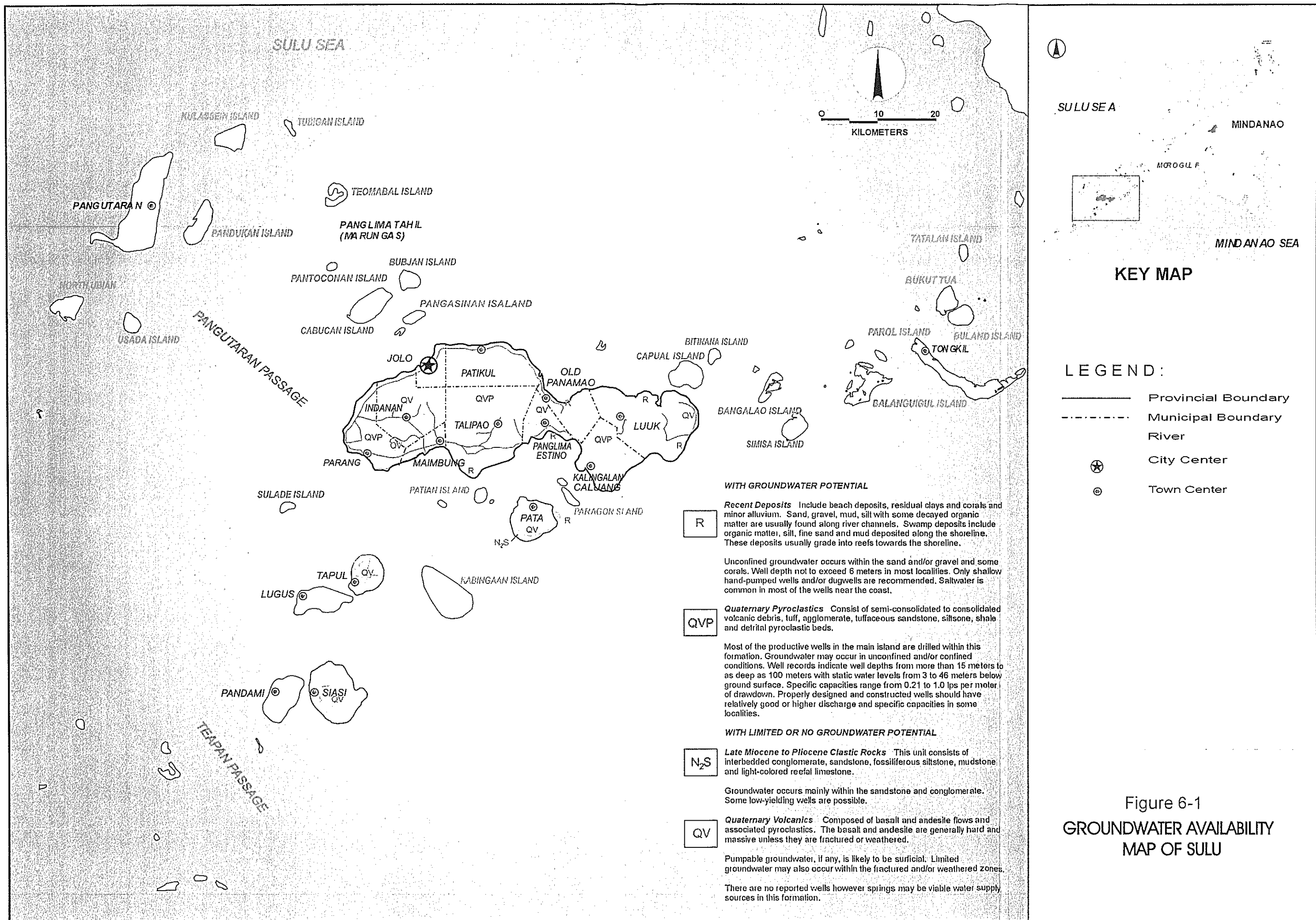
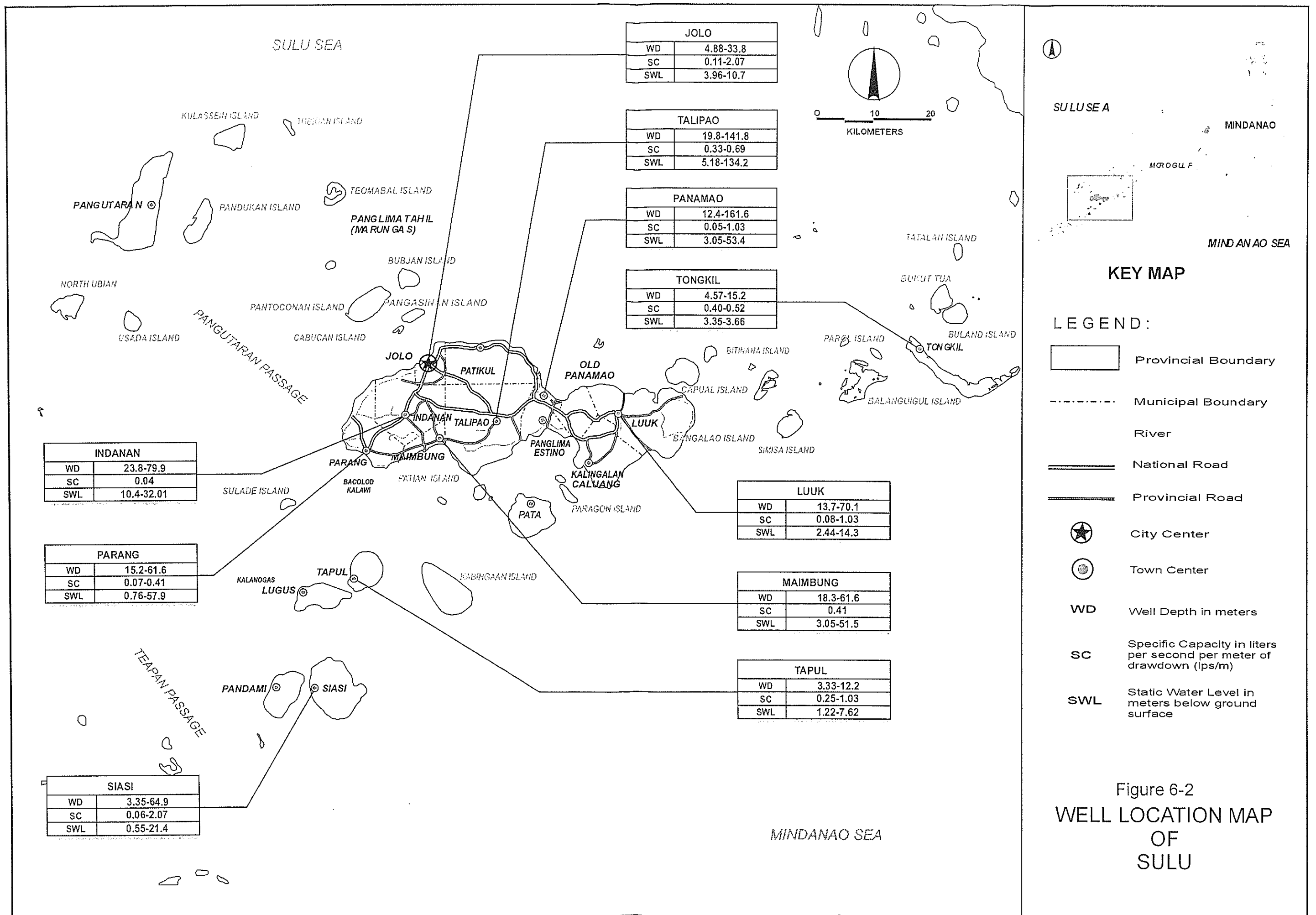


Figure 6-1
GROUNDWATER AVAILABILITY
MAP OF SULU

Table 6-1 Water Well Data by Barangay, Province of Sulu

LOCATION (MUNICIPALITY, Barangay)	WELL NUMBER	DRILLING DEPTH (m)	ACTUAL CAPACITY (lps)	SPECIFIC CAPACITY (lps/m)	STATIC WATER LEVEL (mbgs)
INDANAN					
1. Tagbak	NAWASA 14863	71.70	0.32	-	18.30
2. Poblacion	NAWASA 49-60-1	23.80	0.38	-	10.40
3. Libubong	NAWASA 49-60-7	79.90	-	-	-
4. Timtangang	NAWASA 49-63-22	52.20	0.50	0.04	32.01
LUUK					
1. Pangaan	NAWASA 56-66-6	28.10	-	-	10.70
2. Pitogo	NAWASA 50-64-3	19.80	0.50	0.17	8.23
3. Pangdan-pangdan	NAWASA 50-64-10	25.90	0.63	0.17	3.66
4. Pangdan-pangdan No.2	NAWASA 50-66-6	28.10	-	-	-
5. Pangasinan	NAWASA 7343	68.30	0.63	1.03	2.44
6. Sungco	NAWASA 50-64-2	23.20	0.63	0.08	10.40
7. Kanlaway	NAWASA 50-64-6	27.70	0.63	0.08	14.30
8. Nangalnangal	NAWASA 3799	36.60	0.95	-	-
9. Lahing-lahing	NAWASA 3083	61.00	0.95	-	-
10. Pangasinan	NAWASA 3085	70.10	0.95	-	-
11. Karundomg	NAWASA 14861	13.70	0.32	-	6.10
12. Karundomg	NAWASA 3238	19.80	0.95	-	-
13. Poblacion	NAWASA 3084	19.80	0.95	-	-
JOLO					
1. San Raymundo Street	NAWASA 7342	30.5	0.63	2.07	10.70
2. San Raymundo	NAWASA 7343	30.5	0.95	-	-
3. San Raymundo	NAWASA 20193	13.7	0.32	0.34	6.10
4. Jolo Sanitarium	NAWASA 20192	13.7	0.32	0.11	6.10
5. Lubod Tabawan	NAWASA 49-61-17	4.88	0.63	2.07	3.96
6. Jolo Airbase W.W. Improvement	NAWASA 14876	33.8	-	-	10.40
7. Sulu	NAWASA 59-74-	16.2	0.44	0.72	9.15
8. Sulu	NAWASA 59-74-2	15.2	0.50	1.65	9.76
MAIMBUNG					
2. Bato Ugis	NAWASA 50-64-9	61.60	-	51.50	-
3. Tandupatong	NAWASA 3427	35.98	0.95	-	-
4. Lapa	NAWASA 3444	36.60	0.95	-	-
5. Lagasay Asipi	NAWASA 50-64-7	23.80	0.63	0.41	15.60
6. Lapa	NAWASA 49-60-4	18.30	0.63	-	4.27
7. Tambaking	NAWASA 49-60-6	45.70	0.63	-	3.05
8. Paulo Lipid	NAWASA 49-60-5	15.90	1.26	-	3.51
9. Bato Ugus	BPW 49-68-5	61.00	0.63	0.41	5.15
10. Lagsan Asibi	BPW 50-64-7	23.78	-	-	-
PANAMA O					
1. Puhagan	NAWASA 49-63-6	70.10	0.63	0.41	54.90

LOCATION (MUNICIPALITY, Barangay)	WELL NUMBER	DRILLING DEPTH (m)	ACTUAL CAPACITY (lps)	SPECIFIC CAPACITY (lps/m)	STATIC WATER LEVEL (mbgs)
2. Tubig grande	NAWASA 7346	31.40	0.63	-	4.27
3. Patibalan	NAWASA 14860	27.40	0.63	1.03	23.80
4. Punay	NAWASA 14862	24.40	0.32	0.10	4.27
5. Pasibulan	NAWASA 14859	12.40	0.63	0.69	22.90
6. Pasibulan	NAWASA 14858	52.10	0.63	0.69	47.30
7. Bitanag	NAWASA 14857	58.80	0.63	-	54.30
8. Bacud	NAWASA 14856	24.40	0.63	0.21	4.27
9. Tubig Gasang	NAWASA 5-66-7	36.00	0.63	0.05	9.15
10. Seit Lake	NAWASA 7347	21.30	0.63	0.41	4.27
11. Tayungan	NAWASA 7348	161.60	0.63	-	9.15
12. Tabo Manok	NAWASA 7350	15.20	0.63	-	3.05
13. Kulay-kulay	NAWASA 7351	19.80	0.63	-	3.05
14. Puhagan	NAWASA 7345	70.50	0.63	-	-
15. Puhagan	NAWASA 49-61-1	70.10	0.63	-	53.40
16. Kulay-kulay	NAWASA 3236	24.40	0.95	-	-
17. Tiptipon	NAWASA 3235	21.30	0.95	-	-
18. Tubig Gantang	BPW 7346	31.40	-	-	-
PANGUTARAN					
1. Simbahan	NAWASA 17892	3.66	0.63	-	0.76
2. Agalagal	NAWASA 17893	28.96	0.44	-	0.91
3. Sipang	NAWASA 17895	4.27	0.57	-	0.91
4. Tubig Nunok	NAWASA 17896	5.79	0.63	-	0.91
5. Bankilay	NAWASA 17894	3.05	0.50	-	0.91
PARANG					
1. Payhan	NAWASA 3671	61.60	0.95	-	-
2. Suah Laum Swan	NAWASA 3411	36.00	0.95	-	-
3. Buca-buca	NAWASA 3551	23.40	0.95	-	-
4. Guimba Lagasan	NAWASA 50-66-2	67.07	0.57	0.31	57.90
5. Poblacion	NAWASA 7344	16.70	0.63	0.41	12.20
6. Lumbaan Mababa	NAWASA 7345	99.75	0.63	0.07	45.70
7. Gaja	NAWASA 3686	36.70	0.95	-	-
8. Health Center	BPW	29.80	-	-	-



6.3.1 Groundwater Quality

High EC or TDS levels are expected in wells completed close to the shorelines. Chloride concentrations followed a pattern similar to that of EC levels and were also expected to be highest near the shore/coast. On the smaller islands (<5km²), most of the wells may show brackish to saline EC levels. Spring and surface water sources generally have low total dissolved solid (TDS) levels.

Coliform bacteria are expected in most of the open dugwells currently used for drinking and washing. The construction of these wells provides no protection of the well from surface water contamination.

6.4 Surface Water Sources

Because of the relatively small sizes of the islands comprising the province of Sulu, the bodies of fresh surface water here are limited to some perennial small rivers and creeks.

6.5 Future Development Potential of Water Sources**6.5.1 Groundwater**

Based on the study of existing water sources, groundwater is considered as the safer and more economical source for future water supply requirements of the province.

Shallow hand-pumped and/or dug wells are possible source for Level I service and also for Level II in some places. Potential aquifers for shallow wells occur from less than 3 to 20 mbgs. One disadvantage of shallow well is its high susceptibility to direct infiltration of surface pollutants.

In general deep wells have better quality and invariable yields when developed with appropriate technology. It reduces the hazards of groundwater pollution. In this province the QVP have fair to good aquifers from 20m to less than 100m, may be more in some localities.

6.5.2 Spring

Although their yields of springs in this province may be minimal, they are viable water supply sources particularly in areas with difficulty in getting water from wells.

6.5.3 Surface Water

In areas where there are difficulty in getting potable water both from wells and springs the small perennial rivers and creeks can be considered as alternative sources for water supply.

CHAPTER 7
FUTURE REQUIREMENTS IN
WATER SUPPLY AND SANITATION

7. FUTURE REQUIREMENTS IN WATER SUPPLY AND SANITATION

7.1 GENERAL

The future requirements of each Municipality was evaluated base on its current condition of existing water supply system and sanitation facilities. The proposed development was also based on respective LGU's priority service areas, water source(s) availability, and service area population. For other LGUs with no data generated, evaluation was made from extrapolated data from other LGUs with similar case and profile.

7.2 Targets of Provincial Sector Plan

The master plan aims to provide a ten year design period for water and sanitation project in the Province of Sulu. Implementation of the project is assumed to be undertaken in two phases, Phase I will cover the needs of the province from year 2005 to 2010, and the second Phase from 2010 to 2015. Table 7-1 summarizes the target for the water and sanitation projects.

Table 7-1 Provincial Sector Targets

FACILITIES	Base Year		Phase I		Phase II	
	2003		(2005-2010)		(2010-2015)	
	Population Coverage	Population served	Population Coverage	Additional Population to be served	Population Coverage	Additional Population to be served
A. WATER SUPPLY						
Urban	11%	73,913	16%	38,555	19%	31,991
Rural	16%	105,770	34%	121,760	41%	69,123
Total	27%	179,683	50%	160,315	60%	101,114
B. SANITATION - HOUSEHOLD TOILETS						
Household Toilet	Household Coverage	Household served	Household Coverage	Additional Household to be served	Household Coverage	Additional Household to be served
Urban	11%	76,914	27%	13,639	16%	18,645
Rural	21%	142,618	28%	14,028	31%	35,456
Total	33%	219,532	55%	27,667	47%	54,100
C. SANITATION - SCHOOL TOILETS						
School Toilet	School Toilet Coverage	Existing Schools Toilets	School Toilet Coverage	Additional Schools Toilets	School Toilet Coverage	Additional Schools Toilets
	98%	370	100%	43	100%	30

CHAPTER SEVEN Future Requirements in Water Supply and Sanitation

D. SANITATION -PUBLIC UTILITIES						
Public Toilet	Public Utility Coverage	Existing Public Utilities	Public Utility Coverage	Additional Public Utilities	Public Utility Coverage	Additional Public Utilities
	65%	15	100%	16	100%	17

The projected service coverage was calculated based on the 2003 existing facilities and on-going as well as planned projects. Considering the condition of existing water system(s), the water sector targets were classified as urban and rural area (as determined by NSO). Tables 7-2, 7-3, and 7-4 shows the base year coverage of water supply and sanitation facilities.

Table 7-2 Base Year Coverage of Water Supply

Municipality	Type	Population (2003)	Population Served by 2003 Facilities				
			Level III	Level II	Level I	Total	% Coverage
1 Indanan	Urban	50,325	1,986	722	12,580	15,287	24%
	Rural	6,094	0	0	1,828	1,828	3%
	Total	56,419	1,986	722	14,408	17,116	27%
2 Jolo	Urban	92,952	41,828	0	0	41,828	40%
	Rural	0	0	0	0	0	0%
	Total	92,952	41,828	0	0	41,828	40%
3 Kalingalan Caluang	Urban	0	0	0	0	0	0%
	Rural	23,963	0	0	7,189	7,189	27%
	Total	23,963	0	0	7,189	7,189	27%
4 Luuk	Urban	8,719	0	0	2,616	2,616	6%
	Rural	32,284	0	0	9,685	9,685	21%
	Total	41,003	0	0	12,301	12,301	27%
5 Maimbung	Urban	1,122	0	0	280	280	1%
	Rural	25,266	0	0	6,317	6,317	21%
	Total	26,388	0	0	6,597	6,597	22%
6 Panamao	Urban	1,901	0	666	0	666	2%
	Rural	36,013	0	3,719	6,347	10,066	24%
	Total	37,915	0	4,385	6,347	10,731	25%
7 Panglima Tahil	Urban	5,613	0	1,684	0	1,684	27%
	Rural	0	0	0	0	0	0%
	Total	5,613	0	1,684	0	1,684	27%
8 Panglima Estino	Urban	2,990	0	0	897	897	4%
	Rural	16,583	0	0	4,975	4,975	22%
	Total	19,573	0	0	5,872	5,872	26%
9 Pangutaran	Urban	4,295	0	0	1,289	1,289	4%
	Rural	23,391	0	0	7,017	7,017	23%
	Total	27,686	0	0	8,306	8,306	27%

Municipality	Type	Population (2003)	Population Served by 2003 Facilities				
			Level III	Level II	Level I	Total	% Coverage
10 Pandami	Urban	0	0	0	0	0	0%
	Rural	21,088	0	0	5,272	5,272	22%
	Total	21,088	0	0	5,272	5,272	22%
11 Parang	Urban	2,142	0	0	536	536	1%
	Rural	55,935	0	0	13,984	13,984	22%
	Total	58,077	0	0	14,519	14,519	22%
12 Pata	Urban	0	0	0	0	0	0%
	Rural	12,455	0	0	3,677	3,677	26%
	Total	12,455	0	0	3,677	3,677	26%
13 Patikul	Urban	10,585	5,253	883	0	6,137	15%
	Rural	20,742	1,079	4,185	13,654	18,918	47%
	Total	31,328	6,332	5,069	13,654	25,055	62%
14 Siasi	Urban	8,714	1,382	0	0	1,382	2%
	Rural	53,677	0	0	7,603	7,603	11%
	Total	62,390	1,382	0	7,603	8,984	13%
15 Talipao	Urban	5,840	0	0	1,460	1,460	2%
	Rural	55,355	0	0	13,839	13,839	16%
	Total	61,195	0	0	15,299	15,299	18%
Provincial Total	Urban	195,197	50,449	3,955	19,657	74,060	11%
	Rural	382,845	1,079	7,905	101,385	110,369	16%
	Total	578,042	51,528	11,859	121,042	184,429	27%

Table 7-3 Base Year Coverage of Household Toilet

Municipality	Type	2003		Households with Sanitary Toilet		
		Population	No. of HH	No. of HH	Served Population	Coverage
1 Indanan	Urban	56,430	8,602	3,441	20,130	32%
	Rural	6,659	1,042	417	2,438	4%
	Total	63,089	9,644	3,857	22,567	36%
2 Jolo	Urban	103,916	13,535	6,091	41,828	40%
	Rural	0	0	0	0	0%
	Total	103,916	13,535	6,091	41,828	40%
3 Kalingalan Caluang	Urban	0	0	0	0	0%
	Rural	26,792	4,396	1,758	9,585	36%
	Total	26,792	4,396	1,758	9,585	36%
4 Luuk	Urban	9,784	1,399	560	3,487	8%
	Rural	36,057	5,182	2,073	12,914	28%
	Total	45,841	6,581	2,633	16,401	36%

Municipality	Type	2003		Households with Sanitary Toilet		
		Population	No. of HH	No. of HH	Served Population	Coverage
5 Maimbung	Urban	1,251	176	70	449	2%
	Rural	28,250	3,965	1,586	10,106	34%
	Total	29,501	4,141	1,656	10,555	36%
6 Panamao	Urban	2,082	300	120	761	2%
	Rural	40,319	5,228	2,091	13,259	31%
	Total	42,401	5,528	2,211	14,020	33%
7 Panglima	Urban	6,275	852	384	2,526	40%
	Tahil	0	0	0	0	0%
	Total	6,275	852	384	2,526	40%
8 Panglima	Urban	2,207	499	199	1,196	5%
	Estino	20,645	2,766	1,107	6,633	29%
	Total	22,852	3,265	1,306	7,829	34%
9 Pangutaran	Urban	4,814	245	98	553	2%
	Rural	26,139	4,659	1,864	10,521	34%
	Total	30,952	4,904	1,962	11,074	36%
10 Pandami	Urban	0	0	0	0	0%
	Rural	23,575	3,583	1,433	8,435	36%
	Total	23,575	3,583	1,433	8,435	36%
11 Parang	Urban	2,357	318	127	857	1%
	Rural	62,585	6,387	2,682	18,042	28%
	Total	64,942	6,706	2,810	18,899	29%
12 Pata	Urban	0	0	0	0	0%
	Rural	13,924	2,163	865	4,982	36%
	Total	13,924	2,163	865	4,982	36%
13 Patikul	Urban	11,979	1,828	731	4,234	10%
	Rural	28,639	4,443	1,777	10,293	25%
	Total	40,618	6,271	2,508	14,527	36%
14 Siasi	Urban	9,805	1,194	478	3,485	5%
	Rural	59,949	6,819	2,728	19,907	29%
	Total	69,754	8,013	3,205	23,392	34%
15 Talipao	Urban	6,564	955	382	2,336	3%
	Rural	79,659	6,337	2,535	15,503	18%
	Total	86,223	7,292	2,917	17,839	21%
Provincial Total	Urban	217,465	29,904	12,681	81,842	12%
	Rural	453,193	56,971	22,916	142,618	21%
	Total	670,658	86,875	35,597	224,460	33%

Table 7-4 Base Year Coverage of Public School Toilets and Public Toilets

Municipality	Public School Toilets (2003)			Public Utilities (2003)		
	Total Public Schools	No. of Schools with toilets	Coverage	No. of Public Utilities	No. of Public Utility with toilets	Coverage
1 Indanan	32	32	100%	2	1	50%
2 Jolo	42	42	100%	6	6	100%
3 Kalingalan Caluang	31	31	100%	1	1	100%
4 Luuk	31	31	100%	1	1	100%
5 Maimbung	26	26	100%	1	1	100%
6 Panamao	18	18	100%	1	1	100%
7 Panglima Tahil	2	2	100%	1	0	0%
8 Panglima Estino	18	18	100%	1	1	100%
9 Pangutaran	28	28	100%	1	0	0%
10 Pandami	20	18	90%	1	0	0%
11 Parang	34	32	94%	1	0	0%
12 Pata	10	10	100%	1	0	0%
13 Patikul	23	23	100%	2	1	50%
14 Siasi	29	29	100%	2	2	100%
15 Talipao	33	30	91%	1	0	0%
Provincial Total	377	370	98%	23	15	65%

7.3 Projection of Frame Values

7.3.1 Population Projection

Future population for all municipalities was projected for the target year 2005, 2010, and 2015. The references used in the projection were the census data for the year 1980, 1990, 1995, and 2000. The NSO 1995 to 2005 population projection was also used as reference and was integrated with the past trends. Population projections for the municipalities comprising the Province of Sulu as classified into urban and rural are shown in Table 7-5

Table 7-5 Future population by Urban and Rural Area by Municipality

Municipality	2000			2003			2005			2010			2015		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
1. Indanan	47,586	5,839	53,425	50,325	6,094	56,419	52,256	6,274	58,531	56,430	6,659	63,089	60,912	7,091	68,003
2. Jolo	87,998	0	87,998	92,952	0	92,952	96,408	0	96,408	103,916	0	103,916	112,010	0	112,010
3. Kalingalan Caltang	0	22,688	22,688	0	23,963	23,963	0	24,856	24,856	0	26,792	26,792	0	28,879	28,879
4. Luuk	8,238	30,581	38,819	8,719	32,284	41,003	9,054	33,474	42,529	9,784	36,057	45,841	9,784	36,057	45,841
5. Mainbung	1,063	23,919	24,982	1,122	25,266	26,388	1,163	26,207	27,370	1,251	28,250	29,501	1,347	30,452	31,799
6. Panunao	1,816	34,090	35,906	1,901	36,013	37,915	1,961	37,377	39,337	2,082	40,319	42,401	2,213	43,490	45,704
7. Panglima Tahil	5,314	0	5,314	5,613	0	5,613	5,822	0	5,822	6,275	0	6,275	6,764	0	6,764
8. Panglima Estino	5,257	16,186	21,443	2,990	16,583	19,573	2,052	19,148	21,200	2,207	20,645	22,852	2,374	22,257	24,631
9. Pangutaran	4,061	22,150	26,211	4,295	23,391	27,686	4,459	24,257	28,716	4,814	26,139	30,952	5,195	28,169	33,363
10. Pandani	0	19,964	19,964	0	21,088	21,088	0	21,872	21,872	0	23,575	23,575	0	25,412	25,412
11. Parang	2,042	53,952	54,994	2,142	55,935	58,077	2,211	58,038	60,250	2,357	62,585	64,942	2,514	67,486	70,000
12. Pata	0	11,791	11,791	0	12,455	12,455	0	12,918	12,918	0	13,924	13,924	0	15,008	15,008
13. Patikul	9,949	24,447	34,396	10,585	20,742	31,328	11,033	26,651	37,683	11,979	28,639	40,618	12,954	30,827	43,782
14. Siasi	8,222	50,847	59,069	8,714	53,677	62,390	9,058	55,656	64,714	9,805	59,949	69,754	10,604	64,583	75,187
15. Talipao	5,511	67,504	73,015	5,840	55,355	61,195	6,070	73,923	79,993	6,564	79,659	86,223	7,087	85,851	92,938
Provincial Total	187,057	382,958	570,015	195,197	382,845	578,042	201,547	420,652	622,199	217,465	453,193	670,658	233,757	485,563	719,320

7.3.2 Public Schools and Public Utilities

Projection of the number of public schools was made using available data on provincial total number of students and number of schools per municipality. Thus, the ratio of the number of students to total number of schools was correlated to come up with the projected number of students and schools per municipality. Projection of the number of public utilities per municipality was made based on its annual population growth rate.

7.4 Types of Facilities and Implementation Criteria

7.4.1 Water Supply

A. Urban Water Supply

Service Level

The levels of water service for each municipality were determined based on the different considerations as mentioned in section 7.1. Generally, level III water system is appropriate for urban areas. However, levels II and I facilities do not mean to exclude from being implemented in urban areas in the future as individual cases.

Utilization of existing facilities

The existing Level I and II facilities are considered to be utilized during Phase I period. However, the population served by these facilities are assumed to be absorbed by level III service in Phase II.

Water Source

Most of the existing level III systems are utilizing deep wells. In this context, deep well source is used as the primary source in the project development plan, wherever applicable.

Number of System

Generally, there is one Level III system considered for each municipality. Whenever Level III system exist in the municipality, the future requirements are considered as an expansion of the existing system, otherwise a new system was considered.

Rehabilitation

Rehabilitation of existing and future facilities is assumed to be undertaken by the operating organization or individual.

B Rural Water Supply

Service Level

The level I systems are generally planned for rural areas where houses are scattered. Service level standards are set at 15 households per source for level I and 5 households per communal faucet for level II. Application of level III in rural areas may be considered base on actual needs during implementation phase.

Utilization of existing facilities

The existing facilities of all water system levels will be use and integrated in the future development plan.

Water Source

Generally, shallow/deep wells are recommended for level I and deepwell for level II wherever applicable, in view of safety against possible contamination and sustainable water supply. Conventional construction method (driven well) may be employed under the favorable substrata or hydrogeological conditions. Standard specification of shallow and deep wells are summarized in Table 7-6.

Table 7-6 Standard Specification of Level I Wells

Specification	Shallow Well	Deep Well
Construction Method	Open-hole drilling and gravel pack	
Casing Diameter	50 mm	100 mm
Borehole Diameter	150 mm	200 mm
Ranges of well Depth	20 m	<20 m

Spring development is also considered in level I and II specifically for municipalities where groundwater potential are very limited. However, the distance of the proposed spring that will be developed should be located within economic distance from the proposed service area. As an

initial basis, potential spring source(s) must be located within 2 km. to 3 km form proposed service area.

Number of System/ Facilities

The number of level I shallow wells and the number stand faucets for level II.were estimated using the service level standard set.

7.4.2 Sanitation

The type of toilet facilities depends on the service level of water supply within the community. However, a typical pour-flush type will be considered for general use.

7.5 Service Coverage by Target Year

7.5.1 Water Supply

The service coverage in terms of population to be served by target year was estimated by urban and rural area by municipality. Additional service coverage for Level II and/or III are considered as expansion of the existing systems. Rehabilitation and improvement shall be shouldered by the water service provider.

Every Poblacion of all municipalities with existing Level I shall be upgraded to Level II. Other barangays shall be served with Level I. Existing and additional service coverage through Phases I and II is based on the following assumptions:

Existing Coverage:

System	Present Coverage
Level I	40% of service population
Level II	50% of service population, unless actual number of connection is available
Level III	50% of service population, unless actual number of connection is available

Additional Service Coverage:

System	Additional Coverage	
	Phase I (Year 2005-2010)	Phase II (Year 2010-2015)
Level I	50%	60%
Level II	50%	60%
Level III	50%	60%

Table 7-7 shows the population to be served by target years. For the Phase I period, a total of 160,315 persons in the province will be served by additional water supply services, of which 38,555 persons or 24% of the total will be urban population and 121,760 persons or 76% will be for rural population. For Phase II a total of 101,114 additional persons will be served. From this total, 31,991 will come from the urban population and 69,123 will be for rural population (corresponding to 32 % and 68% respectively of the total additional population to be served).

7.5.2 Sanitation

Household toilets:

The household to be served by different types of sanitary facilities is estimated by urban and rural area by municipality.

Existing service coverage was assumed at an average of 40% of the number of households based on provincial data on sanitation. Additional service coverage based on provincial targets shall be 80% of households for Phase I and II.

The succeeding Table 7-8 shows the additional number of households by target years. For both Phases, pour flush type toilets shall be utilized in areas with proposed or existing Level I and II systems while automatic flush type shall be used in areas with Level III systems.

The projected number of served households at the end of Phase I period is 50,257. Additional number of households to be served totaled to 27,667, of which 13,287 or 34% are urban households and 14,028 or 51% are rural households. At the end of the Phase II period, the projected number of served households is 54,100 with an additional household to be served of 31,226.

Table 7-7 Population to be Served by Target Year (Water Supply)

Municipality	Type	Phase I (2005-2010)						Phase II (2010-2015)											
		Service Coverage			Additional Population to be served			Service Coverage			Additional Population to be served								
		Total Population	Level III	Level II	Level I	Total	Level III	Level II	Level I	Total Population	Level III	Level II	Level I	Total					
1 Indanan	Urban	56,430	2,788	8,060	18,291	29,140	803	4,898	7,949	13,650	60,912	12,674	5,034	18,840	36,547	3,015	1,147	4,170	8,332
	Rural	6,659	0	0	3,329	3,329	0	0	1,501	1,501	7,091	0	2,826	1,428	4,254	0	644	281	925
	Total	63,089	2,788	8,060	21,621	32,469	803	4,898	9,450	15,151	68,003	12,674	7,860	20,268	40,802	3,015	1,791	4,451	9,257
2 Jolo	Urban	103,916	51,958	0	0	51,958	10,130	0	0	10,130	112,010	67,206	0	67,206	15,248	0	0	0	15,248
	Rural	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	103,916	51,958	0	0	51,958	10,130	0	0	10,130	112,010	67,206	0	67,206	15,248	0	0	0	15,248
3 Kalingalan Cahuang	Urban	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rural	26,792	9,591	1,105	2,700	13,396	4,470	505	1,233	6,207	28,879	13,862	3,465	0	17,327	2,802	766	0	3,568
	Total	26,792	9,591	1,105	2,700	13,396	4,470	505	1,233	6,207	28,879	13,862	3,465	0	17,327	2,802	766	0	3,568
4 Luuk	Urban	9,784	4,892	0	0	4,892	2,276	0	0	2,276	9,784	6,339	0	6,339	1,447	0	0	0	1,447
	Rural	36,057	3,199	6,422	8,408	18,029	1,489	2,988	3,867	8,343	36,057	11,157	6,866	5,285	23,308	2,547	1,568	1,164	5,279
	Total	45,841	8,091	6,422	8,408	22,921	3,765	2,988	3,867	10,650	45,841	17,496	6,866	5,285	29,647	3,995	1,568	1,164	6,726
5 Mainbung	Urban	1,251	626	0	0	626	345	0	0	345	1,347	808	0	808	182	0	0	0	182
	Rural	28,250	3,626	1,291	9,208	14,125	2,001	712	5,095	7,808	30,452	4,684	1,668	11,920	18,271	1,058	377	2,712	4,146
	Total	29,501	4,251	1,291	9,208	14,751	2,346	712	5,095	8,154	31,799	5,492	1,668	11,920	19,079	1,240	377	2,712	4,329
6 Panamao	Urban	2,082	1,041	0	0	1,041	376	0	0	376	2,213	1,338	0	1,338	287	0	0	0	287
	Rural	40,319	7,194	1,042	11,923	20,159	2,847	622	6,624	10,093	43,490	10,600	5,147	10,347	26,094	2,364	1,870	2,313	6,547
	Total	42,401	8,235	1,042	11,923	21,201	3,223	622	6,624	10,469	45,704	11,928	5,147	10,347	27,422	2,650	1,870	2,313	6,834
7 Panglima Tahil	Urban	6,275	0	3,138	0	3,138	0	1,454	0	1,454	6,764	0	4,058	0	4,058	0	921	0	921
	Rural	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	6,275	0	3,138	0	3,138	0	1,454	0	1,454	6,764	0	4,058	0	4,058	0	921	0	921
8 Panglima Estino	Urban	2,207	1,103	0	0	1,103	207	0	0	207	2,374	1,424	0	1,424	321	0	0	0	321
	Rural	20,645	3,789	2,771	3,763	10,322	2,441	1,368	1,538	5,347	22,257	7,538	930	4,887	13,354	1,698	210	1,124	3,032
	Total	22,852	4,892	2,771	3,763	11,426	2,648	1,368	1,538	5,554	24,631	8,962	930	4,887	14,779	2,019	210	1,124	3,353
9 Pangutaran	Urban	4,814	0	2,407	0	2,407	0	1,118	0	1,118	5,195	0	3,117	0	3,117	0	710	0	710
	Rural	26,139	0	8,330	4,740	13,069	0	3,870	2,182	6,052	28,169	0	13,211	3,690	16,901	0	3,009	822	3,832
	Total	30,952	0	10,737	4,740	15,476	0	4,988	2,182	7,171	33,363	0	16,328	3,690	20,018	0	3,719	822	4,542
10 Pandami	Urban	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rural	23,575	0	3,377	8,411	11,788	0	1,865	4,651	6,516	25,412	0	4,365	10,882	15,247	0	988	2,471	3,459
	Total	23,575	0	3,377	8,411	11,788	0	1,865	4,651	6,516	25,412	0	4,365	10,882	15,247	0	988	2,471	3,459
11 Parang	Urban	2,357	0	1,178	0	1,178	0	643	0	643	2,514	1,508	0	1,508	330	0	0	0	330
	Rural	62,585	0	6,793	24,500	31,293	0	3,953	13,356	17,309	67,486	9,146	6,601	24,744	40,492	2,354	1,444	5,401	9,199
	Total	64,942	0	7,971	24,500	32,471	0	4,596	13,356	17,952	70,000	10,655	6,601	24,744	42,000	2,684	1,444	5,401	9,529
12 Pata	Urban	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rural	13,924	0	5,418	1,544	6,962	0	2,510	775	3,285	15,008	0	7,008	1,997	9,005	0	1,590	453	2,043
	Total	13,924	0	5,418	1,544	6,962	0	2,510	775	3,285	15,008	0	7,008	1,997	9,005	0	1,590	453	2,043
13 Patikul	Urban	11,970	5,253	736	0	5,989	1,099	533	0	1,632	38,587	6,838	934	0	7,772	1,585	198	0	1,783
	Rural	28,639	1,079	3,488	9,753	14,320	583	2,513	4,948	8,045	5,194	1,370	4,428	12,699	18,496	291	940	2,946	4,177
	Total	40,618	6,332	4,224	9,753	20,309	1,682	3,047	4,948	9,677	43,782	8,208	5,362	12,699	26,269	1,876	1,138	2,946	5,960
14 Siasi	Urban	9,805	4,903	0	0	4,903	4,903	0	0	4,903	10,604	6,362	0	6,362	1,460	0	0	0	1,460
	Rural	59,949	2,971	4,773	22,230	29,974	1,915	3,044	14,280	19,239	64,583	3,856	8,151	26,743	38,750	885	2,790	6,069	9,743
	Total	69,754	7,874	4,773	22,230	34,877	6,818	3,044	14,280	24,142	75,187	10,218	8,151	26,743	45,112	2,344	2,790	6,069	11,203
15 Talipao	Urban	6,564	2,441	841	0	3,282	1,355	467	0	1,822	7,087	3,162	1,090	0	4,252	721	249	0	970
	Rural	79,659	4,557	7,599	27,673	39,830	2,621	4,265	15,126	22,012	85,851	11,733	6,076	33,702	51,511	2,906	1,386	8,881	13,173
	Total	86,223	6,997	8,441	27,673	43,112	3,976	4,732	15,126	23,834	92,938	14,895	7,167	33,702	55,763	3,627	1,635	8,881	14,143
Total	Urban	217,465	75,005	16,360	18,291	109,657	21,493	9,113	7,949	38,555	259,390	107,650	14,234	18,840	140,723	24,596	3,225	4,176	31,991
	Rural	453,193	36,006	52,409	138,181	226,596	18,366	28,217	75,177	121,760	459,930	73,944	70,744	148,323	293,011	16,904	17,583	31,637	69,123
	Total	670,658	111,011	68,769	156,473	336,253	39,859	37,330	83,126	160,315	719,320	181,594	84,978	167,163	433,734	41,500	20,808	38,807	101,114

Table 7-8 Additional Number of Households by target year (HHI Toilet)

Municipality	Type	Phase I (2005-2010)					Phase II (2010-2015)				
		Total Households		Number of HH to be served			Total Households		Number of HH to be served		
		Flush	Pour Flush	Total	Flush	Pour Flush	Flush	Pour Flush	Total	Flush	Pour Flush
1. Indanan	Urban	9,646	735	4,088	4,823	1,757	1,867	10,412	1,805	3,401	5,206
	Rural	1,138	0	569	569	205	205	1,212	0	606	606
	Total	10,784	735	4,657	5,392	1,962	2,072	11,624	1,805	4,007	5,812
2. Jolo	Urban	15,132	7,566	0	7,566	0	1,418	16,311	8,155	0	8,155
	Rural	0	0	0	0	0	0	0	0	0	0
	Total	15,132	7,566	0	7,566	0	1,418	16,311	8,155	0	8,155
3. Kalingalan Cahuang	Urban	0	0	0	0	0	0	0	0	0	0
	Rural	4,915	1,759	698	2,457	255	911	5,298	2,119	530	2,649
	Total	4,915	1,759	698	2,457	255	911	5,298	2,119	530	2,649
4. Luuk	Urban	1,570	785	0	785	292	292	1,696	848	0	848
	Rural	5,788	513	2,380	2,894	191	1,071	6,235	1,492	1,625	3,118
	Total	7,358	1,299	2,380	3,679	483	1,364	7,931	2,340	1,625	3,966
5. Mainbung	Urban	196	98	0	98	43	43	211	106	0	106
	Rural	4,433	1,138	1,079	2,216	251	980	4,778	939	1,450	2,359
	Total	4,629	1,236	1,079	2,315	294	1,024	4,990	1,044	1,450	2,495
6. Pananiao	Urban	338	164	0	164	47	47	349	175	0	175
	Rural	6,359	1,135	2,045	3,179	359	914	6,859	1,393	2,036	3,430
	Total	6,697	1,299	2,045	3,344	407	914	7,208	1,568	2,036	3,604
7. Panglima Tahil	Urban	953	0	476	476	0	177	1,027	0	514	514
	Rural	0	0	0	0	0	0	0	0	0	0
	Total	953	0	476	476	0	177	1,027	0	514	514
8. Panglima Estino	Urban	368	184	0	184	28	28	396	198	0	198
	Rural	3,444	632	1,090	1,722	326	714	3,713	1,048	1,007	2,054
	Total	3,812	816	1,090	1,906	353	741	4,109	1,246	1,007	2,252
9. Pangutaran	Urban	853	0	426	426	0	158	920	0	460	460
	Rural	4,630	0	2,315	2,315	0	858	4,990	0	2,495	2,495
	Total	5,483	0	2,741	2,741	0	1,016	5,910	0	2,955	2,955
10. Pandani	Urban	692	0	346	346	0	153	745	0	372	372
	Rural	3,314	0	1,657	1,657	0	733	3,573	0	1,786	1,786
	Total	4,006	0	2,003	2,003	0	886	4,318	0	2,159	2,159
11. Parang	Urban	350	0	175	175	0	76	374	0	187	187
	Rural	9,305	0	4,652	4,652	0	2,059	10,033	0	3,883	5,017
	Total	9,655	0	4,827	4,827	0	2,135	10,407	0	3,883	5,203
12. Pala	Urban	0	0	0	0	0	0	0	0	1,303	1,303
	Rural	2,418	0	1,209	1,209	0	457	2,607	0	0	0
	Total	2,418	0	1,209	1,209	0	457	2,607	0	1,303	1,303
13. Parikul	Urban	2,068	907	127	1,034	152	74	2,237	984	134	1,118
	Rural	4,945	186	2,286	2,472	347	1,111	5,323	197	2,464	2,661
	Total	7,013	1,093	2,413	3,507	499	1,337	7,560	1,181	2,599	3,780
14. Siasi	Urban	1,344	672	0	672	537	537	1,453	726	0	726
	Rural	8,215	407	3,700	4,107	1,899	2,109	8,750	434	3,931	4,365
	Total	9,559	1,079	3,700	4,779	2,436	2,646	10,183	1,161	3,931	5,092
15. Talipao	Urban	1,073	399	138	537	177	238	1,159	431	149	579
	Rural	7,036	402	3,115	3,518	184	1,363	1,547	861	2,919	3,780
	Total	8,109	802	3,253	4,055	361	1,424	1,785	1,292	3,068	4,360
Total	Urban	34,574	11,411	5,776	12,287	2,805	5,260	37,289	13,613	6,333	19,948
	Rural	65,939	6,173	26,796	32,970	2,525	11,503	77,348	9,617	24,734	34,350
	Total	100,513	17,684	32,572	50,257	5,330	13,959	114,637	23,232	31,067	54,298

Public School and Public Toilet Facilities

The additional number of public school toilets are based on the present number of schools with toilet facilities and projected based on the increase in the number of students by municipality.

Public toilet facilities are projected based on existing number of public utilities with sanitary toilet facilities. Table 7-9 shows the corresponding projections, where the additional number of public schools and public utilities is equal to the number of additional toilet facilities:

7.6 Facilities and Equipment to Meet the Target Services

7.6.1 Water Supply

The required facilities for each water level service were estimated based on the existing condition and the projected served population for all service areas and broken down into two(2) phases of implementation. The number of service connections (Level III), public faucets (Level II), and shallow/deepwells as point source (Level I) are presented in Table 7-10, and shown in Figure 7-1 and 7-2 for Phase I and II respectively.

7.6.2 Sanitation

Future requirements on the number of household toilets were estimated based on the additional number of households to be served both for urban and rural population by municipality. Likewise the future requirements for public school and public toilets were estimated based on the projected increase in the number of public school and public utilities. Table 7-11 presents the required sanitary household facilities, and is shown in Figure 7-3 and 7-4 for Phase I and II respectively.

Table 7-9 Projected Schools and Public Utility Toilets by Target Year

Municipality	Projected No. of Public Schools			Projected No. of Public Utilities			Public Schools Toilet Requirement		Public Utility Toilet Requirements	
	2003	2010	2015	2003	2010	2015	2010	2015	2010	2015
1 Indanan	32	36	39	2	3	4	4	3	1	1
2 Jolo	42	47	51	2	3	4	5	4	1	1
3 Kalingalan Caluang	31	35	37	1	2	3	4	3	1	1
4 Luuk	31	35	37	1	2	3	4	3	1	1
5 Maimbung	26	29	31	1	2	3	3	2	1	1
6 Panamao	18	20	22	1	2	3	2	2	1	1
7 Panglima Tahil	2	2	2	2	3	4	0	0	1	1
8 Panglima Estino	18	21	23	1	2	3	3	2	1	1
9 Pangutaran	28	31	34	1	2	3	3	2	1	1
10 Pandami	18	20	22	1	2	3	2	2	1	1
11 Parang	32	36	39	1	2	3	4	3	1	1
12 Pata	10	11	12	1	2	3	1	1	1	1
13 Patikul	23	28	30	2	3	5	5	2	1	1
14 Siasi	29	32	35	1	2	3	3	3	1	1
15 Talipao	0	0	0	0	0	0	0	0	0	0
Provincial Total	340	383	413	18	34	51	43	30	16	17

Table 7-10 Water Supply Facilities Required by Target Year

Municipality	Phase I (2005-2010) Requirement					Phase II (2010-2015) Requirement		
	Level III		Level II		Level I	Level III	Level II	Level I
	Mode of Project	No. of Connections	Mode of Project	No. of stand faucets	Total No. of wells	No. of Connections	No. of stand faucets	No. of add'l wells
1 Indanan	New and Expansion	134	New	163	163	502	60	49
2 Jolo	Expansion	1,688	New	0	0	2,541	0	0
3 Kalingalan Caluang	New	745	New	606	14	467	26	0
4 Luuk	New	627	New	100	43	666	52	13
5 Maimbung	New	391	New	24	57	207	13	30
6 Panamao	New	537	New	21	74	442	62	26
7 Panglima Tahil	None	0	New	48	0	31	31	0
8 Panglima Estino	New	441	New	1,642	17	337	7	12

Municipality	Phase I (2005-2010) Requirement					Phase II (2010-2015) Requirement		
	Level III		Level II		Level I	Level III	Level II	Level I
	Mode of Project	No. of Connections	Mode of Project	No. of stand faucets	Total No. of wells	No. of Connections	No. of stand faucets	No. of add'l wells
9 Pangutaran	None	0	New	166	24	0	124	9
10 Pandami	None	0	New	62	52	0	33	27
11 Parang	New	0	New	153	148	447	48	60
12 Pata	None	0	New	84	9	0	53	5
13 Patikul	New and Expansion	280	New	102	55	313	38	33
14 Siasi	New and Expansion	1,136	New	101	159	391	93	67
15 Talipao	New	663	New	158	168	605	55	99
Total		6,643	New	3,430	982	6,947	694	431

Table 7-11 Sanitation Facilities Required by Target Year

Municipality	Phase I (2005-2010) Requirement			Phase II (2010-2015) Requirement		
	No. of Household Toilet	No. of Public School Toilet	No. of Public Toilet	No. of Household Toilet	No. of Public School Toilet	No. of Public Toilet
1 Indanan	2,072	4	1	5,812	3	0
2 Jolo	1,418	9	2	8,155	4	1
3 Kalingalan Caluang	911	4	3	2,649	3	1
4 Luuk	1,364	1	1	3,966	3	1
5 Maimbung	1,024	1	2	2,495	3	2
6 Panamao	1,321	1	2	3,604	2	2
7 Panglima Tabil	177	2	2	514	1	1
8 Panglima Estino	741	4	2	2,054	3	1
9 Pangutaran	1,016	3	2	2,955	2	1
10 Pandami	886	2	2	2,159	2	1
11 Parang	2,135	4	3	5,203	3	2
12 Pata	457	1	1	1,303	1	1
13 Patikul	1,337	5	2	3,780	2	1
14 Siasi	2,646	4	3	5,092	4	2
15 Talipao	1,785	4	3	4,360	3	2
Total	19,288	49	30	54,100	36	22

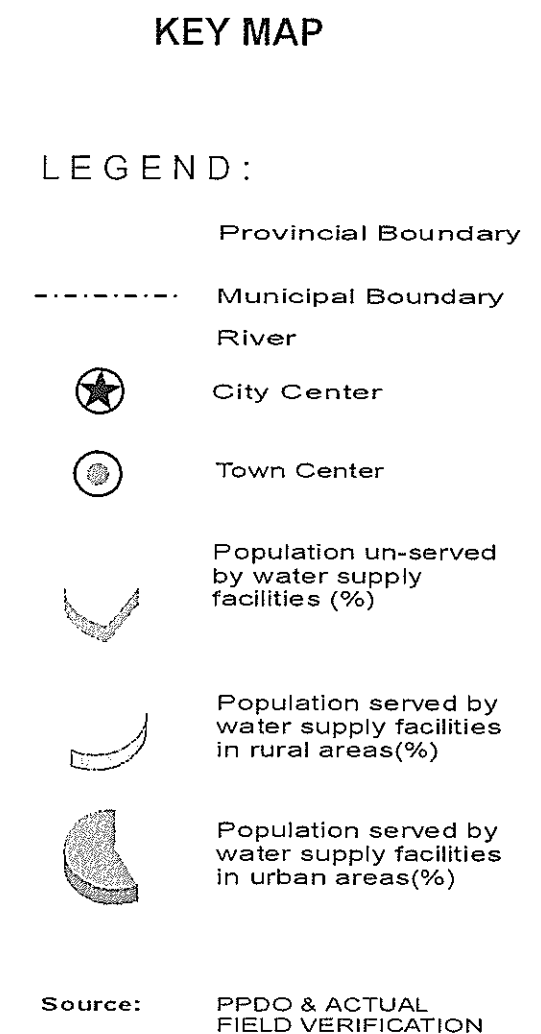
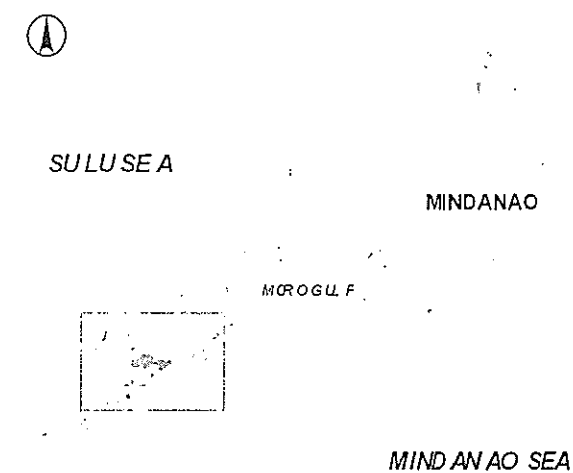
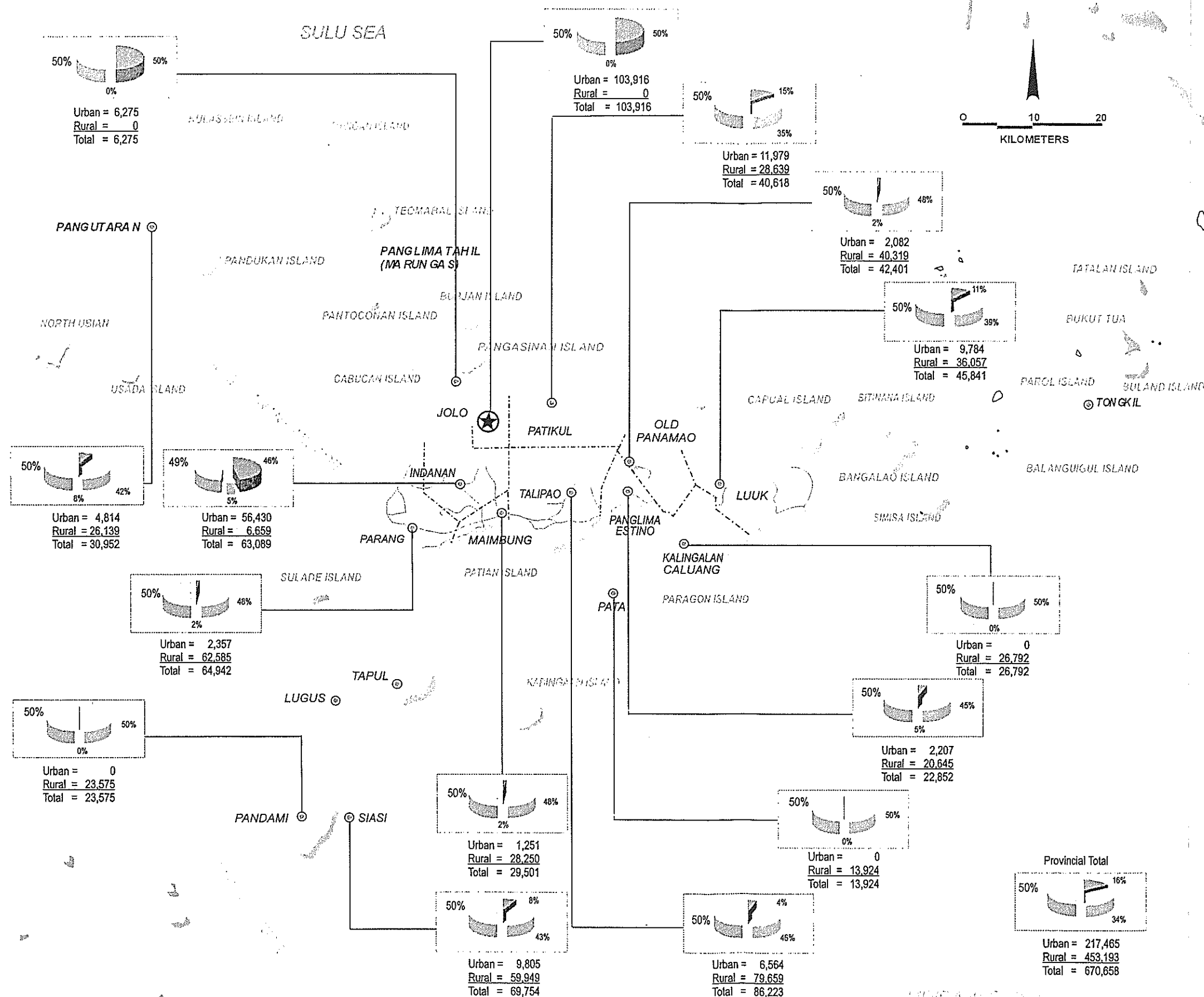
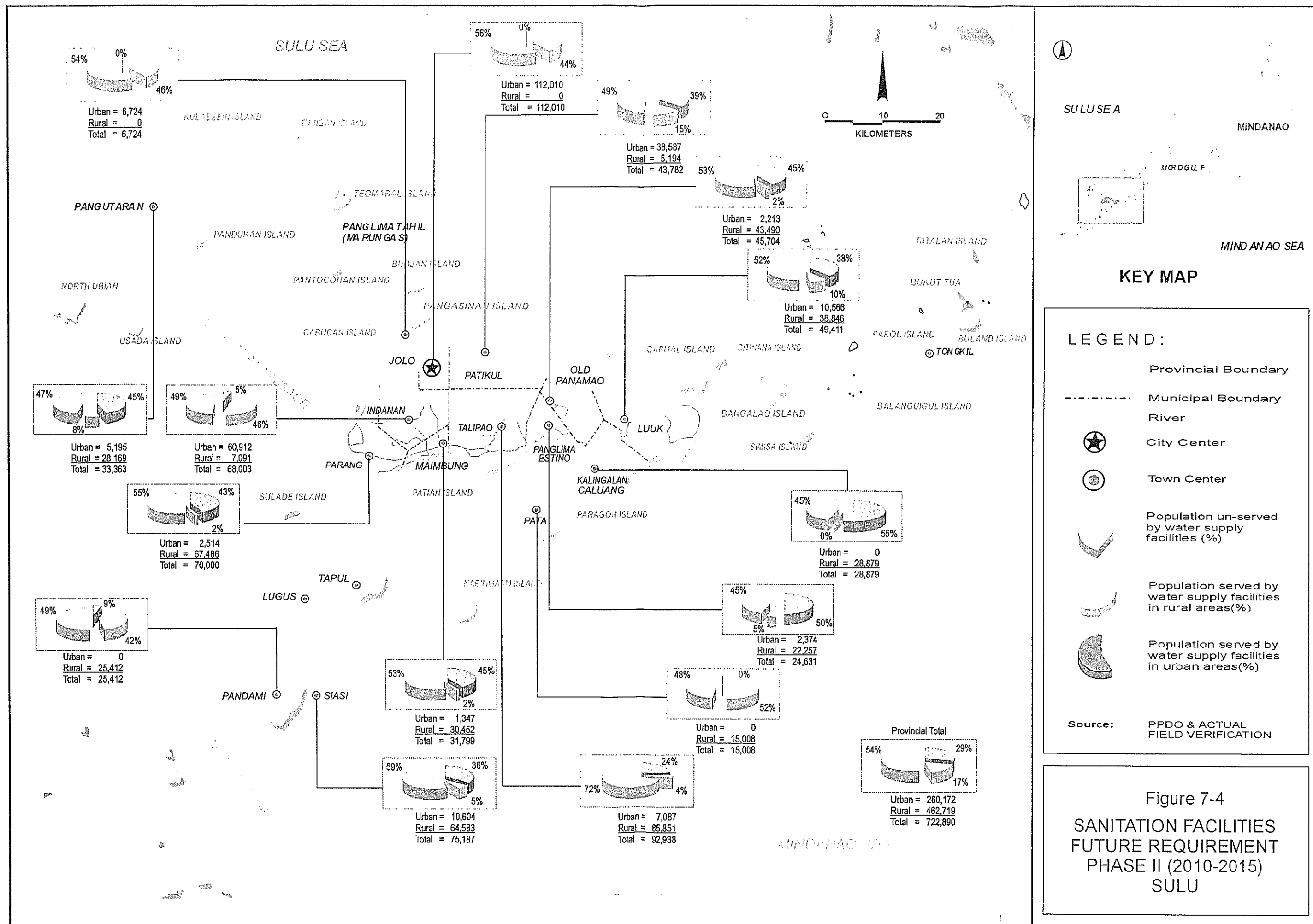


Figure 7-1
WATER SUPPLY FACILITIES
FUTURE REQUIREMENT
PHASE I (2005-2010)
SULU



CHAPTER 8
INSTITUTIONAL STRENGTHENING PLAN

8. INSTITUTIONAL STRENGTHENING PLAN

8.1 General

This Chapter recommends the initial mechanisms, processes and structures needed to achieve the goals and targets of the sector.

8.1.1 Development Framework for the Sector

One basic institutional deficiency at the local level is the absence of a common goal and strategy for the sector. The Province has to set the specific goals, objectives/targets and strategy for the sector. While the province has a Physical Framework Plan, this is not sufficient to establish sector priorities and considering the problems besetting the sector, the province needs identify priority activities that must be funded.

8.1.2 Operating Policies

The following general policy and strategy statements as established already in the PW4SP could form the initial policy set for sector for adoption and approval by the Provincial Government:

- ♦ Sustainability shall be promoted through community-based organizing, training and information dissemination to increase willingness to organize, willingness to pay and willingness to learn O&M of facility;
- ♦ Criteria for selection and prioritizing projects to the community should consider sustainability factors and should be based on the demonstrated commitment of the beneficiaries to participate in the project, the current needs for water and sanitation and overall health conditions, potentials for growth and costs;
- ♦ Appropriate service level shall be determined based on sustainability parameters, goals and purposes of the Province, the needs of the community based on demographics and demonstrated capacity and willingness to participate in the project by the communities;
- ♦ Technology to be used for the projects shall be appropriate to the local conditions and resources. Upgrading of existing systems and facilities will be promoted based on needs of the community. In urban areas, a range of technologies may be needed integrating wastewater collection and treatment, as well as drainage;

- ◆ All projects developed by the LGU must involve an integrated approach to the provision of potable water supply, sanitation and hygiene education;
- ◆ Cost Recovery and Cost Sharing (Subsidy Policies). The LGU shall enforce a rational and consistent policy on the application of subsidies and loans for water supply and sanitation;
- ◆ Private Sector Participation policies and incentives shall be primarily encouraged, but regulated by the LGU. The LGU should take measures to institutionalize its regulatory functions in order to regulate private water service providers;
- ◆ In terms of financing, capital costs generally used to construct water supply projects shall be financed mainly out of the concerned LGU's own resources given that in ARMM, non-devolved services provide the LGUs with surplus funds;
- ◆ Concerns for environmental protection and management including water pollution control, conservation and proper utilization of water and land resources should be part of the LGU's programs;

Policies to be formulated should be gender-responsive. The different aspects of the sector project – technical, economic, financial, institutional and community participation – should provide for equal participation of women and men in the beneficiary community.

8.1.3 Regulatory Policies

In coordination with appropriate national and local agencies, the LGU shall endeavor to set up a coordinated regulatory framework on the following:

- ◆ Water allocation and water rights policies and rate review, which are within the mandate of the National Water Resources Board.
- ◆ Water Service Providers Registration/Accreditation - The LGU shall adopt a registration and franchising system for water service associations/ providers. Annual reporting requirements will have to be established for monitoring and auditing purposes.

- ♦ Water Quality - The LGU will have to establish a viable mechanism, including water testing and standards enforcement, to ensure that water delivered meet the potability standards set by the National Drinking Water Standards. The DOH currently has the responsibility and the regulatory power to stop the operations of water systems not delivering potable water. The LGU shall establish Water Surveillance Program thru the creation of a Local Drinking Water Quality Monitoring Committee (per Implementing Rules and Regulations of Chapter II, Water Supply, of the Code of Sanitation of the Philippines, P.D.856).

8.2 Institutional Arrangements

In the medium-term, a full-time Provincial (WATSAN) Sector Team (PST) to provide a focal point in the Province shall be set up for coordination, monitoring and institution-building. The LGU should ensure that adequate logistics and incentives are provided. This may be replicated at the municipal and barangay level of the LGU.

In the long term, the PST may be formed as a Provincial Water and Sanitation Office (PWSO) under the office of the Chief Executive of the LGU. For LGU-run water systems, this would be the office of the economic enterprise within the LGU with duties and functions beyond coordination and monitoring. It would become the focal point of WATSAN activities of the Province and coordination and monitoring of all WATSAN activities would emanate from that office. It would also be the regulating arm of the Province for all WATSAN activities within its provincial jurisdiction. This should be replicated at the municipal level. A PMO for water supply and sanitation at the DILG-ARMM to provide technical and managerial assistance in the formative years of the PST/PWSO is highly recommended to be set up.

Both the Province and Municipality may set up such a Team (for the medium-term) or Office (for the long-term) in their respective LGUs.

With the devolution of water supply and sanitation to the LGU, the DPWH-DEO-ARMM may still provide technical services at cost and in competition with other private contractors. Sharing of resources (equipment and staff) with the LGU at cost may be looked into subject to policy decision and guidelines approved at the national level.

The initial professional-level staffing of the PST/PWSO is estimated, as follows:

♦ Provincial Water Supply & Sanitation Coordinator	1
♦ Community Development, Gender & Training Specialist	2
♦ Water Supply & Sanitation Engineer	2
♦ Monitoring and Evaluation Specialist	1
♦ Total Personnel Required	6

The recommended roles for the various staff positions are as follows:

- ♦ The **Provincial Waterworks & Sanitation Coordinator** shall lead an interdisciplinary Provincial Sector Team, shall be responsible for coordination and supervision of all development planning, implementation, monitoring and evaluation, database development and progress reporting of all activities in the water supply and sanitation sector, shall also liaise with all project implementers and key players in the sector and shall be the key contact person of the DILG for WATSAN concerns.
- ♦ The **Community Development, Gender and Training Specialist** shall be responsible for implementing community organizing and community participation aspects of the sector with a gender-responsive approach, shall be responsible for developing and implementing community-based programs and activities for the sector in the various barangays and municipalities, including criteria for community and site selection, conducting regular dialogues and disseminating information among local leaders on water supply, sanitation and health and hygiene education program province-wide, shall oversee accreditation of community-based organizations responsible for the water supply and sanitation facilities, and shall annually review past training programs and develop and implement the province's training programs for water supply and sanitation, hygiene and sanitation education, and community organization and development, including any manuals or other training materials used.
- ♦ The **Water Supply and Sanitation Engineer** shall be responsible for all the technical aspects of the project including feasibility studies, design, construction, operation and maintenance, review of the existing technical and environmental situation relating to WSS facilities, proper construction supervision and monitoring in coordination with the municipal liaison, adequate maintenance of LGU equipment and tools for water and sanitation facilities, including drilling rigs and vehicles supervise major repair or

rehabilitation work beyond the capacity of communities to undertake and implement, in coordination with the IPHO, the water quality surveillance system.

- ♦ The **Monitoring and Evaluation Specialist** shall assist the Coordinator in all monitoring and evaluation activities including development of database and data processing and reporting for baseline, monitoring and evaluation data.

The same can be done at the municipal level, with the Municipal Waterworks and Sanitation Coordinator also acting as Sector Liaison for the municipality to the Province.

At the barangay level, the Barangay Councils will continue to play a major role in fulfilling the community's aspirations for improved water and sanitation services. It will play a key role particularly in the preparatory stages before the organization of the association (or the appointment of the responsible group). By default, many of the previously failed systems have ended up as responsibilities of the barangay councils. Although the Councils will not have any supervisory role over the associations operating the water systems, it is important that they monitor the performance of the associations.

8.3 Project Management Arrangements

8.3.1 Levels I and II

The Project Selection. A community-responsive approach should be used as primary process for project selection. The initiative of the community should be encouraged. All barangays should be properly and consistently informed about sector opportunities and policies by the Provincial through its municipal LGUs. The barangays should take the first step by assessing their needs, deciding that they want to improve their water and sanitation above all other needs and express this needs to the Municipal LGU's WATSAN Unit. The barangay should also decide on desired service levels, with a full understanding of the cost recovery aspects and other responsibilities.

Organization of associations. More flexibility is needed in order to tap into local community resources. The basic principle is for the community to agree on what type of organization, association, community-based organization, cooperative, etc. they want to form in preparation for accepting the responsibility for the facilities. Existing community-based groups with an active track record and with leaders and members who are ready, willing and able to take on the

O&M functions may be tasked with the responsibility for the facilities. LGUs will assess the readiness of the communities and approve the arrangements and accredit the organization. Failure of community-based organizations to live up to their responsibilities can be grounds for removing their accreditation and giving the responsibility to another accredited group. The organization can decide how to organize itself internally in coordination with the municipal liaison ensuring that roles, responsibilities and accountabilities are adhered.

Technology and Technical Design Standards. The former Rural Waterworks Development Corporation (whose functions were absorbed by LWUA) and the DPWH have developed a simplified procedure for conducting the initial data gathering. The format used is recommended for adaptation by the LGUs. These forms can also be revised to suit the specific needs of the LGU.

For Level II systems, technical standards have been in use by LWUA for RWSAs and by DPWH. As these are considered as national standards, their adoption is recommended.

8.4 Community-Based Organizations

The traditional view of communities as mere beneficiaries and recipients of projects has been undergoing changes and transformation in recent years through the policy reforms and transition in the sector. Communities are now provided avenues for more participation in terms of decision-making and initiation of resolution of issues in critical aspects of the sector's project management and implementation.

This implies the need for the LGU to establish an institutional mechanism at the provincial and municipal levels to enhance trust and confidence of communities on its ability for provision of such basic services as water supply and sanitation. Communities will be encouraged to collectively take stock of their resources and constraints and agree on a development program appropriate for their needs.

The LGU shall promote the participation of NGOs, people's organizations (POs), and community-based organizations (CBOs) to catalyze the involvement of women, youth, people's organizations (POs) and other segments of the community in project decision-making and management. It will focus on the role of women in the context of the design of institutional arrangements at all levels. Towards increasing community involvement, the LGU shall develop

a community-based implementation strategy and delivery mechanism to ensure the sustainability of sector projects. It shall review the roles and responsibilities of central and local government, NGOs, the private sector and communities themselves. It shall assess the community participation activities and related institutional arrangements of past community projects and recommend workable community participation approaches.

8.5 Human Resource Development

The main objective for training human resources is to improve individual competence, organizational effectiveness and efficiency, and espouse national development. Training is a function and a responsibility of every leader. It ensures the availability of qualified and able manpower, the shortage of which is considered as one of the major obstacles to improvements in the water supply and sanitation sector.

Training shall be designed and implemented for implementers, planners from national level to regional to LGUs and down to the community level. Needs Assessments will be conducted as the basis for the design of the courses. Participants will be selected based on their tasks and responsibilities. The PST/PWSO shall establish and maintain a reference library and information/documentation center and shall include training materials and equipment to service needs of the municipalities. The DILG-ARMM shall provide inputs to these training activities.

The LGU role is not to run courses but to ensure that training programs take place and are effective. Actual training activities may be organized or contracted out to well-functioning water districts and government-accredited training, technical and vocational schools. Training may cover but should not be limited to the following areas: source development principally for deep wells, shallow wells, spring development and surface water intake structures, operation and maintenance, plumbing and pipe-laying and basic hydraulics, bookkeeping and management and special courses for water and sanitation caretakers.

8.6 Health and Hygiene Education

The LGUs shall establish an on-going hygiene education program through appropriate methods and channels. These shall include immediate short-run programs: information campaigns; as well as, long-term value formation interventions, possibly through the formal school system. Household and individual hygiene practices, such as hand washing, in house water storage, etc.,

are part of benefit assessment since these are part of improvement in lifestyle and practices. Three approaches are recommended:

- ◆ **Community-based Approach:** Direct house-to-house campaigns can be implemented through the Rural Health Units as part of their current functions. Special presentations can also be done during the regular meetings of community-based socio-civic clubs. Multi-media presentations may be developed and prepared for information dissemination and campaign.
- ◆ **School-based Approach:** Students are the main targets of this approach, either directly or through their teachers. Special focus activities, such as Water and Sanitation Week or Nutrition Week can be introduced with programs or convocations to make the student aware of the issues and solutions. Posters, flip charts, and other audio-visual materials would be helpful.
- ◆ **Media-based Approach:** This approach utilizes radio and print media to introduce and reinforce health messages. Many NGOs and the Philippines Information Agency (in coordination with the DOH) have developed interesting and attractive materials.

The community development specialist at the PST/PWSO shall be given the responsibility for the health and hygiene education function. The CDS will formulate an action plan; implementation will be done with the municipal liaison staff and other local officials. At the barangay level, its implementation will involve the close coordination among the midwives, the barangay health workers and the Committee on Health of the barangay council. Materials for this efforts have been previously developed and can be found with the various PHOs and RHUs. UNICEF has provided strong support in the preparation of these materials.

A continuous health and hygiene education program will be launched by the LGU. Simple, clear messages and approaches will have to be defined. These messages may include the following: Relationship among health, water supply and sanitation; sector opportunities; services available at the rural health units. For Levels I and II systems, the protection of household storage containers from contamination; hand washing; conservation; pay bills/fees on time; etc. The relevance of these, or other messages will have to be determined by the PST/PWSO.

8.7 Gender and Development

Consistent with the national policy of fundamental equality of men and women before the law, as well as of providing equal opportunities to both genders, the water supply and sanitation sector shall promote the full participation of men and women in all the phases of the project development cycle. Sustainability of the WATSAN facilities shall be achieved through the partnership of men and women, and their total involvement in its management, operation and maintenance. The socio-cultural norms and practices in the Province, however, should be taken into consideration in conceptualizing gender-responsive influences in the WATSAN institutional set-up in the Province. Nevertheless, women should be encouraged to participate in all aspects and phases of the project cycle.

A gender-responsive approach should consider the following:

- ◆ The training of the LGU officials and employees from the regional, provincial, municipal and barangay levels on gender and development.
- ◆ The conscious integration of gender concerns in all aspects of project development, that is, from project identification, planning, design and implementation, where the unique needs and requirements of both genders are recognized.
- ◆ The equal representation and distribution of responsibilities to the men and women of the beneficiary community, particularly in sharing work, making decisions, cooperation and control of activities such as but not limited to institutional and CD structures and processes, the organization and management of the WATSAN facilities, the training of managers, operators and maintenance personnel.

To provide the LGU insight on how to conceptualize gender-responsive approaches in the Province, it shall conduct a provincial survey to review the role of women in the context of the design of the community participation structure of the project. The review shall include: brief overview of women's socio-economic situation and their role in water and sanitation; gender analysis; analysis of relevant NGOs, women's groups and private agencies that will support community and women's activities; assessment of support action for women's participation essential for project sustainability; and proposed steps to enhance women's role and participation in the project.

CHAPTER 9
COST ESTIMATES FOR FUTURE
SECTOR DEVELOPMENT

9. COST ESTIMATES FOR FUTURE SECTOR DEVELOPMENT

9.1 General

The total investment cost required for the two phased implementation as identified in Chapters 7 and 8 is defined to include direct costs for construction of required facilities and sector management, as well as physical and price contingencies. Cost requirements for the equipment and vehicle are considered for O& M and long-term development.

Conditions and assumptions used to come up with investment costs covering all sub-sector components were established in coordination with concerned provincial and municipal LGUs and to current standards of relevant sector agencies like the DILG, LWUA, DOH and DPWH.

With regards to construction cost, unit costs per person/household facility were prepared under contract-out basis for respective sub-sector component facilities in current 2003 price levels.

9.2 Assumptions for Cost Estimates

9.2.1 Unit Construction Cost

Unit construction cost per person (household or facility) of each sector component was established based on current standard unit cost of relevant sector agencies and typical standards developed for previous PW4SP as contract-out basis in 2003 level. Referred cost data are from DILG (urban/rural water supply and sanitation), LWUA (urban water supply) and DOH (sanitation). For price adjustment of price indices, the DTI price index for 2003 was referred to.

Unit construction costs consist of direct cost (mobilization/demobilization, material and labor), indirect cost (profit and inclusive taxes) and government expenses (detailed engineering and institutional development).

Freight cost of construction materials, excluding locally available materials such as sand and gravel, was considered for sanitation and water supply facilities in consideration of the hauling distance from Manila. The cost is estimated as fixed percentage (11%) based on the standard practice being adopted by other agencies. Table 9.1 shows a summary of unit construction costs and their descriptions are given in the succeeding paragraph, and detailed costs estimates per facility component are shown in Appendix 9.2.1 to 9.2.13.

Table 9-1 Unit Cost of Facilities by Type and Service Level

Sector service Level		Unit Construction Cost per Facility (Pesos)	Service Coverage		Unit Cost	
			Served Population	Served Households	Pesos/Person	Pesos/Household
Urban Water Supply	Level III					
	New System					
	For 5,000 Population	23,261,531	5,000	N/A	4,652	N/A
	For 10,000 Population	35,852,859	10,000	N/A	3,585	N/A
	Expansion					
	For 5,000 Population	21,711,488	5,000	N/A	4,342	N/A
	For 10,000 Population	34,302,816	10,000	N/A	3,430	N/A
Rural Water Supply	Level II					
	Deep Well Source	950,200	600	120	1,584	7,918
	Spring Source	1,154,509	600	120	1,924	9,621
	Level I					
	Deep Well					
	30 meter depth	164,000	N/A	15	N/A	10,933
	50 meter depth	198,000	N/A	15	N/A	13,200
	70 meter depth	314,000	N/A	15	N/A	20,933
	Shallow well					
	10 meter depth	72,000	N/A	15	N/A	4,800
	20 meter depth	105,000	N/A	15	N/A	7,000
Sanitation	Household Toilet					
	Flush	4,871	N/A	1	N/A	4,871
	Pour Flush	653	N/A	1	N/A	653
	Public School Toilet	271,000	N/A	N/A	N/A	0
	Public Toilet	342,000	N/A	N/A	N/A	0

Urban water supply

- ◆ Unit cost for two sizes of Level III system covering served population of 5,000 and 10,000.
- ◆ Unit cost for Level III was estimated utilizing deep well sources. In case of spring source, it is desirable to confirm transmission lengths during the implementation stage.

Rural water supply

- ◆ Unit cost for five types of Level I wells (shallow wells at 10 and 20m depths and deep wells at 30, 50 and 70m depths).
- ◆ Unit cost for deep well was estimated using open-hole gravel packed method. Natural gravel pack wells may be considered only after initial implementation when soil formation in prospective sites shall have been established and identified. Facilities requiring appropriate Iron Removal System, and its cost, will be identified during the detailed study.
- ◆ Unit cost for Level II system covers 600 served population.

Sanitation

- ◆ Unit cost for two types of sanitary toilets, the flush and the pour flush to accommodate one served household in urban and rural areas. Cost of toilet includes only the cost of toilet bowls or water closet.
- ◆ Public School Toilet: unit cost includes the whole structure, septic tank and facilities. One toilet is designed with three squat type and two sit type toilet bowls to cover 250 served students. The structure is made of concrete materials, GI roofing, tiled floor and walls (part) and painted. The unit cost also includes one shallow well.
- ◆ The Public toilet unit cost includes the whole structure, septic tank and facilities: One toilet is designed with six toilet bowls and three urinals. The structure is made of concrete materials, GI roofing, tiled floor and walls (part) and painted.

Price Escalation

- ◆ PW4SP price level in 1999 was escalated to current 2003 prices at 2% per annum.

Unit Cost of Equipment

The unit cost of equipment shown below was prepared based on current standard procurement cost.

Table 9-2 Unit Cost of Equipment and Vehicle

Name of Equipment	Unit Cost (Pesos 1,000)
Truck-mounted rotary drilling machine	34,978
Truck-mounted percussion drilling machine	27,691
Well rehabilitation equipment	303
Service truck with crane	1,299
Support vehicle (Pick-up with winch)	1,485

Sector Management Cost

Sector management cost consists of: the following:

- ♦ Engineering studies (F/S, D/D and construction supervision) for water supply, public toilet and school toilet facilities. Community development and training including health and hygiene education and logistic support.
- ♦ Cost of engineering studies was estimated based on fixed percentages of 9% for F/S and D/D and 4% for construction supervision of the total direct cost
- ♦ Community development and training with logistic support was also estimated at 12% of respective construction costs for rural water supply and sanitation and 3% of construction cost for urban water supply and sanitation.
- ♦ Contingency cost covers both physical and price contingencies for water and sanitation facilities. Physical contingency is assumed to be 15% of the direct construction cost. Price contingency is assumed to be 10% of the direct cost and physical contingency.

9.3 Cost of Required Facilities and Equipment

The total construction cost of required facilities as public investment of LGUs are shown in Table 9-3 and 9-4 , tabulated investment cost for Phase I and Phase II respectively.

During the 2005 Medium Term Development period, a total of (PhP) 981.985 million will be required for construction of required water supply and sanitation facilities. Of the requirements, the total required cost will be distributed at 19% for urban water supply and 74% for rural water supply and the remaining 7% will be required for urban and rural sanitation.

Phase 1 (2005-2010) Requirement

Municipality	Phase I (2005-2010) Requirement													
	Urban Area							Rural Area						
	Water Supply			Sanitation				Water Supply			Sanitation			
	Level III	Level II	Level I	III Flush	III Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	III Flush	III Pour Flush	Public School	Public Utilities
1 Indanan	3,735	8,765	27,734	535	1,147	1,063	349	22,786	0	5,238	0	134	0	133
2 Jolo	47,128	0	0	6,905	0	1,521	482	0	0	0	0	0	0	0
3 Kalingalan Caluang	0	0	0	0	0	0	0	20,795	1,299	8,068	3,485	128	829	0
4 Luuk	8,161	0	0	1,424	0	0	176	5,337	7,646	25,225	931	575	876	0
5 Mainbung	1,606	0	0	211	0	39	35	9,307	1,737	30,628	1,223	476	903	0
6 Panamao	1,748	0	0	231	0	26	41	13,245	1,486	39,751	1,750	597	628	0
7 Panglima Tahil	0	3,724	0	0	115	72	482	0	0	0	0	0	0	0
8 Panglima Esino	961	0	0	134	0	86	22	11,357	3,440	10,616	1,587	253	1,147	0
9 Pangutaran	0	2,863	0	0	103	161	128	0	9,907	14,228	0	560	853	0
10 Pandani	0	0	0	0	0	0	0	0	4,546	27,964	0	478	652	0
11 Parang	0	1,572	0	0	50	36	30	0	9,506	898	0	1,344	1,125	0
12 Pata	0	0	0	0	0	0	0	0	6,432	4,858	0	298	362	0
13 Patikul	5,111	1,217	0	739	48	294	784	2,713	4,509	29,492	1,691	499	1,207	0
14 Siasi	22,809	0	0	2,618	0	156	116	8,910	7,155	80,846	1,023	1,240	895	0
15 Talipao	6,303	1,137	0	863	40	86	63	12,192	10,353	91,394	897	890	1,002	0
16 Provincial Total	97,562	19,279	27,734	13,660	1,503	3,541	2,708	106,642	68,016	369,204	12,586	7,470	10,576	133
17 Physical Contingency(15% of 1)	14,634	2,892	4,160	2,049	225	531	406	15,996	10,202	55,381	1,888	1,120	1,586	20
18 Price Contingency(10% of 1 & 2)	11,220	2,217	3,189	1,571	173	407	311	12,264	7,822	42,458	1,447	859	1,216	15
19 Total Direct Cost	25,854	5,109	7,349	3,620	398	938	718	28,260	18,024	97,839	3,335	1,979	2,803	35
20 Indirect Cost														
21 Feasibility Study/DD (9% of 4)	2,327	460	661	326	36	84	65	2,543	1,622	8,806	300	178	252	3
22 Construction Supervision(4% of 4)	1,034	204	294	145	16	38	29	1,130	721	3,914	133	79	112	1
23 Training(3% and 12% for Urban & rural)	776	153	220	109	12	28	22	3,391	2,163	11,741	400	238	336	4
24 Total Indirect Cost	4,137	817	1,176	579	64	150	115	7,065	4,506	24,460	834	495	701	9
25 Total Project Cost	127,552	25,205	36,259	17,860	1,965	4,630	3,541	141,968	90,546	491,503	16,756	9,944	14,079	177

Table 9-4 Total Development Cost (P x 1,000)

Municipality	Urban Area										Rural Area										
	Water Supply					Sanitation					Water Supply					Sanitation					
	Level III	Level II	Level I	III Flush	III Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	III Flush	III Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	III Flush	III Pour Flush	Public School	Public Utilities
Indanan	14,035	2,053	14,549	9,175	2,169	780	419	0	1,451	960	0	0	0	0	0	0	0	0	0	0	49
Iloilo	10,914	0	0	0	0	1,171	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kidapawan Charge	0	0	0	0	0	0	0	0	13,015	0	10,113	0	0	0	0	0	0	0	0	819	0
Lunka	5,189	0	0	4,110	0	181	97	0	2,805	4,001	2,328	1,053	647	0	0	0	0	0	0	0	0
Mankung	849	0	0	515	0	336	409	0	674	9,461	2,989	1,162	666	0	0	0	0	0	0	0	0
Pandawa	1,334	4,230	0	850	0	19	411	10,997	3,347	8,070	6,031	1,430	462	0	0	0	0	0	0	0	0
Pandawa Total	0	1,648	0	0	335	360	488	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pandurran Estimo	1,493	0	0	964	0	354	44	7,901	375	3,932	5,065	513	435	0	0	0	0	0	0	0	0
Pandurran	0	1,270	0	0	300	118	71	0	5,385	2,869	0	1,638	630	0	0	0	0	0	0	0	0
Pandurran	0	0	0	0	0	0	0	0	1,769	8,621	6,232	2,437	839	0	0	0	0	0	0	0	0
Parang	1,535	0	0	910	0	27	406	10,950	2,585	18,843	6,232	2,437	839	0	0	0	0	0	0	0	0
Pasa	0	0	0	0	0	0	0	0	2,845	1,581	0	851	267	0	0	0	0	0	0	0	0
Patal	1,373	355	0	1,841	81	206	147	1,353	1,682	10,278	0	1,737	461	0	0	0	0	0	0	0	0
Patal	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Siasi	6,790	0	0	3,539	0	421	454	4,115	4,993	21,172	1,930	2,591	661	0	0	0	0	0	0	0	0
Talipasa	3,536	445	0	2,099	97	740	3,876	13,518	2,481	30,986	4,061	1,923	740	0	0	0	0	0	0	0	0
Proximal Total	112,832	10,002	14,549	66,712	2,982	4,665	3,876	75,923	31,465	120,844	43,769	17,277	7,205	49	0	0	0	0	0	0	0
Physical Contingency (15% of 1)	16,932	1,500	2,182	10,012	447	700	581	11,388	4,720	18,127	6,565	2,592	1,081	7	0	0	0	0	0	0	0
Price Contingency (10% of 1 & 2)	12,981	1,150	1,673	7,676	343	536	446	8,731	3,619	13,897	5,033	1,987	829	6	0	0	0	0	0	0	0
Total Direct Cost	29,914	2,650	3,856	17,638	790	1,236	1,027	20,119	8,338	32,024	11,599	4,578	1,909	13	0	0	0	0	0	0	0
Indirect Cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Feasibility Study (DO # 4)	2,692	239	347	1,592	71	111	92	1,811	750	2,882	1,044	412	172	1	0	0	0	0	0	0	0
Construction Supervision (4% of 4)	1,197	106	154	708	32	49	41	805	334	1,281	464	183	76	1	0	0	0	0	0	0	0
Training (5% and 12% for Urban & rural)	597	80	116	531	24	37	31	2,414	1,001	3,843	1,392	549	229	2	0	0	0	0	0	0	0
Total Indirect Cost	4,786	424	617	2,830	126	198	164	5,030	2,085	8,006	2,900	1,145	477	3	0	0	0	0	0	0	0
Total Project Cost	147,582	13,076	19,022	87,265	3,999	6,099	5,097	101,072	41,838	160,873	55,268	23,000	9,591	66	0	0	0	0	0	0	0

Details of development cost per facility as broken down in municipalities are shown in Appendix 9.3.1 to 9.3.15 and Appendix 9.4.1 to 9.4.15, for Phase I & II respectively.

The number of sets of equipment required was estimated based on the town clustering of the province. In the province of Sulu, two (2) clusters of Municipalities were made. Cluster I consists of the municipalities within the mainland Sulu (10 municipalities) four (4) sets of equipment are allocated. Cluster II are the island municipalities (8 in all) three (3) sets of equipment is allocated. The total cost of equipment to be procured by the province is shown in Table 9-3.

Table 9-5 Equipment Requirement/Cost (P x 1,000)

Name of Equipment	Quantity	Unit	Unit Cost	Total Cost
Truck-mounted rotary drilling machine	7	set	34,978	244,846
Truck-mounted percussion drilling machine	7	set	27,691	193,837
Well rehabilitation equipment	7	set	303	2,121
Service truck with crane	7	set	1,299	9,093
Support vehicle (4-wheel drive Pick-up)	7	set	1,485	10,395
Total Equipment Cost				460,292

CHAPTER 10
INVESTMENT PLAN AND FINANCIAL
ARRANGEMENTS

10. INVESTMENT PLAN AND FINANCIAL ARRANGEMENTS

10.1 Criteria for Selecting Projects/Areas

In the province of Sulu, majority of the municipalities are in need of assistance for the improvement of their respective water supply and sanitation facilities. The prioritization and selection, however, depends on various factors. Tables 10-1 to 10-3 respectively list the technical, socio-economic, and financial criteria established and considered during the course of this study. The criteria, however, were not fully used primarily due to lack of data and information for making the selection. These criteria may be used by JICA in its future project selection.

Table 10-1 Technical Criteria for Project/Area Prioritization

PARAMETERS	INDICATORS	CRITERIA	POINTS
Water system existing level of service	Presence of existing Level III service	With less existing level 3 service	No existing Level III: 5.0; With existing Level III: 1.0
Availability of water source	With available water sources	Have abundant water sources	=>2 abundant sources: 5.0; < 2 abundant sources: 1.0

Note: Point System: High Priority = 5.0, Low Priority = 1.0

Table 10-2 Socio-economic Criteria for Project/Area Prioritization

PARAMETERS	INDICATORS	CRITERIA	POINTS
Capacity to Pay	Average Income, Average Water Rate	Ratio of Income to Water Rate (3% or less)	3%: 5.0; >3%: 1.0
Peace and Order Situation	Crime Rate	With Low Rate in the area	10/1000 population: 5.0 >10/1000 population: 1.0
Health	Water-Borne Diseases Morbidity and Mortality Rates	With highest rates	10/1000 population: 5.0 >10/1000 population: 1.0
Access by the Poor	Number/percentage of poor in the area, Poverty Incidence, Average Household Monthly Income	Highest percentage of poor in the area	Ave. HH Income=< Poverty Level Income: 5.0; Ave. HH Income > Poverty Level Income: 1.0
Served vs. Unserved Population	Percentage of Unserved population in the area	With highest % of unserved in the area	=>50% unserved: 5.0 <50% unserved: 1.0

Note: Point System: High Priority = 5.0, Low Priority = 1.0

Table 10-3 Institutional/Financial Criteria for Project/Area Prioritization

PARAMETERS	INDICATORS	CRITERIA	POINTS
Willingness to Pay	Collection Efficiency (%)	Highest Collection Efficiency	80%: 5.0 <80%: 1.0
Willingness to Organize	Number of Functioning Community Organizations	With 2 or more functioning organizations	=>2: 5.0 <2.0: 1.0
Willingness to Learn and to O&M Facilities	Level of Educational Attainment and Training of Population	Population has Mostly College Graduates	=>60% of population are college graduates: 5.0; <60%: 1.0

Note: Point System: High Priority = 5.0, Low Priority = 1.0

10.2 Identification of Priority Projects for Medium-Term Development Plan

In the province of Sulu, almost all towns are in need of assistance for water and sanitation improvement. Likewise, potential water sources are also available in each locality. Based on the investment cost presented in Chapter 9, the viability of each town shall depend on its financial evaluation.

The towns of Sulu were ranked based on the aspects of accessibility of the project area, type of proposed water service, and number of potential served population. The ranking of municipalities are shown below.

From these identified potential projects, a feasibility study shall be conducted to evaluate the priority projects in terms of its requirements and viability. Basically, first level of priority is given to projects with positive feasibility indicator.

APPENDICES

APPENDIX 5-1
BUDGET OPERATIONS STATEMENT - SULU
INCOME & EXPENDITURES

	1999	2000	2001
INCOME			
LOCAL SOURCES	5,336,852	602,206	383,000
REVENUE FROM TAXATION	4,721,650	413,064	194,000
Real Property Tax	206,570	340,498	127,000
Local Taxes	4,515,080	72,566	47,000
Other Taxes			20,000
NON-TAX REVENUES	615,203	189,142	189,000
Receipt from Eco. Ent.	131,800	73,600	74,000
Fees/Charges	67,887	0	115,000
Loans and Borrowings	0	0	
Other Receipts	415,516	115,542	
AIDS AND ALLOTMENTS	191,447,703	232,455,349	231,804,000
BIR Allotments	186,168,468	230,368,137	218,955,000
National Aids	5,279,235	0	
National Wealth	0	2,087,212	12,849,000
TOTAL INCOME	196,784,556	233,057,554	232,187,000
EXPENDITURES			
CURRENT EXPENDITURES	111,500,490	307,025,544	149,585,000
General Government	28,906,924	57,035,353	67,997,000
Edu., Cult., & Sports/Mpwr Devt.			
Health, Nutrition & Pop. Control			7,192,000
Public Welfare & Int. Safety	20,844,408	81,234,951	
Economic Development	19,801,874	30,671,456	62,396,000
Operation of Econ. Ent.	0	0	
Other Charges	41,947,284	138,083,784	12,000,000
CAPITAL OUTLAY	0	0	81,849,000
TOTAL EXPENDITURES	111,500,490	307,025,544	231,434,000
EXCESS (DEFICIT) OF INCOME	85,284,066	-73,967,989	753,000
OVER EXPENDITURES			

Source : BOS Databank - Bureau of Local Government Finance

BUDGET OPERATIONS STATEMENT

SULU

LGU Name:	Indanan			Jolo			Kalingalan Caluang		
	1999	2000	2001	1999	2000	2001	1999	2000	2001
INCOME									
Local Sources	62,549.81	245,971.72	245,971.72	6,221,141.57	6,512,012.90	6,279,000.00	835,219.33	75,574.10	99,000.00
Revenue from Taxation	49,832.81	86,756.69	86,756.69	3,032,357.66	3,265,077.92	3,182,000.00	69,708.65	63,258.10	72,000.00
Real Property Tax	25,232.81	12,444.69	12,444.69	239,217.91	358,959.37	263,000.00	14,554.65	18,444.30	2,000.00
Business Tax	24,600.00	74,312.00	74,312.00	2,793,139.75	2,906,118.55	2,489,000.00	55,154.00	44,813.80	5,000.00
Other Taxes	0.00	0.00	0.00	0.00	0.00	430,000.00	0.00	0.00	65,000.00
Non-Tax Revenues	12,717.00	159,215.03	159,215.03	3,188,783.91	3,246,934.98	3,097,000.00	765,510.68	12,316.00	27,000.00
Receipts from Eco. Enterprise	2,161.00	4,225.00	4,225.00	1,246,176.25	1,486,856.00	1,349,000.00	2,100.00	0.00	0.00
Fees/Charges	10,556.00	154,990.03	154,990.03	1,937,705.27	1,750,262.59	1,748,000.00	13,410.68	12,316.00	27,000.00
Loans & Borrowings	0.00	0.00	0.00	0.00	0.00	0.00	750,000.00	0.00	0.00
Other Receipts	0.00	0.00	0.00	4,902.39	9,816.39	0.00	0.00	0.00	0.00
Aids and Allotments	22,435,797.54	26,012,957.00	26,012,957.00	29,503,872.77	35,288,968.11	35,996,000.00	12,740,341.89	14,775,373.00	14,906,000.00
BIR Allotment (IRA)	22,435,797.54	26,012,957.00	26,012,957.00	29,503,872.77	35,288,968.11	35,017,000.00	12,740,341.89	14,775,373.00	14,906,000.00
National Aids	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
National Wealth	0.00	0.00	0.00	0.00	0.00	979,000.00	0.00	0.00	0.00
TOTAL INCOME	22,498,347.35	26,258,928.72	26,258,928.72	35,725,014.34	41,800,981.01	42,275,000.00	13,575,561.22	14,850,947.10	15,005,000.00
EXPENDITURES									
Current Expenditures	22,203,903.37	23,752,063.50	18,770,194.00	33,025,450.47	41,494,556.78	39,936,000.00	13,465,360.02	13,518,951.75	14,015,000.00
General Government	17,239,553.87	16,439,333.00	16,439,333.00	20,219,396.23	23,300,944.54	28,532,000.00	9,806,412.22	9,887,036.63	10,827,000.00
Public Welfare & Internal Safety	5,000.00	365,492.00	365,492.00	152,248.25	1,283,048.13	1,275,000.00	5,000.00	270,594.04	0.00
Economic Development	1,114,992.00	1,965,369.00	1,965,369.00	6,621,519.68	8,588,369.85	10,129,000.00	432,572.00	541,188.08	3,188,000.00
Operation of Eco. Enterprise	0.00	0.00	0.00	1,720,622.80	1,408,161.06	0.00	0.00	0.00	0.00
Other Charges	3,844,357.50	4,981,869.50	0.00	4,311,663.51	6,914,033.20	0.00	3,221,375.80	2,820,133.00	0.00
Capital Outlay	240,000.00	1,045,406.00	6,027,275.50	0.00	0.00	152,000.00	0.00	0.00	850,000.00
TOTAL EXPENDITURES	22,443,903.37	24,797,469.50	24,797,469.50	33,025,450.47	41,494,556.78	40,088,000.00	13,465,360.02	13,518,951.75	14,865,000.00
Excess (Deficit) of Income	54,443.98	1,461,459.22	1,461,459.22	2,699,563.87	306,424.23	2,187,000.00	110,201.20	1,331,995.35	140,000.00
Over Expenditures									

Source : SIE Databank - Bureau of Local Government Finance

BUDGET OPERATIONS STATEMENT

LGU Name:	Lunk		Mainbung		Hadji Panglima Tahil (Marungas)		SULU
	1999	2000	1999	2000	1999	2000	
INCOME							
Local Sources							
Revenue from Taxation	221,516.98	578,205.27	82,424.38	93,696.99	75,809.00		15,000.00
Real Property Tax	150,393.98	345,166.27	23,801.38	68,068.99	33,206.00		15,000.00
Business Tax	19,409.59	80,377.62	6,102.38	11,603.99	4,706.00		1,000.00
Other Taxes	130,984.39	264,788.65	17,699.00	56,465.00	28,500.00		3,000.00
Non-Tax Revenues	0.00	0.00	0.00	0.00	0.00		11,000.00
Receipts from Eco. Enterprise	71,123.00	233,039.00	58,623.00	25,628.00	42,603.00		0.00
Fees/Charges	11,000.00	15,000.00	1,175.00	555.00	700.00		0.00
Loans & Borrowings	60,123.00	213,229.00	32,448.00	24,873.00	41,903.00		0.00
Other Receipts	0.00	0.00	0.00	0.00	0.00		0.00
Aids and Allotments	0.00	4,810.00	25,000.00	200.00	0.00		0.00
BIR Allotment (IRA)	18,722,769.00	21,573,855.00	13,271,772.00	15,416,303.00	7,657,626.83		9,257,000.00
National Aids	0.00	0.00	0.00	0.00	0.00		0.00
National Wealth	0.00	0.00	0.00	0.00	0.00		0.00
TOTAL INCOME	18,944,285.98	22,152,060.27	13,354,196.38	15,509,999.99	7,733,435.83		9,272,000.00
EXPENDITURES							
Current Expenditures	18,527,968.20	22,021,557.69	12,623,457.46	14,379,040.75	7,584,585.78		8,385,000.00
General Government	12,997,511.43	15,292,461.17	9,109,825.90	9,158,309.52	4,887,960.74		6,250,000.00
Public Welfare & Internal Safety	2,500.00	25,000.00	0.00	372,778.36	1,000.00		0.00
Economic Development	954,651.37	1,248,850.32	913,650.76	1,155,304.02	302,001.44		2,135,000.00
Operation of Eco. Enterprise	0.00	0.00	0.00	0.00	0.00		0.00
Other Charges	4,573,305.40	5,455,246.20	2,599,980.80	3,692,648.85	2,393,623.60		0.00
Capital Outlay	0.00	0.00	480,057.47	315,000.00	0.00		741,000.00
TOTAL EXPENDITURES	18,527,968.20	22,021,557.69	13,103,514.93	14,694,040.75	7,584,585.78		9,136,000.00
Excess (Deficit) of Income	416,317.78	130,502.58	2,506,681.45	815,959.24	1,488,850.05		146,000.00
Over Expenditures							

Source : SIE Databank - Bureau of Local Government Finance

BUDGET OPERATIONS STATEMENT

SULU

LCRI Name:	Panamao			Pangasinan			Pampanga			Palawan		
	1999	2000	2001	1999	2000	2001	1999	2000	2001	1999	2000	2001
INCOME												
Local Sources												
Revenue from Taxation	14,572.57	59,733.69	70,000.00	224,484.11	230,384.49	216,000.00	6,073,256.53	100,000.00	178,000.00			
Real Property Tax	3,502.20	38,841.69	43,000.00	82,365.11	139,248.49	124,000.00	979,593.53	0.00	120,000.00			
Business Tax	3,502.20	3,286.69	5,000.00	2,404.72	19,598.30	23,000.00	19,231.96	0.00	54,000.00			
Other Taxes	0.00	35,555.00	0.00	79,960.39	119,650.19	9,000.00	960,361.57	0.00	23,000.00			
Non-Tax Revenues	0.00	0.00	38,000.00	0.00	0.00	92,000.00	0.00	0.00	43,000.00			
Receipts from Eco. Enterprise	11,070.37	20,892.00	27,000.00	142,119.00	91,136.00	92,000.00	5,093,663.00	100,000.00	58,000.00			
Fees/Charges	0.00	110.00	0.00	62,582.00	13,604.00	36,000.00	41,546.00	50,000.00	25,000.00			
Loans & Borrowings	8,605.00	20,782.00	27,000.00	79,537.00	77,532.00	56,000.00	52,117.00	50,000.00	33,000.00			
Other Receipts	0.00	0.00	0.00	0.00	0.00	0.00	5,000,000.00	0.00	0.00			
Aids and Allotments	2,465.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
BIR Allotment (IRA)	15,610,615.63	18,044,377.35	18,182,000.00	17,810,570.00	20,952,828.00	21,164,000.00	23,452,868.00	28,363,233.00	28,389,000.00			
National Aids	0.00	0.00	18,182,000.00	17,810,570.00	20,952,828.00	21,164,000.00	23,452,868.00	28,363,233.00	28,389,000.00			
National Wealth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
TOTAL INCOME	15,625,188.20	18,104,111.04	18,252,000.00	18,035,054.11	21,183,212.49	21,380,000.00	29,526,124.53	28,463,233.00	28,567,000.00			
EXPENDITURES												
Current Expenditures	15,461,779.57	16,386,032.15	15,393,000.00	17,779,177.29	21,599,288.85	20,171,000.00	29,448,465.00	24,586,391.47	22,101,000.00			
General Government	11,312,842.21	11,317,750.11	10,741,000.00	12,158,991.97	13,732,217.75	14,613,000.00	15,429,671.78	15,363,711.74	11,633,000.00			
Public Welfare & Internal Safety	102,244.00	102,244.00	0.00	2,000.00	5,000.00	0.00	604,163.48	467,631.48	0.00			
Economic Development	1,314,705.32	1,506,859.64	4,551,000.00	1,144,760.00	1,843,881.00	5,558,000.00	2,511,412.74	6,620,194.23	10,468,000.00			
Operation of Eco. Enterprise	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Other Charges	2,731,987.84	3,459,178.40	101,000.00	4,473,425.32	6,018,190.10	0.00	10,903,217.00	2,134,854.02	0.00			
Capital Outlay	0.00	0.00	912,000.00	0.00	230,000.00	1,061,000.00	0.00	1,528,678.53	7,968,000.00			
TOTAL EXPENDITURES	15,461,779.57	16,386,032.15	16,305,000.00	17,779,177.29	21,829,288.85	21,232,000.00	29,448,465.00	26,115,070.00	30,069,000.00			
Excess (Deficit) of Income	163,408.63	1,718,078.89	1,947,000.00	255,876.82	-646,076.36	148,000.00	77,659.53	2,348,163.00	-1,502,000.00			
Over Expenditures												

Source : SIE Databank - Bureau of Local Government Finance

BUDGET OPERATIONS STATEMENT

LGU Name:	Pata			Patikul			Siasi			SULU
	1999	2000	2001	1999	2000	2001	1999	2000	2001	
INCOME										
Local Sources										
Revenue from Taxation	28,470.57	29,725.56	29,725.56	106,189.19	165,217.34	242,000.00	898,542.38	1,271,753.34	1,643,000.00	
Real Property Tax	1,545.57	3,914.06	3,914.06	91,524.19	152,459.34	232,000.00	326,444.66	501,439.34	653,000.00	
Business Tax	7,425.00	24,541.50	24,541.50	59,724.69	50,465.59	49,000.00	73,890.66	50,549.34	77,000.00	
Other Taxes	0.00	0.00	0.00	31,799.50	101,993.75	86,000.00	252,554.00	450,890.00	556,000.00	
Non-Tax Revenues	19,500.00	1,270.00	1,270.00	14,665.00	12,738.00	10,000.00	572,097.72	770,314.00	990,000.00	
Receipts from Eco. Enterprise	2,000.00	0.00	0.00	7,000.00	3,000.00	4,000.00	351,860.00	679,530.00	0.00	
Fees/Charges	16,500.00	0.00	0.00	7,665.00	9,758.00	6,000.00	220,237.72	90,784.00	414,000.00	
Loans & Borrowings	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Other Receipts	1,000.00	1,270.00	1,270.00	0.00	0.00	0.00	0.00	0.00	576,000.00	
Aids and Allotments	9,925,881.94	11,272,106.00	11,272,106.00	19,906,343.63	23,215,085.77	22,117,000.00	23,852,501.00	27,826,117.45	69,751,000.00	
BIR Allotment (IRA)	9,925,881.94	11,272,106.00	11,272,106.00	19,906,343.63	23,215,085.77	22,117,000.00	23,852,501.00	27,826,117.45	69,751,000.00	
National Aids	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
National Wealth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
TOTAL INCOME	9,954,352.51	11,301,831.56	11,301,831.56	20,012,532.82	23,380,303.11	22,359,000.00	24,751,043.38	29,097,870.79	71,394,000.00	
EXPENDITURES										
Current Expenditures	9,994,821.71	8,254,822.00	8,254,822.00	19,888,186.47	23,363,645.85	20,558,000.00	22,878,066.13	24,726,689.00	69,526,000.00	
General Government	7,336,888.79	7,390,299.50	7,390,299.50	13,865,642.78	16,152,374.65	14,618,000.00	14,791,331.86	13,788,467.76	53,126,000.00	
Public Welfare & Internal Safety	1,000.00	1,000.00	1,000.00	28,490.00	27,000.00	178,000.00	68,276.65	57,500.00	0.00	
Economic Development	723,042.72	863,522.50	863,522.50	1,425,738.16	1,775,307.20	5,737,000.00	6,758,581.52	1,479,737.44	16,375,000.00	
Operation of Eco. Enterprise	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7,966,024.35	0.00	
Other Charges	1,933,890.20	0.00	0.00	4,568,315.53	5,408,964.00	25,000.00	1,259,876.10	1,434,959.45	25,000.00	
Capital Outlay	0.00	2,215,637.20	2,215,637.20	90,000.00	15,000.00	1,080,000.00	2,000,000.00	3,000,000.00	0.00	
TOTAL EXPENDITURES	9,994,821.71	10,470,459.20	10,470,459.20	19,978,186.47	23,378,645.85	21,638,000.00	24,878,066.13	27,726,689.00	69,526,000.00	
Excess (Deficit) of Income	-40,469.20	831,372.36	831,372.36	34,346.35	1,657.26	721,000.00	-127,022.75	1,371,181.79	1,868,000.00	
Over Expenditures										

Source : S/E Databank - Bureau of Local Government Finance

BUDGET OPERATIONS STATEMENT

LCU Name:	Taliapao			Tapul			Tongkil			Sulu
	1999	2000	2001	1999	2000	2001	1999	2000	2001	
INCOME										
Local Sources										
Revenue from Taxation	80,209.33	120,166.58	2,941,000.00	72,350.00	0.00	15,000.00	184,197.87	98,141.08	227,635.51	
Real Property Tax	44,352.78	89,998.38	244,000.00	12,520.00	0.00	6,000.00	76,887.87	40,661.08	66,108.51	
Business Tax	17,423.30	1,378.98	10,000.00	10,200.00	0.00	1,000.00	17,428.87	17,942.08	6,467.51	
Other Taxes	26,929.48	88,619.40	0.00	2,320.00	0.00	0.00	59,459.00	22,719.00	19,479.00	
Non-Tax Revenues	35,856.55	30,168.20	2,697,000.00	59,830.00	0.00	9,000.00	107,310.00	57,480.00	161,527.00	
Receipts from Eco. Enterprise	16,774.05	17,633.20	0.00	0.00	0.00	0.00	16,500.00	13,741.00	9,986.57	
Fees/Charges	19,082.50	12,535.00	6,000.00	59,830.00	0.00	9,000.00	88,110.00	43,739.00	143,296.00	
Loans & Borrowings	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Other Receipts	0.00	0.00	2,691,000.00	0.00	0.00	0.00	2,700.00	0.00	8,244.43	
Aids and Allotments	28,747,166.10	35,202,681.10	32,595,000.00	10,671,132.00	13,206,329.00	13,300,000.00	12,279,848.00	14,626,638.07	15,714,797.00	
BIR Allotment (IRA)	28,747,166.10	35,202,681.10	32,595,000.00	10,671,132.00	13,206,329.00	13,300,000.00	12,279,848.00	14,626,638.07	15,714,797.00	
National Aids	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
National Wealth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
TOTAL INCOME	28,827,375.43	35,322,847.68	35,536,000.00	10,743,482.00	13,206,329.00	13,315,000.00	12,464,045.87	14,724,779.15	15,942,432.51	
EXPENDITURES										
Current Expenditures	27,907,381.18	32,571,648.31	35,127,000.00	10,752,487.00	12,302,292.57	12,572,000.00	12,369,008.18	14,633,403.66	15,011,385.33	
General Government	15,465,159.55	15,905,256.46	17,754,000.00	7,427,245.92	8,773,366.77	11,687,000.00	8,644,999.08	9,881,159.42	14,425,486.73	
Public Welfare & Internal Safety	0.00	3,500.00	0.00	207,486.04	0.00	0.00	2,000.00	17,000.00	0.00	
Economic Development	6,837,658.37	9,800,220.93	17,373,000.00	434,972.04	434,338.64	241,000.00	717,987.05	809,125.00	585,898.60	
Operation of Eco. Enterprise	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Other Charges	5,604,563.26	6,862,670.92	0.00	2,682,783.00	3,094,567.16	644,000.00	3,004,022.05	3,926,119.24	0.00	
Capital Outlay	781,559.50	1,455,562.83	0.00	0.00	0.00	0.00	0.00	0.00	810,530.25	
TOTAL EXPENDITURES	28,688,940.68	34,027,211.14	35,127,000.00	10,752,487.00	12,302,292.57	12,572,000.00	12,369,008.18	14,633,403.66	15,821,915.58	
Excess (Deficit) of Income Over Expenditures	138,434.75	1,295,636.54	409,000.00	-9,005.00	904,036.43	743,000.00	95,037.69	91,375.49	120,516.93	

Source : S/E Databank - Bureau of Local Government Finance

BUDGET OPERATIONS STATEMENT

SULU

LGU Name:	Panglima Estino (New Panamao)			Lugus			Pandani		
	1999	2000	2001	1999	2000	2001	1999	2000	2001
INCOME									
Local Sources									
Revenue from Taxation	6,716.80	20,000.00	57,000.00	29,337.48	20,557.06	18,000.00	121,827.53	52,541.75	39,000.00
Real Property Tax	1,802.80	0.00	41,000.00	18,827.48	10,087.06	16,000.00	116,924.53	38,151.75	31,000.00
Business Tax	1,552.80	0.00	8,000.00	14,022.96	7,545.06	2,000.00	4,824.36	3,820.25	2,000.00
Other Taxes	250.00	0.00	3,000.00	4,804.52	2,542.00	1,000.00	112,100.17	34,331.50	0.00
Non-Tax Revenues	0.00	0.00	30,000.00	0.00	0.00	13,000.00	0.00	0.00	29,000.00
Receipts from Eco. Enterprise	4,914.00	20,000.00	16,000.00	10,510.00	10,470.00	2,000.00	4,903.00	14,390.00	8,000.00
Fees/Charges	500.00	0.00	0.00	7,050.00	2,800.00	0.00	0.00	3,330.00	0.00
Loans & Borrowings	4,414.00	10,900.00	16,000.00	3,460.00	7,670.00	0.00	4,903.00	11,060.00	4,000.00
Other Receipts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aids and Allotments	12,229,481.32	9,100.00	0.00	0.00	0.00	2,000.00	0.00	0.00	4,000.00
BIR Allotment (IRA)	12,229,481.32	14,169,755.00	14,344,000.00	11,507,901.36	13,811,908.00	13,496,000.00	13,222,942.18	15,271,821.00	15,396,000.00
National Aids	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
National Wealth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL INCOME	12,236,198.12	14,189,755.00	14,401,000.00	11,537,238.84	13,832,465.06	13,514,000.00	13,344,769.71	15,324,362.75	15,435,000.00
EXPENDITURES									
Current Expenditures	12,880,799.83	13,227,964.62	13,084,000.00	11,581,302.31	12,843,921.00	12,179,000.00	13,526,848.00	14,549,031.00	13,805,000.00
General Government	9,246,586.35	8,554,452.20	10,047,000.00	7,434,734.91	7,371,876.53	8,180,000.00	10,257,519.28	9,908,997.25	10,033,000.00
Public Welfare & Internal Safety	102,244.00	416,752.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Economic Development	547,096.48	648,016.48	3,037,000.00	1,933,753.20	2,276,464.22	3,999,000.00	738,039.08	994,876.00	3,772,000.00
Operation of Eco. Enterprise	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Charges	2,984,873.00	3,608,743.70	0.00	2,212,814.20	3,195,580.25	0.00	2,531,289.64	3,645,157.75	0.00
Capital Outlay	0.00	0.00	992,000.00	99,828.72	0.00	17,000.00	0.00	0.00	743,000.00
TOTAL EXPENDITURES	12,880,799.83	13,227,964.62	14,076,000.00	11,681,131.03	12,843,921.00	12,196,000.00	13,526,848.00	14,549,031.00	14,548,000.00
Excess (Deficit) of Income Over Expenditures	-644,601.71	961,790.38	325,000.00	-143,892.19	988,544.06	1,318,000.00	-182,078.29	775,331.75	887,000.00

Source : S/E Databank - Bureau of Local Government Finance

Appendix Table 9.2.1 Unit Cost of Level I (Shallow Well - 10m Depth)

Work Items	Quantity	Unit	Unit Cost	Cost
A Mobilization/Demobilization	1.0	LS	9,768.90	9,768.90
B Well Drilling and Geophysical Logging				
150-mm Dia. borehole by Rotary Method	10.0	m	1,072.29	10,722.90
Geophysical Borehole Logging	1.0	LS	7,231.00	7,231.00
Sub-Total of (B)				17,953.90
C Well Development/Disinfection				
Well Development By Airlifting Method	12.0	hr	1,172.24	14,066.88
Disinfection	1.0	LS	4,573.32	4,573.32
Sub-Total of (C)				18,640.20
D Furnishing and Installation of 50 mm Dia. Well Casings and Screens, Centralizers, Gravel Packing, Cement Grout, Seal, Handpump and Construction of Platform				
1. Materials				
50mm diam. uPVC Casing Pipes	7.5	m	101.20	759.00
50mm diam. uPVC Well Screens	3.0	m	440.00	1,320.00
Centralizers	3.0	pc	80.00	240.00
Gravel Pack	5.0	m	70.00	350.00
Cement Grout	2.0	m	88.20	176.40
Clay	1.0	m	7.53	7.53
Backfill	2.0	m	6.87	13.74
Hand Pump	1.0	no.	945.00	945.00
Cement	7.0	bag	140.00	980.00
Sand	0.5	m3	400.00	200.00
Gravel	1.0	m3	700.00	700.00
10mmx6m Reinf. Steel Bar	6.0	pc	53.00	318.00
No. 16 GI Wire	0.5	kg	45.00	22.50
CHB	35.0	pc	7.50	262.50
Sub-Total of Materials				6,294.67
2. Labor (40% of Materials)				2,517.87
3. Freight Cost (11% of Materials)				692.41
Sub-Total of (D)				9,504.95
E Water Quality Analysis	1.0	LS	1,300.00	1,300.00
F Indirect Cost				
Profit (10% of A to E)				5,716.80
Overhead Expense (13% of A to E)				7,431.83
VAT (10% of Profit and Overhead Expenses)				1,314.86
Sub-Total of (F)				14,463.49
Total Construction Cost (A+B+C+D+E+F)				71,631.44
G Estimated Government Expenses				
1. Preliminary and Detailed Engineering Cost				
2. Construction Supervision				
Sub-Total of (G)				0.00
GRAND TOTAL				71,631.44
SAY				72,000.00

Note: L.S. - Lump Sum

Source: DILG-RWSSP V Project Standard Cost Estimate in 2002 Price Level.

Cost Adjusted to 2003 Price Level.

Appendix Table 9.2.2 Unit Cost of Level I (Shallow Well - 20m Depth)

Work Items	Quantity	Unit	Unit Cost	Cost
A Mobilization/Demobilization	1.0	LS	11,311.40	11,311.40
B Well Drilling and Geophysical Logging				
200-mm Dia. borehole by Rotary Method	20.0	m	1,214.90	24,298.00
Geophysical Borehole Logging	1.0	LS	7,231.00	7,231.00
Sub-Total of (B)				31,529.00
C Well Development/Disinfection				
Well Development By Airlifting Method	12.0	hr	1,172.24	14,066.88
Disinfection	1.0	LS	4,573.32	4,573.32
Sub-Total of (C)				18,640.20
D Furnishing and Installation of 50 mm Dia. Well Casings and Screens, Centralizers, Gravel Packing, Cement Grout, Seal, Handpump and Construction of Platform				
1. Materials				
100mm diam. uPVC Casing Pipes	17.5	m	310.70	5,437.25
100mm diam. uPVC Well Screens	3.0	m	1,300.00	3,900.00
Centralizers	4.0	pc	80.00	320.00
Gravel Pack	10.0	m	70.00	700.00
Cement Grout	3.0	m	88.20	264.60
Clay	1.0	m	7.53	7.53
Backfill	6.0	m	6.87	41.22
Hand Pump	1.0	no.	945.00	945.00
Cement	7.0	bag	140.00	980.00
Sand	0.5	m ³	400.00	200.00
Gravel	1.0	m ³	700.00	700.00
10mmx6m Reinf. Steel Bar	6.0	pc	53.00	318.00
No. 16 GI Wire	0.5	kg	45.00	22.50
CHB	35.0	pc	7.50	262.50
Sub-Total of Materials				14,098.60
2. Labor (40% of Materials)				5,639.44
3. Freight Cost (11% of Materials)				1,550.85
Sub-Total of (D)				21,288.89
E Water Quality Analysis	1.0	LS	1,300.00	1,300.00
F Indirect Cost				
Profit (10% of A to E)				8,406.95
Overhead Expense (13% of A to E)				10,929.03
VAT (10% of Profit and Overhead Expenses)				1,933.60
Sub-Total of (F)				21,269.58
Total Construction Cost (A+B+C+D+E+F)				105,339.07
G Estimated Government Expenses				
1. Preliminary and Detailed Engineering Cost				
2. Construction Supervision				
Sub-Total of (G)				0.00
GRAND TOTAL				105,339.07
SAY				105,000.00

Note: L.S. - Lump Sum

Source: DILG-RWSSP V Project Standard Cost Estimate in 2002 Price Level.

Cost Adjusted to 2003 Price Level.

Appendix Table 9.2.3 Unit Cost of Level I (Deep Well - 30m Depth)

Work Items	Quantity	Unit	Unit Cost	Cost
A Mobilization/Demobilization	1.0	LS	11,311.40	11,311.40
B Well Drilling and Geophysical Logging				
200-mm Dia. borehole by Rotary Method	30.0	m	1,369.77	41,093.10
Geophysical Borehole Logging	1.0	LS	7,231.00	7,231.00
Sub-Total of (B)				48,324.10
C Well Development/Disinfection				
Well Development By Airlifting Method	24.0	hr	766.20	18,388.80
Disinfection	1.0	LS	4,453.05	4,453.05
Sub-Total of (C)				22,841.85
D Casings and Screens, Centralizers, Gravel Packing, Cement Grout, Seal, Handpump, Riser pipe and Fittings and Construction of Platform				
1. Materials				
100mm diam. uPVC Casing Pipes	24.5	m	310.70	7,612.15
100mm diam. uPVC Well Screens	6.0	m	1,300.00	7,800.00
Centralizers	4.0	pc	80.00	320.00
Gravel Pack	15.0	m	70.00	1,050.00
Cement Grout	6.0	m	88.20	529.20
Clay	1.0	m	7.53	7.53
Backfill	8.0	m	6.87	54.96
Malawi Deep Well Hnad pump	1.0	no.	9,378.00	9,378.00
50 mm uPVC Riser	18.0	m	101.20	1,821.60
50 mm uPVC Coupling	5.0	no.	14.10	70.50
50 mm Male Threaded Adoptor	1.0	no.	27.00	27.00
Cement	7.0	bag	140.00	980.00
Sand	0.5	m3	400.00	200.00
Gravel	1.0	m3	700.00	700.00
10mmx6m Reinf. Steel Bar	6.0	pc	53.00	318.00
No. 16 GI Wire	0.5	kg	45.00	22.50
CHB	35.0	pc	7.50	262.50
Sub-Total of Materials				31,153.94
2. Labor (40% of Materials)				12,461.58
3. Freight Cost (11% of Materials)				3,426.93
Sub-Total of (D)				47,042.45
E Water Quality Analysis	1.0	LS	1,300.00	1,300.00
F Indirect Cost				
Profit (10% of A to E)				13,081.98
Overhead Expense (13% of A to E)				17,006.57
VAT (10% of Profit and Overhead Expenses)				3,008.86
Sub-Total of (F)				33,097.41
Total Construction Cost (A+B+C+D+E+F)				163,917.21
G Estimated Government Expenses				
1. Preliminary and Detailed Engineering Cost				
2. Construction Supervision				
Sub-Total of (G)				0.00
GRAND TOTAL				163,917.21
SAY				164,000.00

Note: L.S. - Lump Sum

Source: DILG-RWSSP V Project Standard Cost Estimate in 2002 Price Level.

Cost Adjusted to 2003 Price Level.

Appendix Table 9.2.4 Unit Cost of Level I (Deep Well - 50m Depth)

Work Items	Quantity	Unit	Unit Cost	Cost
A Mobilization/Demobilization	1.0	LS	11,311.40	11,311.40
B Well Drilling and Geophysical Logging				
200-mm Dia. borehole by Rotary Method	50.0	m	1,271.32	63,566.00
Geophysical Borehole Logging	1.0	LS	7,231.00	7,231.00
Sub-Total of (B)				70,797.00
C Well Development/Disinfection				
Treatment w/ Polyphosphate and Backwashing	12.0	hr	929.07	11,148.84
Well Development By Airlifting Method	24.0	hr	795.27	19,086.48
Disinfection	1.0	LS	6,370.18	6,370.18
Sub-Total of (C)				17,519.02
D Casings and Screens, Centralizers, Gravel Packing, Cement Grout, Seal, Handpump, Riser pipe and Fittings and Construction of Platform				
1. Materials				
100mm diam. uPVC Casing Pipes	44.5	m	310.70	13,826.15
100mm diam. uPVC Well Screens	6.0	m	1,300.00	7,800.00
Centralizers	4.0	pc	80.00	320.00
Gravel Pack	20.0	m	70.00	1,400.00
Cement Grout	6.0	m	88.20	529.20
Clay	1.0	m	7.53	7.53
Backfill	23.0	m	6.87	158.01
Malawi Deep Well Hnad pump	1.0	no.	9,378.00	9,378.00
50 mm uPVC Riser	18.0	m	101.20	1,821.60
50 mm uPVC Coupling	5.0	no.	14.10	70.50
50 mm Male Threaded Adoptor	1.0	no.	27.00	27.00
Cement	7.0	bag	140.00	980.00
Sand	0.5	m ³	400.00	200.00
Gravel	1.0	m ³	700.00	700.00
10mmx6m Reinf. Steel Bar	6.0	pc	53.00	318.00
No. 16 GI Wire	0.5	kg	45.00	22.50
CHB	35.0	pc	7.50	262.50
Sub-Total of Materials				37,820.99
2. Labor (40% of Materials)				15,128.40
3. Freight Cost (11% of Materials)				4,160.31
Sub-Total of (D)				57,109.69
E Water Quality Analysis	1.0	LS	1,300.00	1,300.00
F Indirect Cost				
Profit (10% of A to E)				15,803.71
Overhead Expense (13% of A to E)				20,544.82
VAT (10% of Profit and Overhead Expenses)				3,634.85
Sub-Total of (F)				39,983.39
Total Construction Cost (A+B+C+D+E+F)				198,020.50
G Estimated Government Expenses				
1. Preliminary and Detailed Engineering Cost				
2. Construction Supervision				
Sub-Total of (G)				0.00
GRAND TOTAL				198,020.50
SAY				198,000.00

Note: L.S. - Lump Sum

Source: DILG-RWSSP V Project Standard Cost Estimate in 2002 Price Level.

Cost Adjusted to 2003 Price Level.

Appendix Table 9.2.5 Unit Cost of Level I (Deep Well - 70m Depth)

Work Items	Quantity	Unit	Unit Cost	Cost
A Mobilization/Demobilization	1.0	LS	11,311.40	11,311.40
B Well Drilling and Geophysical Logging				
200-mm Dia. borehole by Rotary Method	70.0	m	1,132.14	79,249.80
Geophysical Borehole Logging	1.0	LS	7,231.00	7,231.00
Sub-Total of (B)				86,480.80
C Well Development/Disinfection				
Treatment w/ Polyphosphate and Backwashing	12.0	hr	929.07	11,148.84
Well Development By Airlifting Method	24.0	hr	795.27	19,086.48
Disinfection	1.0	LS	6,370.18	6,370.18
Sub-Total of (C)				17,519.02
D Furnishing and Installation of 50 mm Dia. Well Casings and Screens, Centralizers, Gravel Packing, Cement Grout, Seal, Handpump, Riser pipe and Fittings and Construction of Platform				
1. Materials				
100mm diam. GI Casing Pipes	64.5	m	663.40	42,789.30
100mm diam. Low Carbon Well Screens	6.0	m	1,666.67	10,000.00
Centralizers	6.0	pc	138.00	828.00
Gravel Pack	20.0	m	70.00	1,400.00
Cement Grout	6.0	m	88.20	529.20
Clay	1.0	m	7.53	7.53
Backfill	43.0	m	6.87	295.41
Malawi Deep Well Hnad pump	1.0	no.	9,378.00	9,378.00
50 mm uPVC Riser	18.0	m	101.20	1,821.60
50 mm uPVC Coupling	5.0	no.	14.10	70.50
50 mm Male Threaded Adoptor	1.0	no.	27.00	27.00
Cement	7.0	bag	140.00	980.00
Sand	0.5	m3	400.00	200.00
Gravel	1.0	m3	700.00	700.00
10mmx6m Reinf. Steel Bar	6.0	pc	53.00	318.00
No. 16 GI Wire	0.5	kg	45.00	22.50
CHB	35.0	pc	7.50	262.50
Sub-Total of Materials				69,629.54
2. Labor (40% of Materials)				27,851.82
3. Freight Cost (11% of Materials)				7,659.25
Sub-Total of (D)				105,140.61
E Water Quality Analysis	1.0	LS	1,300.00	1,300.00
F Indirect Cost				
Profit (10% of A to E)				22,175.18
Overhead Expense (13% of A to E)				28,827.74
VAT (10% of Profit and Overhead Expenses)				5,100.29
Sub-Total of (F)				56,103.21
Total Construction Cost (A+B+C+D+E+F)				277,855.04
G Estimated Government Expenses				
1. Preliminary and Detailed Engineering Cost				
2. Construction Supervision				
Sub-Total of (G)				0.00
GRAND TOTAL				277,855.04
SAY				314,000.00

Note: L.S. - Lump Sum

Source: DILG-RWSSP V Project Standard Cost Estimate in 2002 Price Level.

Cost Adjusted to 2003 Price Level.

Appendix Table 9.2.6 Unit Cost of Level II (Deep Well Source, 600 Service Population)

Work Items	Quantity	Unit	Unit Cost	Cost
A Deep Well Source (30m)	1.0	LS	149,910.66	149,910.66
B Pumping Unit	1.0	LS	70,000.00	70,000.00
C RC Elevated Tank:				
1. Materials				
Portland Cement	211.0	bags	140.00	29,540.00
Waterproofing Compound	100.0	bags	70.00	7,000.00
Washed Sand	13.0	cu.m.	250.00	3,250.00
Crushed Gravel	26.0	cu.m.	400.00	10,400.00
Type A Boulder	3.0	cu.m.	250.00	750.00
16mm x 6m. Reinf. Steel Bars	224.0	pcs.	175.00	39,200.00
12mm x 6m Reinf. Steel Bars	145.0	pcs.	85.00	12,325.00
10mm x 6m Reinf. Steel Bars	89.0	pcs.	60.00	5,340.00
20mm x 6m GI Steel Bars	4.0	pcs.	350.00	1,400.00
Sub-Total of Materials				109,205.00
2. Labor (40% of Materials)				43,682.00
3. Freight Cost (11% of Materials)				12,012.55
Sub-Total of (C)				164,899.55
D Pump House	1.0	LS	30,000.00	30,000.00
E Forms & Scaffoldings	1.0	LS	20,000.00	20,000.00
F Distribution System:				
1. Materials				
50mm GI Pipe, Sch. 40	14.0	m	250.00	3,500.00
50mm uPVC Pipe, Class 150	94.0	m	125.00	11,750.00
38mm uPVC Pipe, Class 150	672.0	m	80.00	53,760.00
25mm uPVC Pipe, Class 150	253.0	m	55.00	13,915.00
Sub-Total of Materials				82,925.00
2. Labor (40% of Materials)				33,170.00
3. Freight Cost (11% of Materials)				9,121.75
Sub-Total of (F)				125,216.75
G Public Faucets, Fire Hydrant and Fittings				
1. Materials				
Faucet W/ RC Stand Posts	33.3	set	2,500.00	83,333.33
Fire Hydrants	4.0	pcs.	7,500.00	30,000.00
Fittings, Appurtenances	1.0	LS	18,000.00	18,000.00
Sub-Total of Materials				131,333.33
2. Labor (40% of Materials)				52,533.33
3. Freight Cost (11% of Materials)				14,446.67
Sub-Total of (G)				198,313.33
H Indirect Cost				
Profit (10% of A to G)				75,834.03
Overhead Expense (13% of A to G)				98,584.24
VAT (10% of Profit and Overhead Expenses)				17,441.83
Sub-Total of (H)				191,860.09
Total Construction Cost (A+B+C+D+E+F+G+H)				950,200.39
I Estimated Government Expenses				
1. Preliminary and Detailed Engineering Cost				
2. Construction Supervision				
Sub-Total of (I)				0.00
Total Estimated Cost				950,200.39
Unit Cost per person Served				1,583.67

Note: L.S. - Lump Sum

Source: DILG Standard Cost Estimate in 2003 Price Level.

Appendix Table 9.2.7 Unit Cost of Level II (Spring Source, 600 Service Population)

Sheet 1 of 2

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		L.S.		5,412.16
B. Construction of Spring Box				
1. Materials		L.S.		43,189.04
2. Labor (35% of 1.)		L.S.		13,965.00
3. Freight Cost (11% of Materials)		L.S.		4,389.00
Sub-Total of B				61,543.04
C. Installation of Pipelines & Fittings				
1. Transmission Main				
(1) Materials				
1) 63mm dia. PVC Pipe (Class 12.5 with pusher type socket)	500	pcs.	969.86	484,929.61
2) 63mm dia. Tee	1	no.	105.00	105.00
3) Solvent Cement	40	cans	54.12	2,164.86
4) 63mm dia. x 50mm dia. Nipple	3	nos.	161.28	483.85
5) 63mm dia. Union Patente	1	pc.	205.66	205.66
6) 63mm dia. x 50mm dia. Reducing Socket	2	pcs.	124.48	248.96
7) 63mm dia. Elbow (90 deg.)	1	pc	89.84	89.84
8) 63mm dia. Elbow (45 deg.)	1	pc.	88.76	88.76
9) 63mm dia. Gate Valve	3	pcs.	910.33	2,730.98
Sub-Total of Materials				491,047.51
(2) Labor (35% of Material Cost)		L.S.		171,866.63
(3) Freight Cost (11% of Materials)		L.S.		54,015.23
Sub-Total of Transmission Main				716,929.37
2. Distribution Pipeline				
(1) Materials				
1) 50mm dia. PVC Pipe (Class 12.5 with pusher type socket)	20	pcs.	536.89	10,737.73
2) 38mm dia. PVC Pipe (Class 12.5 with pusher type socket)	30	pcs.	357.20	10,716.08
3) 20mm dia. PVC Pipe (Class 40 with pusher type socket)	10	pcs.	119.07	1,190.68
4) 13mm dia. x 1 m Stand Pipe	10	pcs.	111.49	1,114.91
5) Solvent Cement	4	cans	54.12	216.49
6) Fittings				
a. 50mm dia. x 150mm PVC Nipple	3	pcs.	148.29	444.88
b. 32mm dia. x 150mm PVC Nipple	3	pcs.	89.84	269.53
c. 13mm dia. x 150mm PVC Nipple	40	pcs.	29.23	1,169.03
d. 50mm dia. Union Patente	1	pcs.	193.76	193.76
e. 32mm dia. Union Patente	2	pcs.	84.43	168.86
f. 13mm dia. Union Patente	10	pcs.	29.23	292.26
g. 50mm dia. x 32mm dia. Reducing Socket	6	pcs.	107.16	642.96
h. 32mm dia. x 20mm dia. Reducing Socket	10	pcs.	83.35	833.47
i. 13mm dia. x 13mm dia. Reducing Socket	10	pcs.	64.95	649.46

Description	Quantity	Unit	Unit Cost	Cost
j. 50mm dia. PVC Elbow (90 deg.)	2	pcs.	80.10	160.20
k. 13mm dia. GI Elbow (90 deg.)	20	pcs.	15.15	303.08
l. 20mm dia. x 13mm dia. Socket Adaptor	10	pcs.	48.71	487.09
m. 50mm dia. GI Gate Valve	2	pcs.	799.92	1,599.83
n. 32mm dia. GI Gate Valve	2	pcs.	452.46	904.91
o. 13mm dia. GI Gate Valve	24	pcs.	273.86	6,572.53
p. 13mm dia. Brass Faucet	24	pcs.	48.71	1,169.03
q. 50mm dia. Tee	4	pcs.	154.79	619.15
r. 32mm dia. Tee	6	pcs.	130.97	785.85
s. Water Meter	24	pcs.	894.09	21,458.14
t. Water Meter Box	24	pcs.	1,311.91	31,485.79
Sub-Total of Materials				94,185.67
(2) Labor (35% of Material Cost)				32,964.98
(3) Freight Cost (11% of Materials)				10,360.42
Sub-Total of Distribution Pipeline				137,511.08
Sub-Total of C				854,440.45
D. Indirect Cost				
1. Transmission Main				
(1) Profit (10% of C-1)				71,692.94
(2) Overhead Expense (13% of C-1)				93,200.82
(3) VAT (10% of Profit, Overhead Expense and Labor)				16,489.38
2. Source Facilities and Distribution Pipeline				
(1) Profit (10% of A, B, C-2)				20,446.63
(2) Overhead Expense (13% of A, B, C-2)				26,580.62
(3) VAT (10% OF Profit, Overhead Expense and Labor)				4,702.72
Sub-Total of D				233,113.10
Total Construction Cost (A+B+C+D)				1,154,508.75
E. Estimated Government Expenses				
1. Preliminary & Detailed Engineering				
2. Supervision				
3. Water Quality Analysis				
Sub-Total of E				0.00
Level)				1,154,508.75
Unit Cost per Person Served				1,924.18

Note: L.S. - Lump Sum

Source: DILG - PW4SP Standard Cost Estimate in 1999 Price Level.

Cost Adjusted to 2003 Price Level.

Appendix Table 9.2.8 Unit Cost of Level III (5,000 Service Population)

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization/Demobilization		L.S.		357,203
B. Source Development and Storage				
1. Deep Well	1	No.	1,915,904.92	1,915,904.92
2. Deep Well Pump	1	No.	684,097.13	684,097.13
3. Chlorinator House & Equipment	1	L.S.	519,567.44	519,567.44
4. Storage Tank (250 cu.m.)	1	No.	1,298,918.59	1,298,918.59
Sub-Total of B				4,418,488.08
C. Transmission Main				
1. 160mm dia.	500	L.M.	1,335.72	667,860.64
Sub-Total of C			1,335.72 1,103.00	667,860.64
D. Distribution Main				
1. 160mm dia.	1,000	No.	697.14	697,137.33
2. 110mm dia.	3,000	No.	1,103.00	3,308,995.11
3. 90mm dia.	3,000	L.S.	691.67	2,075,022.45
4. 75mm dia.	5,000	No.	644.05	3,220,235.68
Sub-Total of D				9,301,390.57
E. Service Connections	1,000	Nos.	2,314.24	2,314,239.96
F. Miscellaneous				
1. Vehicle	1	No.	655,953.89	655,953.89
2. Office & Workshop Building	1	No.	655,953.89	655,953.89
3. Office Equipment		L.S.		119,067.54
4. Tools and Spare Parts		L.S.		119,067.54
Sub-Total of F				1,550,042.85
Total Direct Cost (A+B+C+D+E+F)				18,609,224.72
G. Indirect Cost (25% of Direct Cost)				4,652,306.18
Total Estimated Cost (2003 Price Level)				23,261,530.89
Unit Cost per Person Served For New Construction				4,652.31
			say	4,600.00
For Expansion of Existing System (Exclude F)				4,342.30
			say	4,300.00

Note: L.S. - Lump Sum

Source: DILG - PW4SP Standard Cost Estimate in 1999 Price Level.

Cost Adjusted to 2003 Price Level.

Appendix Table 9.2.9 Unit Cost of Level III (10,000 Service Population)

(Cost: Peso)

Description	Unit	Unit Cost	Cost
A. Mobilization/Demobilization	L.S.		357,202.61
B. Source Development and Storage			
1. Deep Well	No.	1,915,904.92	1,915,904.92
2. Deep Well Pump	No.	684,097.13	684,097.13
3. Chlorinator House & Equipment	L.S.	519,567.44	519,567.44
4. Storage Tank (250 cu.m.)	No.	1,298,918.59	1,298,918.59
Sub-Total of B			4,418,488.08
C. Transmisison Main			
1. 160mm dia.	L.M.	1,335.72	667,860.64
Sub-Total of C			667,860.64
D. Distribution Main			
1. 160mm dia.	No.	1,335.72	2,671,442.57
2. 110mm dia.	No.	1,103.00	5,514,991.86
3. 90mm dia.	L.S.	691.67	4,150,044.90
4. 75mm dia.	No.	644.05	5,152,377.08
Sub-Total of D			17,488,856.41
E. Service Connections	Nos.	2,099.92	4,199,836.78
F. Miscellaneous			
1. Vehicle	No.	655,953.89	655,953.89
2. Office & Workshop Building	No.	655,953.89	655,953.89
3. Office Equipment	L.S.		119,067.54
4. Tools and Spare Parts	L.S.		119,067.54
Sub-Total of F			1,550,042.85
Total Direct Cost (A+B+C+D+E+F)			28,682,287.38
G. Service Connections	Nos.	2,314.24	7,170,571.84
Total Estimated Cost			35,852,859.22
Unit Cost per Person Served			
For New Construction			3,585.29
			3,600.00
For Expansion of Existing System (Exclude F)			3,430.28
			3,000.00

Note: L.S. - Lump Sum

Source: DILG - PW4SP Standard Cost Estimate in 1999 Price Level.

Cost Adjusted to 2003 Price Level.

Appendix Table 9.2.10 Unit Cost of Pour Flush Toilet with Double Pit Latrine

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Earthwork				
1. Materials				
(1) Gravel Fill	1	cu.m.	458.95	458.95
Sub-Total of A-1				458.95
2. Labor				
(1) Excavation	6	cu.m.	141.80	850.79
(2) Backfill	2	cu.m.	128.81	257.62
(3) Gravel Fill	1	cu.m.	167.78	167.78
Sub-Total of A-2				1,276.19
Sub-Total of A				1,735.14
B. Concrete Work				
1. Materials				
Slab on wood planks				
(1) 16 - 2" x 8" x 6' Coco Lumber	128	bd.ft	8.66	1,108.41
(2) 10mm dia. x 6.0m Rebar	3	pcs.	58.45	175.35
(3) #16 Tie Wire	1	kg.	58.45	29.23
(4) Cement	10	bags	138.55	1,385.51
(5) Sand	2	cu.m	362.61	543.92
(6) Gravel	2	cu.m	458.95	917.90
(7) Stone Lining with Mortar		L.S.		1,206.91
Sub-Total of B-1				5,367.24
2. Labor (25% of B-1)				1,341.81
Sub-Total of B-2				1,341.81
Sub-Total of B				6,709.05
C. Carpentry Work				
1. Materials				
(1) Nipa	60	pcs.	2.16	129.89
(2) 1.5m x 1.8m, amakan	3	pcs.	75.77	227.31
(3) 2x3x10' Coco Lumber	20	bd.ft	10.82	216.49
(4) 2x2x10' Coco Lumber	33	bd.ft	10.82	360.45
(5) 3"dia. Bamboo	3	lights	21.65	64.95
(6) Assorted CWN	4	kgs.	43.30	173.19
(7) Rattan wire	20	pcs.	1.08	21.65
(8) Pale (medium)	1	pc.	205.66	205.66
(9) 3"dia. PVC x 3m	1	pc.	194.84	194.84
(10) 3"dia. PVC Elbow	2	pcs.	16.24	32.47
(11) PVC solvent	1	pint	54.12	54.12
(12) Ga. 31 x 8' plain GI sheet	1	sheet	216.49	216.49
Sub-Total of C-1				1,897.50
2. Labor (25% of D-1)				474.38
Sub-Total of C-2				474.38
Sub-Total of C				2,371.88
D. Plumbing				
1. Materials				
(1) Toilet Bowl-Squat Type	1	pc.	652.71	652.71
(2) 75mm dia. x 6.0m PVC Pipe	1	pc.	153.71	153.71
Sub-Total of D-1				806.41
2. Labor (25% of D-1)				201.60
Sub-Total of D-2				201.60
Sub-Total of D				1,008.01
E. Transportation Cost (excluding indigenous materials)		L.S.		324.73
F. Indirect Cost				
Profit (10% of A-D)				1,182.41
VAT (10% of Profit & Labor)				435.00
Sub-Total of F				1,617.41
Total Construction Cost (A+B+C+D+E+F)				13,766.22
			say	14,000.00

Note: L.S. - Lump Sum

Source: DILG - PW4SP Standard Cost Estimate in 1999 Price Level.

Cost Adjusted to 2003 Price Level.

Appendix Table 9.2.11 Unit Cost of Flush Water Sealed with Septic Tank Toilet

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Demolition		L.S.		1,082
B. Earthwork				
1. Materials				
(1) Gravel Fill	1	cu.m.	458.95	458.95
Sub-Total of B-1				458.95
2. Labor				
(1) Excavation	6	cu.m.	141.80	850.79
(2) Backfill	2	cu.m.	128.81	257.62
(3) Gravel Fill	1	cu.m.	167.78	167.78
Sub-Total of B-2				1,276.19
Sub-Total of B				1,735.14
C. Transmision Main				
1. Materials				
Slab on wood planks				
(1) 16 - 2" x 8" x 6' Coco Lumber	128	bd.ft	8.66	1,108.41
(2) 10mm dia. x 6.0m Rebar	3	pcs.	58.45	175.35
(3) #16 Tie Wire	1	kg.	58.45	29.23
(4) Cement	10	bags	138.55	1,385.51
(5) Sand	2	cu.m	362.61	543.92
(6) Gravel	2	cu.m	458.95	917.90
(7) Stone Lining with Mortar		L.S.	0.00	1,206.91
Sub-Total of C-1				5,367.24
2. Labor (30% of C-1)				1,610.17
Sub-Total of C				6,977.41
D. Carpentry Work				
1. Materials				
(1) Nipa	60	pcs.	2.16	129.89
(2) 1.5m x 1.8m, amakan	3	pcs.	75.77	227.31
(3) 2x3x10' Coco Lumber	20	bd.ft	10.82	216.49
(4) 2x2x10' Coco Lumber	33	bd.ft	10.82	360.45
(5) 3"dia. Bamboo	3	lights	21.65	64.95
(6) Assorted CWN	4	kgs.	43.30	173.19
(7) Rattan wire	20	pcs.	1.08	21.65
Sub-Total of D-1				1,193.92
2. Labor (30% of D-1)				358.18
Sub-Total of D				1,552.10
E. Plumbing				
1. Materials				
(1) Water Closet	1	set	4,870.94	4,870.94
(2) Water line and sanitary fixtures		L.S.		1,623.65
Sub-Total of E-1				6,494.59
2. Labor (30% of E-1)				1,948.38
Sub-Total of E				8,442.97
F. Transportation Cost (excluding indigenous materials)		L.S.		541.22
G. Indirect Cost				
Profit (10% of A-F)				2,033.13
VAT (10% of Profit & Labor)				722.60
Sub-Total of G				2,755.73
Total of Construction Cost (A+B+C+D+E+F+G)				23,087.00
			say	23,000.00

Note: L.S. - Lump Sum

Source: DILG - PW4SP Standard Cost Estimate in 1999 Price Level.

Cost Adjusted to 2003 Price Level.

Appendix Table 9.2.12 Unit Cost of School Toilet

Sheet 1 of 5

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization and Demobilization		L.S.		5,953.38
B. Earthwork				
1. Materials				
(1) Gravel Fill	3.00	cu.m.	458.95	1,376.85
Sub-Total of B-1				1,376.85
2. Labor				
(1) Excavation	15.88	cu.m.	141.80	2,251.76
(2) Backfill	4.97	cu.m.	128.81	640.18
(3) Gravel Fill	3.00	cu.m.	167.78	503.33
Sub-Total of B-2				3,395.28
Sub-Total of B				4,772.13
C. Concrete Work				
1. Materials				
(1) Cement	61.00	bags	138.55	8,451.63
(2) Sand	4.00	cu.m.	362.61	1,450.46
(3) Gravel	8.00	cu.m.	458.95	3,671.61
(4) Rebars: 12mm dia. x 6m	38.00	pcs.	80.10	3,043.80
10mm dia. x 6m	57.00	pcs.	58.45	3,331.73
(5) #16 Tie Wire	8.00	kgs.	58.45	467.61
(6) Formworks:				0.00
1/4" Plywood	6.00	pcs.	482.76	2,896.59
2"x2"x10" Coco Lumber	200.00	bd.ft.	8.66	1,731.89
Sub-Total of C-1				25,045.32
2. Labor (30% of C-1)		L.S.		7,513.59
Sub-Total of C				32,558.91
D. Masonry Work				
1. Materials				
(1) 6"CHB	800.00	pcs.	6.49	5,195.67
(2) 4"CHB	260.00	pcs.	5.41	1,407.16
(3) Cement	97.00	bags	138.55	13,439.48
(4) Sand	10.00	cu.m.	362.61	3,626.15
(5) Rebars: 12mm dia. x 6m	30.00	pcs.	80.10	2,403.00
10mm dia. x 6m	11.00	pcs.	58.45	642.96
(6) #16 Tie Wire	4.00	kgs.	58.45	233.81
(7) Scaffolding				
2"x4"x8" = 10 pcs. Coco Lumber	53.33	bd.ft.	8.66	461.81
Sub-Total of D-1				27,410.04
2. Labor (30% of D-1)		L.S.		8,223.01
Sub-Total of D				35,633.05
E. Roofing Works				
1. Materials				
(1) GA #26 Corr. GI(1=10')	20.00	bd.ft.	313.91	6,278.11
(2) GA #24 Pln. GI Flashing	3.00	pcs.	303.08	909.24
(3) GA #24 Pln. GI Gutter (Pre-Fab)	9.00	kg.	303.08	2,727.73
(4) Umbrella Nails 2 - 1/2"	12.00	bags	49.79	597.50
(5) Rafter - 2"x5"x18' = 5 pcs.	75.00	bd.ft.	35.72	2,679.02
(6) Purlins - 2"x2"x12' = 18 pcs.	72.00	bd.ft.	35.72	2,571.86
(7) WD Cleats - 2"x2"x10' = 6 pcs.	20.00	bd.ft.	35.72	714.41

Appendix Table 9.1.12 Unit Cost of School Toilet

Sheet 2 of 5

(Cost: Peso)

Description		Quantity	Unit	Unit Cost	Cost
(8)	Nailers - 2"x2"x12' = 30 pcs.	120.00	bd.ft.	35.72	4,286.43
	-2"x2"x10' = 36 pcs.	120.00	bd.ft.	35.72	4,286.43
(9)	Fascia Board				
	1"x12"x12'=4 pcs.	48.00	bd.ft.	35.72	1,714.57
	1"x12"x18'=2 pcs.	36.00	bd.ft.	35.72	1,285.93
(10)	Wood Plate				
	2"x4"x20'=2 pcs.	26.66	bd.ft.	35.72	952.30
(11)	1/4"Thk. Mar. Plywood 4"x 8"	14.00	pcs.	32.47	454.62
(12)	C.W.N. Assorted	15.00	kgs.	32.47	487.09
(13)	3" dia. x 3 m Downspout (PVC)	3.00	pcs.	92.01	276.02
(14)	3" dia. Elbow (PVC)	2.00	pcs.	16.24	32.47
(15)	3" dia. Coupling (PVC)	1.00	pcs.	15.15	15.15
(16)	Ceiling Vent				
	1"x1"x8' = 4 pcs.	2.67	bd.ft.	92.01	245.66
(17)	Screen (1/8"x1/8")	1.00	yd.	92.01	92.01
	Sub-Total of E-1				30,606.56
2.	Labor (30% of E-1)		L.S.		9,181.97
	Sub-Total of E				39,788.53
F. Carpentry Work					
1. Materials					
(1)	D - 1 Hollow Core Tangle Flush Type Door w/ Louver (.80 x 2.20)	2.00	sets	1,638.80	3,277.60
(2)	D - 2 Hollow Core Tangle Flush Type Door (.80 x 2.20)	1.00	sets	1,025.06	1,025.06
(3)	D - 3 Louver Door (.60 x 1.40)	5.00	sets	35.72	178.60
(4)	Door Jambs (Apitong)				
	2" x 6" x 14" = 5 pcs.	14.00	bd.ft.	35.72	500.08
	2" x 6" x 10" = 1 pc.	20.00	bd.ft.	35.72	714.41
	2" x 6" x 10" = 1 pc.	18.00	bd.ft.	342.05	6,156.87
	2" x 6" x 12" = 1 pc.	40.00	bd.ft.	35.72	1,428.81
(5)	Wooden Jalousie Window with 5 Blades (.40x.50)	14.00	sets	35.72	500.08
(6)	Window Jambs (Apitong)				
	2" x 6" x 16" = 5 pcs.	80.00	bd.ft.	35.72	2,857.62
	2" x 6" x 14" = 1 pc.	14.00	bd.ft.	35.72	500.08
	2" x 6" x 10" = 1 pc.	10.00	bd.ft.	35.72	357.20
(7)	Cabinet				
	3/4" x 4' x 8' = 1 pc. (plyboard)	1.00	pc.	888.68	888.68
	Sub-Total of F-1				18,385.11
2.	Labor (30% of F-1)		L.S.		5,515.53
	Sub-Total of F				23,900.64
G. Tile Work					
1. Materials					
(1)	4 - 1/4" x 4 - 1/4" Glazed Tiles	1,950.00	pcs.	4.33	8,442.97
(2)	0.10 x 0.20m Floor Tiles	900.00	pcs.	7.58	6,819.32
(3)	Cement	4.00	bags	138.55	554.21
(4)	White Cement	1.00	bag	750.13	750.13
	Sub-Total of G-1				16,566.62
2.	Labor (30% of G-1)				4,969.99
	Sub-Total of G				21,536.61

Appendix Table 9.1.12 Unit Cost of School Toilet

Sheet 3 of 5

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
H. Plumbing Works				
1. Materials				
(1) Toilet Bowl - Squat Type	3.00	sets	711.16	2,133.47
(2) Toilet Bowl - Sit Type	2.00	sets	711.16	1,422.32
(3) Lavatory	2.00	sets	3,247.30	6,494.59
(4) 4" dia x 3m PVC San. Pipe	4.00	pcs.	177.52	710.08
(5) 3" dia x 3m PVC San. Pipe	7.00	pcs.	99.58	697.09
(6) 1 1/2" dia. x 3 m PVC San. Pipe	4.00	pcs.	62.78	251.12
(7) 2" dia. x 3 m PVC San. Pipe	2.00	pcs.	59.53	119.07
(8) 6" x 4" Floor Drain	5.00	pcs.	99.58	497.92
(9) 2" dia. Elbow PVC	4.00	pcs.	7.58	30.31
(10) 4" dia. WYB PVC	2.00	pcs.	29.23	58.45
(11) 4" dia. x 3" dia. WYB PVC	12.00	pcs.	35.72	428.64
(12) 4" dia. x 2" dia. TEE PVC	2.00	pcs.	36.80	73.61
(13) 4" dia. TEE PVC	3.00	pcs.	36.80	110.41
(14) 1 1/2" dia. WYB PVC	1.00	pcs.	14.07	14.07
(15) 4" dia. Clean Out PVC	3.00	pcs.	41.13	123.40
(16) 3" dia. Clean Out PVC	1.00	pcs.	32.47	32.47
(17) Faucet	3.00	pcs.	59.53	178.60
(18) 3" dia. x 2" dia. WYB PVC	2.00	pcs.	29.23	58.45
(19) 1 1/2" dia. Elbow PVC	6.00	pcs.	15.15	90.92
(20) PVC Cement	1.00	can	143.96	143.96
(21) 2" dia. PVC San. Pipe x 3m	2.00	pcs.	94.17	188.34
(22) 4" dia. x 2" dia. TEE	2.00	pcs.	24.90	49.79
(23) Check Valve 1 1/2"	1.00	pcs.	216.49	216.49
(24) 4" P-Trap	5.00	pcs.	77.94	389.68
Sub-Total of H-1				14,513.25
2. Labor (30% of H-1)		L.S.		4,353.98
Sub-Total of H				18,867.23
I. Painting				
1. Materials				
(1) Acrylic, Semi-gloss	8.00	gals.	298.75	2,390.01
(2) Concrete Sealer	4.00	gals.	235.97	943.88
(3) Acrylic Color: Wood	4.00	gals.	90.92	363.70
(4) Enamel, QDE	6.00	gals.	305.25	1,831.48
(5) Wood Putty	1.00	gals.	346.38	346.38
(6) Paint Thinner	1.00	gals.	68.19	68.19
(7) Tinting Color	4.00	gals.	45.46	181.85
(8) Sand Paper (assorted)	15.00	gals.	7.58	113.66
(9) Miscellaneous		L.S.		1,147.38
(10) Roof Paint (green, ready-mix)	2.00	gals.	322.56	645.13
Sub-Total of I-1				8,031.65
2. Labor (30% of I-1)		LS		2,409.49
Sub-Total of I				10,441.14
J. Electrical Work				
1. Materials				
(1) 40 Watts Fluorescent Lamp	2.00	sets	292.26	584.51
(2) Elect. Wire TW#12	24.00	M	7.58	181.85
(3) Elect. Conduit - 1/2" dia. x 10"	4.00	pcs.	88.76	355.04

Appendix Table 9.1.12 Unit Cost of School Toilet

Sheet 4 of 5

(Cost: Peso)

Description		Quantity	Unit	Unit Cost	Cost
(4)	Entrance Cap. 1/2" dia.	1.00	pc.	32.47	32.47
(5)	Switch Outlet, Flush Type	2.00	pcs.	44.38	88.76
(6)	Utility Box 2"x3"	2.00	pcs.	7.58	15.15
(7)	Porcelain Receptacle 2"dia.	2.00	pcs.	7.58	15.15
(8)	Safety Switch 60A, 250V	1.00	sets	561.78	561.78
(9)	Electrical Tape	1.00	roll	24.90	24.90
Sub-Total of J-1					1,859.62
2. Labor (30%of J-1)			L.S.		557.89
Sub-Total of J					2,417.50
K. Hardware					
1. Materials					
(1)	3"x3" Butt Hinges (Loose Pin)	10.00	pcs.	16.24	162.36
(2)	4"x4" Butt Hinges (Loose Pin)	12.00	pcs.	20.57	246.79
(3)	Door Lockset (Schlage US)	3.00	pcs.	520.65	1,561.95
(4)	Barrel Bolt (4")	5.00	pcs.	45.46	227.31
(5)	Cabinet Pull (4")	5.00	pcs.	7.58	37.89
(6)	Water Storage Cover				
	Checkered Plate 1/4" thick				
	1.44x0.645 w/ L bar & flat bar	1.00	set	1,128.98	1,128.98
	0.645x0.633 w/ L bar & flatbar	2.00	set	636.47	1,272.94
(7)	Padlock	1.00	pcs.	434.06	434.06
Sub-Total of K-1					5,072.28
2. Labor (30%of K-1)			L.S.		1,521.68
Sub-Total of K					6,593.96
L. Septic Tank and Sewage Basin					
1. Materials					
(1)	4" CHB	180.00	pcs.	5.41	974.19
(2)	Cement	18.00	bags	138.55	2,493.92
(3)	Sand	1.50	cu.m.	362.61	543.92
(4)	Gravel	1.00	cu.m.	458.95	458.95
(5)	Rebars: 10mm dia. x 6m	29.00	pcs.	80.10	2,322.90
(6)	#16 Tire Wire	2.00	kgs.	58.45	116.90
(7)	Formworks: Coco Lumber				
	2"x3"x10' = 12 pcs.	60.00	bd.ft.	8.66	519.57
	1/4" plywood ord. 4'x8'	2.00	pcs.	482.76	965.53
	C.W.N. (assorted)	2.00	kgs.	33.56	67.11
Sub-Total of L-1					8,463.00
2. Labor (30%of L-1)			L.S.		2,538.90
Sub-Total of L					11,001.89
M. Shallow Well (18 depth)					
a. Drilling of Well & Installation of Steel Casing/Screen					
1. Materials					
(1)	63mm x 6m PVC Pipe with socket	2.00	pcs.	969.86	1,939.72
(2)	63mm x 3m PVC Pipe with plug	1.00	pc.	489.26	489.26
(3)	63mm PVC Socket	1.00	pc.	107.16	107.16
(4)	63mm x 3m PVC Screen	1.00	pc.	1,551.13	1,551.13
Sub-Total of M-a-1					4,087.26

Appendix Table 9.1.12 Unit Cost of School Toilet

Sheet 5 of 5

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
2. Labor, Fuel, Lubricant & others	18.00	m	620.23	11,164.21
Well Drilling for 18m depth at 150mm borehole				
Sub-Total of M-a-2				11,164.21
Sub-Total of M-a				15,251.47
b. Well Development		L.S.		595.34
c. Gravel Packing, Installation of Handpump & Construction of Platform				
1. Materials				
(1) 50mm Jetmatic Handpump	1.00	set	2,839.22	2,839.22
(2) 50mm x 1m GI Pipe (Sch.40)	1.00	pc.	88.76	88.76
(3) #10 Sieved Gravel	0.10	cu.m.	1,038.05	103.81
(4) Coarse Sand	0.07	cu.m.	513.07	35.92
(5) Cement for Sanitary Seal	1.00	bag	138.55	138.55
(6) Pump Base and Platform				
1) Cement	4.00	bags	138.55	554.21
2) Gravel	1.00	cu.m.	458.95	458.95
3) Sand	1.00	cu.m.	362.61	362.61
4) Plywood (1,200mm x 2,400mm x 6mm)	1.00	pc.	482.76	482.76
5) Form Lumber (50mm x 75mm x 1,800mm)	1.00	pc.	53.04	53.04
6) Nail	1.00	kg.	33.56	33.56
Sub-Total of M-c-1				5,151.38
2. Labor (40% of M-c-1)		L.S.		2,060.55
Sub-Total of M-c-1				7,211.93
N. Freight Cost (11% of Materials for A-M excluding sand & gravel)		L.S.		17,442.13
O. Indirect Cost				
Profit (10% of A-N)				24,615.86
VAT (10% of Profit & Labor)				6,340.61
Sub-Total of O				30,956.46
Total Construction Cost (A - O)				269,075.50
P. Estimated Government Expenses				
1. Preliminary & Detailed Engineering Cost		L.S.		
2. Construction Supervision		L.S.		
Sub-Total of P				0.00
GRAND TOTAL			say	269,075.50
				269,000.00

Note: L.S. - Lump Sum

Source: DILG - PW4SP Standard Cost Estimate in 1999 Price Level.

Cost Adjusted to 2003 Price Level.

Appendix Table 9.2.13 Unit Cost of Public Toilet

Sheet 1 of 5

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
A. Mobilization and Demobilization		L.S.		7,361
B. Earthwork				
1. Materials				
(1) Gravel Fill	3.00	cu.m.	458.95	1,376.85
Sub-Total of B-1				1,376.85
2. Labor				
(1) Excavation	15.88	cu.m.	141.80	2,251.76
(2) Backfill	4.97	cu.m.	128.81	640.18
(3) Gravel Fill	3.00	cu.m.	167.78	503.33
Sub-Total of B-2				3,395.28
Sub-Total of B				4,772.13
C. Concrete Work				
1. Materials				
(1) Cement	61.00	bags	138.55	8,451.63
(2) Sand	4.00	cu.m.	362.61	1,450.46
(3) Gravel	8.00	cu.m.	458.95	3,671.61
(4) Rebars: 12mm dia. x 6m	38.00	pcs.	80.10	3,043.80
10mm dia. x 6m	57.00	pcs.	58.45	3,331.73
(5) #16 Tie Wire	8.00	kgs.	58.45	467.61
(6) Formworks:				
1/4" Plywood	6.00	pcs.	482.76	2,896.59
2"x2"x10" Coco Lumber	200.00	bd.ft.	8.66	1,731.89
Sub-Total of C-1				25,045.32
2. Labor (30% of C-1)		L.S.		7,513.59
Sub-Total of C				32,558.91
D. Masonry Work				
1. Materials				
(1) 6"CHB	800.00	pcs.	6.49	5,195.67
(2) 4"CHB	260.00	pcs.	5.41	1,407.16
(3) Cement	97.00	bags	138.55	13,439.48
(4) Sand	10.00	cu.m.	362.61	3,626.15
(5) Rebars: 12mm dia. x 6m	30.00	pcs.	80.10	2,403.00
10mm dia. x 6m	11.00	pcs.	58.45	642.96
(6) #16 Tie Wire	4.00	kgs.	58.45	233.81
(7) Scaffolding				
2"x4"x8" = 10 pcs. Coco Lumber	53.33	bd.ft.	8.66	461.81
Sub-Total of D-1				27,410.04
2. Labor (30% of D-1)		L.S.		8,223.01
Sub-Total of D				35,633.05
E. Roofing Works				
1. Materials				
(1) GA #26 Corr. GI(1=10')	20.00	bd.ft.	313.91	6,278.11
(2) GA #24 Pln. GI Flashing	3.00	pcs.	303.08	909.24
(3) GA #24 Pln. GI Gutter (Pre-Fab)	9.00	kg.	303.08	2,727.73
(4) Umbrella Nails 2 - 1/2"	12.00	bags	49.79	597.50
(5) Rafter - 2"x5"x18' = 5 pcs.	75.00	bd.ft.	35.72	2,679.02
(6) Purlins - 2"x2"x12' = 18 pcs.	72.00	bd.ft.	35.72	2,571.86
(7) WD Cleats - 2"x2"x10' = 6 pcs.	20.00	bd.ft.	35.72	714.41

Appendix Table 9.2.13 Unit Cost of Public Toilet

Sheet 2 of 5

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
(8) Nailers - 2"x2"x12' = 30 pcs.	120.00	bd.ft.	35.72	4,286.43
-2"x2"x10' = 36 pcs.	120.00	bd.ft.	35.72	4,286.43
(9) Fascia Board				
1"x12"x12' = 4 pcs.	48.00	bd.ft.	35.72	1,714.57
1"x12"x18' = 2 pcs.	36.00	bd.ft.	35.72	1,285.93
(10) Wood Plate			0.00	
2"x4"x20' = 2 pcs.	26.66	bd.ft.	35.72	952.30
(11) 1/4" Thk. Mar. Plywood 4"x 8"	14.00	pcs.	518.49	7,258.79
(12) C.W.N. Assorted	15.00	kgs.	32.47	487.09
(13) 3" dia. x 3 m Downspout (PVC)	3.00	pcs.	92.01	276.02
(14) 3" dia. Elbow (PVC)	2.00	pcs.	16.24	32.47
(15) 3" dia. Coupling (PVC)	1.00	pcs.	15.15	15.15
(16) Ceiling Vent				
1"x1"x8' = 4 pcs.	2.67	bd.ft.	29.23	78.03
(17) Screen (1/8"x1/8")	1.00	yd.	92.01	92.01
Sub-Total of E-1				37,243.10
2. Labor (30% of E-1)		L.S.		11,172.93
Sub-Total of E				48,416.03
F. Carpentry Work				
1. Materials				
(1) D - 1 Hollow Core Tangle Flush Type Door w/ Louver (.80 x 2.20)	2.00	sets	1,638.80	3,277.60
(2) D - 2 Hollow Core Tangle Flush Type Door (.60 x 2.10)	1.00	sets	1,229.64	1,229.64
(3) D - 3 Louver Door (.60 x 1.40)	5.00	sets	1,025.06	5,125.32
(4) Door Jambs (Apitong)				
2" x 6" x 14" = 1 pc.	14.00	bd.ft.	35.72	500.08
2" x 6" x 10" = 2 pcs.	20.00	bd.ft.	35.72	714.41
2" x 6" x 10" = 1 pc.	18.00	bd.ft.	35.72	642.96
2" x 4" x 12" = 5 pcs.	40.00	bd.ft.	35.72	1,428.81
(5) Wooden Jalousie Window with 5 Blades (.40x.50)	14.00	sets	322.56	4,515.91
(6) Window Jambs (Apitong)				
2" x 6" x 16" = 5 pcs.	80.00	bd.ft.	35.72	2,857.62
2" x 6" x 14" = 1 pc.	14.00	bd.ft.	35.72	500.08
2" x 6" x 10" = 1 pc.	10.00	bd.ft.	35.72	357.20
(7) Cabinet			0.00	
3/4" x 4' x 8' = 1 pc. (plyboard)	1.00	pc.	888.68	888.68
Sub-Total of F-1				22,038.32
2. Labor (30% of F-1)		L.S.		6,611.50
Sub-Total of F				28,649.81
G. Tile Work				
1. Materials				
(1) 4 - 1/4" x 4 - 1/4" Glazed Tiles	1,950.00	pcs.	4.00	7,800.00
(2) 0.10 x 0.20m Floor Tiles	900.00	pcs.	7.00	6,300.00
(3) Cement	4.00	bags	128.00	512.00
(4) White Cement	1.00	bag	693.00	693.00
(5) Tiles Fittings		L.S.		5,280.00
Sub-Total of G-1				20,585.00

Appendix Table 9.2.13 Unit Cost of Public Toilet

Sheet 3 of 5

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
2. Labor (30% of G-1)				6,175.50
Sub-Total of G				26,760.50
H. Plumbing Works				
1. Materials				
(1) Urinal	3.00	sets	1,267.53	3,802.58
(2) Toilet Bowl - Squat Type	6.00	sets	711.16	4,266.95
(3) 4" dia x 3m PVC San. Pipe	6.00	pcs.	177.52	1,065.11
(4) 3" dia x 3m PVC San. Pipe	4.00	pcs.	99.58	398.34
(5) 2" dia x 3m PVC San. Pipe	3.00	pcs.	59.53	178.60
(6) 3/4" dia. x 6 m GI Pipe Sch.40	5.00	pcs.	291.17	1,455.87
(7) 1/2" dia x 6m GI Pipe Sch.40	1.00	pcs.	213.24	213.24
(8) 4" x 4" WYE PVC	1.00	pcs.	29.23	29.23
(9) 3" dia. Elbow PVC	10.00	pcs.	35.72	357.20
(10) 3" dia. 45 deg. Bend PVC	2.00	pcs.	29.23	58.45
(11) 2" dia. Elbow PVC	6.00	pcs.	7.58	45.46
(12) 2" dia. 45 deg. Bend PVC	2.00	pcs.	23.81	47.63
(13) 1/2" dia. Elbow GI	5.00	pcs.	11.91	59.53
(14) 4" dia. 3 dia. WYE PVC	8.00	pcs.	47.63	381.02
(15) 3/4" dia. TEE GI	7.00	pcs.	47.63	333.39
(16) 1/2" dia. TEE GI	5.00	pcs.	23.81	119.07
(17) 4" dia. X 2" dia. TEE PVC	6.00	pcs.	47.63	285.76
(18) 4" dia. Clean Out PVC	3.00	pcs.	41.13	123.40
(19) 2" dia. Clean Out PVC	1.00	pcs.	29.23	29.23
(20) Faucet	10.00	pcs.	59.53	595.34
(21) 3" dia. x 2" dia. Elbow Reducer PVC	1.00	pcs.	32.47	32.47
(22) 3" dia. x 2" dia. WYE PVC	3.00	pcs.	29.23	87.68
(23) 2" dia. x 2" dia. WYE PVC	3.00	pcs.	17.32	51.96
(24) PVC Cement	1.00	can	143.96	143.96
(25) 4" dia. x 2" dia. WYE PVC	2.00	pcs.	47.63	95.25
(26) Gate Valve 3/4" dia.	1.00	pcs.	143.96	143.96
(27) Gate Valve 1/2" dia.	1.00	pcs.	113.66	113.66
(28) Water Meter 3/4" dia.	1.00	pcs.	1,504.58	1,504.58
(29) 3/4" dia. x 1/2" dia Elbow Reducer GI	1.00	pcs.	16.24	16.24
Sub-Total of H-1				16,035.15
2. Labor (30% of H-1)		L.S.		4,810.55
Sub-Total of H				20,845.70
I. Painting				
1. Materials				
(1) Acrylic, Semi-gloss	8.00	gals.	298.75	2,390.01
(2) Concrete Sealer	4.00	gals.	235.97	943.88
(3) Acrylic Color: Wood	4.00	gals.	90.92	363.70
(4) Enamel, QDE	6.00	gals.	305.25	1,831.48
(5) Wood Putty	1.00	gals.	346.38	346.38
(6) Paint Thinner	1.00	gals.	68.19	68.19
(7) Tinting Color	4.00	gals.	45.46	181.85
(8) Sand Paper (assorted)	15.00	gals.	7.58	113.66
(9) Miscellaneous		L.S.	0.00	1,153.87
(10) Roof Paint (green, ready-mix)	2.00	gals.	322.56	645.13
Sub-Total of I-1				8,038.14

Appendix Table 9.2.13 Unit Cost of Public Toilet

Sheet 4 of 5

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
2. Labor (30%of I-1)		L.S.		2,411.44
Sub-Total of I				10,449.58
J. Electrical Work				
1. Materials				
(1) 40 Watts Flourescent Lamp	2.00	sets	292.26	584.51
(2) Elect. Wire TW#12	24.00	M	7.58	181.85
(3) Elect. Conduit - 1/2" dia. x 10"	4.00	pcs.	88.76	355.04
(4) Entrance Cap. 1/2" dia.	1.00	pc.	32.47	32.47
(5) Switch Outlet, Flush Type	2.00	pcs.	44.38	88.76
(6) Utility Box 2"x3"	2.00	pcs.	7.58	15.15
(7) Porcelain Receptacle 2"dia.	2.00	pcs.	7.58	15.15
(8) Safety Switch 60A, 250V	1.00	sets	561.78	561.78
(9) Electrical Tape	1.00	roll	24.90	24.90
Sub-Total of J-1				1,859.62
2. Labor (30%of J-1)		L.S.		557.89
Sub-Total of J				2,417.50
K. Hardware				
1. Materials				
(1) 3"x3" Butt Hinges (Loose Pin)	10.00	pcs.	16.24	162.36
(2) 4"x4" Butt Hinges (Loose Pin)	12.00	pcs.	20.57	246.79
(3) Door Lockset (Schlage US)	3.00	pcs.	520.65	1,561.95
(4) Barrel Bolt (4")	5.00	pcs.	45.46	227.31
(5) Cabinet Pull (4")	5.00	pcs.	7.58	37.89
(6) Water Storage Cover				
Checkered Plate 1/4" thick				
1.44x0.645 w/ L bar & flat bar	1.00	set	1,128.98	1,128.98
0.645x0.633 w/ L bar & flatbar	2.00	set	636.47	1,272.94
(7) Padlock	1.00	pcs.	434.06	434.06
Sub-Total of K-1				5,072.28
2. Labor (30%of K-1)		L.S.		1,521.68
Sub-Total of K				6,593.96
L. Septic Tank and Sewage Basin				
1. Materials				
(1) 4" CHB	180.00	pcs.	5.41	974.19
(2) Cement	18.00	bags	138.55	2,493.92
(3) Sand	1.50	cu.m.	362.61	543.92
(4) Gravel	1.00	cu.m.	458.95	458.95
(5) Rebars:10mm dia.x 6m	29.00	pcs.	80.10	2,322.90
(6) #16 Tire Wire	2.00	kgs.	58.45	116.90
(7) Formworks: Coco Lumber				
2"x3"x10' = 12 pcs.	60.00	bd.ft.	8.66	519.57
1/4" plywood ord. 4'x8'	2.00	pcs.	482.76	965.53
C.W.N. (assorted)	2.00	kgs.	33.56	67.11
Sub-Total of L-1				8,463.00
2. Labor (30%of L-1)		L.S.		2,538.90
Sub-Total of L				11,001.89
M. Concrete Water Tank (Elevated)				
1. Earth Work				
(1) Materials				
1) Gravel Fill	1.00	cu.m.	458.95	458.95

Appendix Table 9.2.13 Unit Cost of Public Toilet

Sheet 5 of 5

(Cost: Peso)

Description	Quantity	Unit	Unit Cost	Cost
Sub-Total of M-1 (1)				458.95
(2) Labor				
1) Excavation	14.70	cu.m.	141.80	2,084.44
2) Backfill	13.08	cu.m.	128.81	1,684.83
3) Gravel Fill	1.00	cu.m.	167.78	167.78
Sub-Total of M-1 (2)				3,937.04
Sub-Total of M-1				4,396.00
2. Materials				
(1) Cement	62.00		138.55	8,590.18
(2) Sand	4.50		362.61	1,631.77
(3) Gravel	8.00		458.95	3,671.61
(4) Rebars: 12mm dia. x 6m	160.00		58.45	9,352.21
(5) #16 Tie Wire	4.00		58.45	233.81
(6) Formworks:				
1/4" plywood	12.00		482.76	5,793.18
2"x3"x16' = 60 pcs.	480.00		8.66	4,156.54
(7) CWN (assorted)	5.00		33.56	167.78
Sub-Total of M-2				33,597.07
3. Labor (30% of M-2)				10,079.12
Sub-Total of M				48,072.19
N. Freight Cost (11% of Materials for A-M excluding sand & gravel)		L.S.		20,734.64
O. Indirect Cost				
Profit (10% of A-M)				28,353.18
VAT (10% of Profit & Labor)				9,730.16
Sub-Total of O				38,083.34
Total Construction Cost (A to O)				342,349.79
P. Estimated Government Expenses				
1. Preliminary & Detailed Engineering Cost		L.S.		
2. Construction Supervision		L.S.		
Sub-Total of P				0.00
GRAND TOTAL				342,349.79
			say	342,000.00

Note: L.S. - Lump Sum

Source: DILG - PW4SP Standard Cost Estimate in 1999 Price Level.

Cost Adjusted to 2003 Price Level.

PHASE 1 DEVELOPMENT - Province of Sulu

Quantities	Municipality	Phase I (2005-2010) Requirement											
		Urban Area						Rural Area					
		Water Supply			Sanitation			Water Supply			Sanitation		
		Level III Pop	Level II Pop	Level I No. of wells	HH Flush	HH Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	HH Flush	HH Pour Flush
1	Indanan	803	4,895	88	110	1,757	3	1	4,898	0	17	0	205
2	Jolo	10,130	0	0	1,418	0	5	1	0	0	0	0	0
3	Kalinasan Caluang	0	0	0	0	0	0	0	4,370	726	26	715	196
4	Luk	2,276	0	0	292	0	0	0	1,489	4,272	80	191	880
5	Mainbung	345	0	0	43	0	0	0	2,001	971	98	359	729
6	Panamao	376	0	0	47	0	0	0	2,447	830	127	359	914
7	Pandina Tahil	0	2,081	0	0	177	0	1	0	0	0	0	0
8	Pandina Estino	207	0	0	28	0	0	0	2,441	1,923	34	326	383
9	Pangutaran	0	1,600	0	0	158	1	0	0	5,536	45	0	858
10	Pandani	0	0	0	0	0	0	0	0	2,540	89	0	733
11	Parang	0	879	0	0	76	0	0	0	5,312	3	0	2,039
12	Pata	0	0	0	0	0	0	0	0	3,394	15	0	457
13	Patikul	1,069	680	0	152	74	1	2	583	2,520	94	347	764
14	Sisi	4,903	0	0	537	0	1	0	1,915	3,998	257	210	1,899
15	Talipao	1,355	635	0	177	61	0	0	3,621	5,785	291	184	1,363
Provincial Total		21,493	10,773	88	2,804	2,303	12	7	23,264	38,007	1,176	2,584	11,444

Unit Cost

Unit Cost	Municipality	Phase I (2005-2010) Requirement											
		Urban Area						Rural Area					
		Water Supply			Sanitation			Water Supply			Sanitation		
		Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	HH Flush	HH Pour Flush
1	Indanan	4,652	1,790	314,000	4,871	653	307,000	390,000	4,652	1,790	314,000	4,871	653
2	Jolo	4,652	1,790	314,000	4,871	653	307,000	390,000	4,652	1,790	314,000	4,871	653
3	Kalinasan Caluang	4,652	1,790	314,000	4,871	653	307,000	390,000	4,652	1,790	314,000	4,871	653
4	Luk	3,585	1,790	314,000	4,871	653	307,000	390,000	3,585	1,790	314,000	4,871	653
5	Mainbung	4,652	1,790	314,000	4,871	653	307,000	390,000	4,652	1,790	314,000	4,871	653
6	Panamao	4,652	1,790	314,000	4,871	653	307,000	390,000	4,652	1,790	314,000	4,871	653
7	Pandina Tahil	4,652	1,790	314,000	4,871	653	307,000	390,000	4,652	1,790	314,000	4,871	653
8	Pandina Estino	4,652	1,790	314,000	4,871	653	307,000	390,000	4,652	1,790	314,000	4,871	653
9	Pangutaran	4,652	1,790	314,000	4,871	653	307,000	390,000	4,652	1,790	314,000	4,871	653
10	Pandani	4,652	1,790	314,000	4,871	653	307,000	390,000	4,652	1,790	314,000	4,871	653
11	Parang	4,652	1,790	314,000	4,871	653	307,000	390,000	4,652	1,790	314,000	4,871	653
12	Pata	4,652	1,790	314,000	4,871	653	307,000	390,000	4,652	1,790	314,000	4,871	653
13	Patikul	4,652	1,790	314,000	4,871	653	307,000	390,000	4,652	1,790	314,000	4,871	653
14	Sisi	4,652	1,790	314,000	4,871	653	307,000	390,000	4,652	1,790	314,000	4,871	653
15	Talipao	4,652	1,790	314,000	4,871	653	307,000	390,000	4,652	1,790	314,000	4,871	653
Provincial Total		48,718	26,843	4,710,000	4,871	653	307,000	390,000	48,718	26,843	4,710,000	4,871	653

Total Cost

Phase I (2005-2010) Requirement														
Municipality	Urban Area					Rural Area								
	Water Supply			Sanitation		Water Supply			Sanitation		Water Supply			
	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities
1. Indanan	3,734,963	8,764,828	27,733,771	534,740	1,146,648	1,063,189	348,999	22,786,062	0	5,237,624	0	133,991	98,349	133,725
2. Jolo	47,127,900	0	0	6,905,414	0	1,521,018	482,011	0	0	0	0	0	0	0
3. Kesatuan Calang	0	0	0	0	0	0	0	20,794,906	1,298,863	8,668,199	3,484,645	127,642	828,732	0
4. Lusak	8,161,381	0	0	1,423,824	0	0	176,298	5,336,897	7,645,809	25,224,600	931,068	574,544	875,875	0
5. Mainbuing	1,605,849	0	0	211,036	0	39,173	35,032	9,307,280	1,737,052	30,627,513	1,223,254	475,863	902,549	0
6. Panamuo	1,747,728	0	0	230,881	0	26,366	40,573	13,244,873	1,486,132	39,751,423	1,749,694	596,782	627,522	0
7. Panglima Tahil	0	3,734,484	0	0	115,276	72,438	482,022	0	0	0	0	0	0	0
8. Panglima Estino	960,893	0	0	134,259	0	85,992	22,067	11,357,482	3,440,413	10,616,100	1,586,903	253,133	1,146,648	0
9. Panururan	0	2,862,552	0	0	103,433	160,973	178,458	0	9,907,209	14,227,561	0	559,814	853,341	0
10. Pandan	0	0	0	0	0	0	0	0	4,545,928	27,964,161	0	478,359	651,873	0
11. Parang	0	1,572,266	0	0	49,009	36,316	29,980	0	9,505,765	897,635	0	1,343,698	1,124,880	0
12. Pata	0	0	0	0	0	0	0	0	6,431,731	4,858,236	0	297,976	362,147	0
13. Patikul	5,111,309	1,217,472	0	739,218	48,065	293,638	783,915	2,713,152	4,509,180	29,491,546	1,691,146	498,727	1,206,583	0
14. Siasi	22,808,634	0	0	2,617,808	0	155,767	116,115	8,909,555	7,155,134	80,846,056	1,022,573	1,239,543	895,048	0
15. Talipao	6,303,168	1,137,174	0	863,204	39,883	86,471	62,889	12,192,283	10,352,633	91,391,516	897,129	889,516	1,002,067	0
Provincial Total	62,377,832	8,764,828	27,733,771	9,205,916	1,146,648	2,649,746	1,082,913	71,470,017	12,167,855	108,909,360	7,388,662	1,908,822	3,332,977	133,725

Phase I (2005-2010) Requirement

Phase I (2005-2010) Requirement

Appendix 9.3.1 Total Cost (P x 1,000)

Appendix 9.3.1. Total Cost (P = 1,000)														
Phase I (2005-2010) Requirement														
Municipality of Indanan														

Appendix 9.3.2 Total Cost (P x 1,000)

Municipality of Jolo	Phase I (2005-2010) Requirement													
	Urban Area							Rural Area						
	Water Supply			Sanitation				Water Supply			Sanitation			
	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities
1	Municipal Total Cost	47,128	0	0	6,905	0	1,321	482	0	0	0	0	0	0
2	Physical Contingency (15% of 1)	7,069	0	0	1,036	0	228	72	0	0	0	0	0	0
3	Price Contingency (10% of 1 & 2)	5,420	0	0	794	0	175	55	0	0	0	0	0	0
4	Total Direct Cost	12,489	0	0	1,830	0	403	128	0	0	0	0	0	0
5	Indirect Cost													
6	Feasibility Study/DD (9% of 5)	1,124	0	0	165	0	36	11	0	0	0	0	0	0
7	Construction Supervision (4% of 5)	500	0	0	73	0	16	5	0	0	0	0	0	0
8	Training (3% and 12% for Urban & rural)	375	0	0	55	0	12	4	0	0	0	0	0	0
9	Total Indirect Cost	1,998	0	0	293	0	64	20	0	0	0	0	0	0
10	Total Project Cost	61,615	0	0	9,028	0	1,989	630	0	0	0	0	0	0

Appendix 9.3.3 Total Cost (P x 1,000)

Municipality Kalingalan Caluang	Phase I (2005-2010) Requirement													
	Urban Area							Rural Area						
	Water Supply		Sanitation					Water Supply		Sanitation				
	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities
1	Municipal Total Cost	0	0	0	0	0	0	20,795	1,299	8,068	3,485	128	829	0
2	Physical Contingency (15% of 1)	0	0	0	0	0	0	3,119	195	1,210	523	19	124	0
3	Price Contingency (10% of 1 & 2)	0	0	0	0	0	0	2,391	149	928	401	15	95	0
4	Total Direct Cost	0	0	0	0	0	0	5,511	344	2,138	923	34	220	0
5	Indirect Cost													
6	Feasibility Study/DD (9% of 5)	0	0	0	0	0	0	496	31	192	83	3	20	0
7	Construction Supervision (4% of 5)	0	0	0	0	0	0	220	14	86	37	1	9	0
8	Training (3% and 12% for Urban & rural)	0	0	0	0	0	0	661	41	257	111	1	26	0
9	Total Indirect Cost	0	0	0	0	0	0	1,378	86	535	231	8	55	0
10	Total Project Cost	0	0	0	0	0	0	27,683	1,729	10,741	4,639	170	1,103	0

Appendix 9.3.4 Total Cost (P x 1,000)

Municipality Luuk	Phase I (2005-2010) Requirement											
	Urban Area						Rural Area					
	Water Supply			Sanitation			Water Supply			Sanitation		
	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School
1 Municipal Total Cost	8,161	0	0	1,424	0	0	5,337	7,646	25,225	931	575	876
2 Physical Contingency (15% of 1)	1,224	0	0	214	0	0	801	1,147	3,784	140	86	131
3 Price Contingency (10% of 1 & 2)	939	0	0	164	0	0	614	879	2,901	107	66	101
4 Total Direct Cost	2,163	0	0	377	0	0	1,414	2,026	6,685	247	152	232
5 Indirect Cost												
6 Feasibility Study/DD (9% of 5)	195	0	0	34	0	0	127	182	602	22	14	21
7 Construction Supervision (4% of 5)	87	0	0	15	0	0	57	81	267	10	6	9
8 Training (3% and 12% for Urban & rural)	65	0	0	11	0	0	170	243	802	30	18	28
9 Total Indirect Cost	346	0	0	60	0	0	354	507	1,671	62	38	58
10 Total Project Cost	10,670	0	0	1,862	0	0	2,320	10,178	33,580	1,239	765	1,166

Appendix 9.3.5 Total Cost (P x 1,000)

Municipality Maimbung	Phase I (2005-2010) Requirement											
	Urban Area						Rural Area					
	Water Supply			Sanitation			Water Supply			Sanitation		
	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School
1 Municipal Total Cost	1,606	0	0	211	0	39	9307	1,737	30,628	1,223	476	903
2 Physical Contingency (15% of 1)	241	0	0	32	0	6	1,396	261	4,594	183	71	135
3 Price Contingency (10% of 1 & 2)	185	0	0	24	0	5	1,070	200	3,572	141	55	104
4 Total Direct Cost	426	0	0	56	0	10	2,466	460	8,116	324	126	239
5 Indirect Cost												
6 Feasibility Study/DD (9% of 5)	38	0	0	5	0	1	222	41	710	29	11	22
7 Construction Supervision (4% of 5)	17	0	0	2	0	0	99	18	325	13	5	10
8 Training (3% and 12% for Urban & rural)	13	0	0	2	0	0	296	55	974	39	15	29
9 Total Indirect Cost	68	0	0	9	0	2	617	115	2,079	81	32	60
10 Total Project Cost	2,099	0	0	276	0	51	12,390	2,312	40,773	1,638	633	1,302

Appendix 9.3.6 Total Cost (P x 1,000)

Municipality Panamoo	Phase I (2005-2010) Requirement											
	Urban Area						Rural Area					
	Water Supply			Sanitation			Water Supply			Sanitation		
	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School
1 Municipal Total Cost	1,748	0	0	211	0	26	13,245	1,486	39,751	1,750	597	628
2 Physical Contingency (15% of 1)	262	0	0	35	0	4	1,987	223	5,963	262	90	94
3 Price Contingency (10% of 1 & 2)	201	0	0	27	0	3	1,523	171	4,571	201	69	72
4 Total Direct Cost	463	0	0	61	0	7	15,751	394	10,534	464	158	166
5 Indirect Cost												
6 Feasibility Study/DD (9% of 5)	42	0	0	6	0	1	316	35	948	42	14	15
7 Construction Supervision (4% of 5)	19	0	0	2	0	0	140	16	421	19	6	7
8 Training (3% and 12% for Urban & rural)	14	0	0	2	0	0	421	47	1,264	56	19	20
9 Total Indirect Cost	74	0	0	10	0	2	877	98	2,634	116	40	42
10 Total Project Cost	2,285	0	0	302	0	34	17,632	1,978	55,919	2,329	794	835

Appendix 9.3.7 Total Cost (P x 1,000)

Municipality Panlina Tani	Phase I (2005-2010) Requirement													
	Urban Area							Rural Area						
	Water Supply			Sanitation				Water Supply			Sanitation			
	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities
1 Municipal Total Cost	0	3,724	0	0	115	72	482	0	0	0	0	0	0	0
2 Physical Contingency (15% of 1)	0	559	0	0	17	11	72	0	0	0	0	0	0	0
3 Price Contingency (10% of 1 & 2)	0	428	0	0	13	8	55	0	0	0	0	0	0	0
4 Total Direct Cost	0	987	0	0	31	19	128	0	0	0	0	0	0	0
5 Indirect Cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Feasibility Study/DD (9% of 5)	0	89	0	0	3	2	11	0	0	0	0	0	0	0
7 Construction Supervision (4% of 5)	0	39	0	0	1	1	5	0	0	0	0	0	0	0
8 Training (3% and 12% for Urban & rural)	0	30	0	0	1	1	4	0	0	0	0	0	0	0
9 Total Indirect Cost	0	158	0	0	5	3	20	0	0	0	0	0	0	0
10 Total Project Cost	0	4,869	0	0	151	95	630	0	0	0	0	0	0	0

Appendix 9.3.8 Total Cost (P x 1,000)

Municipality Panlina Estina	Phase I (2005-2010) Requirement													
	Urban Area							Rural Area						
	Water Supply			Sanitation				Water Supply			Sanitation			
	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities
1 Municipal Total Cost	941	0	0	134	0	86	22	11,357	3,440	10,616	1,587	253	1,147	0
2 Physical Contingency (15% of 1)	144	0	0	20	0	13	3	1,704	516	1,592	238	38	172	0
3 Price Contingency (10% of 1 & 2)	111	0	0	15	0	10	3	1,308	396	1,221	182	29	132	0
4 Total Direct Cost	255	0	0	36	0	23	6	3,010	912	2,813	421	67	304	0
5 Indirect Cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Feasibility Study/DD (9% of 5)	23	0	0	3	0	2	1	271	82	253	38	6	27	0
7 Construction Supervision (4% of 5)	10	0	0	1	0	1	0	120	36	113	17	3	12	0
8 Training (3% and 12% for Urban & rural)	8	0	0	1	0	1	0	361	109	338	50	8	36	0
9 Total Indirect Cost	41	0	0	6	0	4	1	752	228	703	105	17	76	0
10 Total Project Cost	1,256	0	0	176	0	112	29	15,130	4,580	14,133	2,113	337	1,526	0

Appendix 9.3.9 Total Cost (P x 1,000)

Municipality Pangutaran	Phase I (2005-2010) Requirement													
	Urban Area							Rural Area						
	Water Supply			Sanitation				Water Supply			Sanitation			
	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities
1 Municipal Total Cost	0	2,863	0	0	103	161	128	0	9,907	14,228	0	560	853	0
2 Physical Contingency (15% of 1)	0	429	0	0	16	24	19	0	1,486	2,134	0	84	128	0
3 Price Contingency (10% of 1 & 2)	0	329	0	0	12	19	15	0	1,139	1,616	0	64	98	0
4 Total Direct Cost	0	759	0	0	27	43	34	0	2,625	3,770	0	148	226	0
5 Indirect Cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Feasibility Study/DD (9% of 5)	0	68	0	0	2	4	3	0	216	339	0	13	20	0
7 Construction Supervision (4% of 5)	0	30	0	0	1	2	1	0	105	151	0	6	9	0
8 Training (3% and 12% for Urban & rural)	0	23	0	0	1	1	1	0	315	452	0	18	27	0
9 Total Indirect Cost	0	121	0	0	4	7	5	0	636	943	0	37	57	0
10 Total Project Cost	0	3,743	0	0	135	210	168	0	13,189	18,940	0	745	1,136	0

Appendix 9.3.10 Total Cost (P x 1,000)

Municipality Pandani	Phase I (2005-2010) Requirement													
	Urban Area							Rural Area						
	Water Supply			Sanitation				Water Supply			Sanitation			
	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities
1 Municipal Total Cost	0	0	0	0	0	0	0	0	4,546	27,964	0	478	652	0
2 Physical Contingency (15% of 1)	0	0	0	0	0	0	0	0	682	4,195	0	72	98	0
3 Price Contingency (10% of 1 & 2)	0	0	0	0	0	0	0	0	523	3,216	0	55	75	0
4 Total Direct Cost	0	0	0	0	0	0	0	0	1,205	7,411	0	127	173	0
5 Indirect Cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Feasibility Study/DD (9% of 5)	0	0	0	0	0	0	0	0	108	667	0	11	16	0
7 Construction Supervision (4% of 5)	0	0	0	0	0	0	0	0	48	296	0	5	7	0
8 Training (3% and 12% for Urban & rural)	0	0	0	0	0	0	0	0	145	889	0	15	21	0
9 Total Indirect Cost	0	0	0	0	0	0	0	0	301	1,853	0	32	43	0
10 Total Project Cost	0	0	0	0	0	0	0	0	6,052	37,227	0	637	863	0

Appendix 9.3.11 Total Cost (P x 1,000)

Municipality Parang	Phase I (2005-2010) Requirement													
	Urban Area							Rural Area						
	Water Supply			Sanitation				Water Supply			Sanitation			
	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities
1 Municipal Total Cost	0	1,572	0	0	50	36	30	0	9,506	898	0	1,344	1,125	0
2 Physical Contingency (15% of 1)	0	236	0	0	7	5	4	0	1,426	135	0	202	169	0
3 Price Contingency (10% of 1 & 2)	0	181	0	0	6	4	3	0	1,093	103	0	155	129	0
4 Total Direct Cost	0	417	0	0	13	10	8	0	2,519	238	0	356	298	0
5 Indirect Cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Feasibility Study/DD (9% of 5)	0	37	0	0	1	1	1	0	227	21	0	32	27	0
7 Construction Supervision (4% of 5)	0	17	0	0	1	0	0	0	101	10	0	14	12	0
8 Training (3% and 12% for Urban & rural)	0	12	0	0	0	0	0	0	302	29	0	43	36	0
9 Total Indirect Cost	0	67	0	0	2	2	1	0	630	59	0	89	75	0
10 Total Project Cost	0	2,056	0	0	65	48	39	0	12,655	1,195	0	1,789	1,497	0

Appendix 9.3.12 Total Cost (P x 1,000)

Municipality Pata	Phase I (2005-2010) Requirement													
	Urban Area							Rural Area						
	Water Supply			Sanitation				Water Supply			Sanitation			
	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities
1 Municipal Total Cost	0	0	0	0	0	0	0	0	6,432	4,838	0	298	362	0
2 Physical Contingency (15% of 1)	0	0	0	0	0	0	0	0	965	729	0	45	54	0
3 Price Contingency (10% of 1 & 2)	0	0	0	0	0	0	0	0	740	559	0	34	42	0
4 Total Direct Cost	0	0	0	0	0	0	0	0	1,704	1,287	0	79	96	0
5 Indirect Cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Feasibility Study/DD (9% of 5)	0	0	0	0	0	0	0	0	153	116	0	7	9	0
7 Construction Supervision (4% of 5)	0	0	0	0	0	0	0	0	68	51	0	3	4	0
8 Training (3% and 12% for Urban & rural)	0	0	0	0	0	0	0	0	205	154	0	9	12	0
9 Total Indirect Cost	0	0	0	0	0	0	0	0	426	322	0	20	24	0
10 Total Project Cost	0	0	0	0	0	0	0	0	8,562	6,468	0	397	482	0

Appendix 9.3.13. Total Cost (P x 1,000)

	Municipality Parikul	Phase I (2005-2010) Requirement											
		Urban Area						Rural Area					
		Water Supply			Sanitation			Water Supply			Sanitation		
		Level III	Level II	Level I	III Flush	III Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	III Flush	III Pour Flush
1	Municipal Total Cost	5,111	1,217	0	739	48	294	784	2,113	4,509	29,492	1,091	499
2	Physical Contingency (15% of 1)	767	183	0	111	7	44	118	407	676	4,434	254	181
3	Price Contingency (10% of 1 & 2)	588	140	0	85	6	34	90	312	519	3,392	194	57
4	Total Direct Cost	1,354	323	0	196	13	78	208	719	1,195	7,815	448	132
5	Indirect Cost												
6	Feasibility Study (DD) (9% of 5)	122	29	0	18	1	7	19	65	108	703	40	12
7	Construction Supervision (4% of 5)	54	13	0	8	1	3	8	29	48	313	18	5
8	Training (3% and 12% for Urban & rural)	41	10	0	6	0	2	6	86	143	938	54	16
9	Total Indirect Cost	217	52	0	31	2	12	33	180	299	1,954	112	33
10	Total Project Cost	6,683	1,592	0	966	63	384	1,025	3,612	6,003	39,261	2,241	664

Appendix 9.3.14. Total Cost (P x 1,000)

	Municipality Sasi	Phase I (2005-2010) Requirement											
		Urban Area						Rural Area					
		Water Supply			Sanitation			Water Supply			Sanitation		
		Level III	Level II	Level I	III Flush	III Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	III Flush	III Pour Flush
1	Municipal Total Cost	22,809	0	0	2,618	0	156	116	8,910	7,155	80,846	1,023	1,240
2	Physical Contingency (15% of 1)	3,421	0	0	393	0	23	17	1,336	1,073	12,127	153	186
3	Price Contingency (10% of 1 & 2)	2,623	0	0	301	0	18	13	1,025	823	9,297	118	143
4	Total Direct Cost	6,044	0	0	694	0	41	31	2,161	1,896	21,424	271	328
5	Indirect Cost												
6	Feasibility Study (DD) (9% of 5)	544	0	0	62	0	4	3	212	171	1,928	24	30
7	Construction Supervision (4% of 5)	242	0	0	28	0	2	1	94	76	857	13	13
8	Training (3% and 12% for Urban & rural)	181	0	0	21	0	1	1	283	228	2,571	33	39
9	Total Indirect Cost	967	0	0	111	0	7	5	500	474	5,356	68	82
10	Total Project Cost	29,820	0	0	3,423	0	204	152	11,861	9,525	107,636	1,361	1,650

Appendix 9.3.15. Total Cost (P x 1,000)

	Municipality Talipao	Phase I (2005-2010) Requirement											
		Urban Area						Rural Area					
		Water Supply			Sanitation			Water Supply			Sanitation		
		Level III	Level II	Level I	III Flush	III Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	III Flush	III Pour Flush
1	Municipal Total Cost	6,303	1,137	0	863	40	86	63	12,192	10,353	91,394	897	890
2	Physical Contingency (15% of 1)	945	171	0	129	6	13	9	1,829	1,553	13,709	133	133
3	Price Contingency (10% of 1 & 2)	725	131	0	99	5	10	7	1,402	1,191	10,510	103	102
4	Total Direct Cost	1,670	301	0	229	11	23	17	3,231	2,743	24,219	238	236
5	Indirect Cost												
6	Feasibility Study (DD) (9% of 5)	150	27	0	31	1	2	1	291	247	2,180	21	21
7	Construction Supervision (4% of 5)	67	12	0	9	0	1	1	129	110	960	10	9
8	Training (3% and 12% for Urban & rural)	50	9	0	7	0	1	0	388	329	2,906	29	28
9	Total Indirect Cost	267	48	0	37	2	4	3	808	686	6,055	59	59
10	Total Project Cost	8,241	1,487	0	1,129	52	113	82	16,231	13,782	121,668	1,194	1,184

PHASE II DEVELOPMENT - Province of Sulu

Quantities	Municipality	Phase I (2005-2010) Requirement									
		Urban Area					Rural Area				
		Water Supply		Sanitation			Water Supply		Sanitation		
		Level III Pop	Level II Pop	Level I No. of wells	HH Flush	HH Pour Flush	Public School	Public Utilities	Level III	Level II	Level I
1	Indanan	3,015	1,147	46	1,884	3,322	3	1	0	644	3
2	Jolo	15,248	0	0	8,155	0	4	1	0	0	0
3	Kalinagan Caluang	0	0	0	0	0	0	0	2,802	766	0
4	Lauk	1,447	0	0	348	0	1	0	2,547	1,568	13
5	Mainbung	182	0	0	106	0	0	1	1,058	377	30
6	Panarao	237	2,364	0	175	0	0	1	2,364	1,870	26
7	Panglima Tahil	0	921	0	0	514	1	1	0	0	0
8	Panglima Estino	321	0	0	198	0	1	0	1,698	210	12
9	Pangasinan	0	710	0	0	460	0	0	0	3,009	9
10	Pandani	0	0	0	0	0	0	0	0	988	27
11	Parang	330	0	0	187	0	0	1	2,354	1,444	60
12	Para	0	0	0	0	0	0	0	0	1,590	5
13	Patikul	1,385	198	0	994	124	1	0	291	940	33
14	Siasi	1,460	0	0	726	0	1	1	885	2,790	67
15	Talipao	721	349	0	431	149	2	1	2,906	1,386	99
Provincial Total		24,296	5,589	46	13,703	4,569	15	10	16,904	17,583	385

Unit Cost	Municipality	Phase I (2005-2010) Requirement									
		Urban Area					Rural Area				
		Water Supply		Sanitation			Water Supply		Sanitation		
		Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities	Level III	Level II	Level I
1	Indanan	4,652	1,790	314,000	4,871	653	307,000	300,000	4,652	1,790	314,000
2	Jolo	4,652	1,790	314,000	4,871	653	307,000	300,000	4,652	1,790	314,000
3	Kalinagan Caluang	4,652	1,790	314,000	4,871	653	307,000	300,000	4,652	1,790	314,000
4	Lauk	4,652	1,790	314,000	4,871	653	307,000	300,000	4,652	1,790	314,000
5	Mainbung	4,652	1,790	314,000	4,871	653	307,000	300,000	4,652	1,790	314,000
6	Panarao	4,652	1,790	314,000	4,871	653	307,000	300,000	4,652	1,790	314,000
7	Panglima Tahil	4,652	1,790	314,000	4,871	653	307,000	300,000	4,652	1,790	314,000
8	Panglima Estino	4,652	1,790	314,000	4,871	653	307,000	300,000	4,652	1,790	314,000
9	Pangasinan	4,652	1,790	314,000	4,871	653	307,000	300,000	4,652	1,790	314,000
10	Pandani	4,652	1,790	314,000	4,871	653	307,000	300,000	4,652	1,790	314,000
11	Parang	4,652	1,790	314,000	4,871	653	307,000	300,000	4,652	1,790	314,000
12	Para	4,652	1,790	314,000	4,871	653	307,000	300,000	4,652	1,790	314,000
13	Patikul	4,652	1,790	314,000	4,871	653	307,000	300,000	4,652	1,790	314,000
14	Siasi	4,652	1,790	314,000	4,871	653	307,000	300,000	4,652	1,790	314,000
15	Talipao	4,652	1,790	314,000	4,871	653	307,000	300,000	4,652	1,790	314,000
Provincial Total		68,718	26,843	4,710,000	68,718	26,843	4,710,000	4,710,000	68,718	26,843	4,710,000

Total Cost	Municipality	Phase I (2005-2010) Requirement									
		Urban Area					Rural Area				
		Water Supply		Sanitation			Water Supply		Sanitation		
		Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities	Level III	Level II	Level I
1	Indanan	14,025,001	2,051,071	14,549,301	9,174,668	2,168,515	7,809,391	419,489	0	1,152,611	980,094
2	Jolo	76,936,665	0	0	30,721,809	0	1,172,685	438,289	0	0	0
3	Kalinagan Caluang	5,189,358	0	0	0	0	181,438	97,479	13,035,045	1,370,622	0
4	Lauk	849,005	0	0	514,692	0	335,924	402,195	9,132,716	2,805,257	4,061,075
5	Mainbung	1,333,949	4,230,018	0	850,118	0	19,067	411,435	10,996,845	3,347,896	8,070,605
6	Panarao	1,493,072	1,647,759	0	964,481	0	354,168	43,769	7,901,040	374,930	3,921,374
7	Panglima Tahil	0	1,270,491	0	0	0	118,294	70,889	0	5,385,432	2,668,934
8	Panglima Estino	0	0	0	0	0	300,296	0	1,768,642	8,620,670	0
9	Pangasinan	1,535,465	0	0	910,307	0	26,603	406,008	10,950,255	2,584,649	18,843,045
10	Pandani	7,372,710	355,023	0	4,841,387	0	205,599	147,471	1,353,103	2,845,448	1,580,521
11	Parang	6,790,083	0	0	2,998,514	0	420,916	454,455	4,115,177	1,082,249	10,277,785
12	Para	3,356,485	445,173	0	2,098,514	96,959	739,608	419,588	13,517,706	2,481,061	30,985,504
13	Patikul	92,334,010	6,283,090	14,549,303	54,930,661	2,168,515	2,439,504	1,845,398	38,085,318	9,349,631	22,975,529
14	Siasi	0	0	0	0	0	0	0	0	0	0
15	Talipao	0	0	0	0	0	0	0	0	0	0
Provincial Total		149,334,010	14,549,303	14,549,303	149,334,010	14,549,303	14,549,303	14,549,303	149,334,010	14,549,303	14,549,303

Municipality		Phase I (2002-2010) Requirement															
		Urban Area								Rural Area							
		Water Supply				Sanitation				Water Supply				Sanitation			
		Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities		
1	Indianan	14,025	2,053	14,549	9,175	2,169	780	439	0	1,153	980	0	0	396	75	49	
2	Jolo	70,937	0	0	39,724	0	1,123	488	0	0	0	0	0	0	0	0	
3	Kalinagan Caltang	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4	Lunk	5,189	0	0	4,130	0	181	97	13,035	1,371	0	10,133	371	829	0	0	
5	Mairbun	849	0	0	515	0	336	409	9,133	2,805	4,061	7,328	1,053	647	0	0	
6	Panarao	1,334	4,230	0	850	0	19	411	4,921	674	8,461	2,969	1,162	666	0	0	
7	Pandina Tahl	0	1,648	0	0	335	360	488	0	0	0	0	0	0	0	0	
8	Pandina Estero	1,493	0	0	964	0	354	44	7,901	375	3,922	5,065	533	435	0	0	
9	Panguraran	0	1,270	0	0	300	118	71	0	5,385	2,869	0	1,628	630	0	0	
10	Pandani	0	0	0	0	0	0	0	0	1,769	8,621	0	1,166	481	0	0	
11	Parang	1,535	0	0	910	0	27	406	10,990	2,585	18,843	6,252	2,437	829	0	0	
12	Pata	0	0	0	0	0	0	0	0	2,845	1,571	0	851	267	0	0	
13	Panlul	7,373	355	0	4,841	81	206	147	1,353	1,682	10,278	0	1,737	461	0	0	
14	Slati	6,709	0	0	3,539	0	421	454	4,115	4,993	21,172	1,930	2,591	661	0	0	
15	Taligao	3,356	445	0	2,099	97	740	420	13,518	2,481	30,986	4,061	1,923	740	0	0	
16	Physical Total	112,832	10,002	14,549	66,342	2,982	4,665	3,676	75,933	31,465	120,844	43,269	17,237	7,205	49	0	
17	Physical Continues (15% of 1)	16,932	1,500	2,182	10,012	447	700	581	11,383	4,720	18,127	6,565	2,592	1,081	7	0	
18	Price Continues (10% of 1 & 2)	12,931	1,150	1,673	7,676	343	536	446	8,731	3,619	13,897	5,033	1,937	829	6	0	
19	Total Direct Cost	29,914	2,650	3,856	17,688	790	1,236	1,027	20,119	8,338	32,024	11,599	4,578	1,909	13	0	
20	Indirect Cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
21	Feasibility Study/DD (9% of 4)	2,692	219	347	1,592	71	111	92	1,811	750	2,882	1,044	412	172	1	0	
22	Construction Supervision (4% of 4)	1,197	106	154	708	32	49	41	805	334	1,281	464	183	76	0	0	
23	Training (3% and 12% for Urban & rural)	897	80	116	531	24	37	31	2,414	1,001	3,843	1,392	549	229	2	0	
24	Total Indirect Cost	4,786	424	612	2,830	126	198	164	5,030	2,085	8,006	2,968	1,				

Municipality		Phase I (2005-2010) Requirement																	
		Urban Area									Rural Area								
		Water Supply			Sanitation			Public Utilities			Water Supply			Sanitation			Public Utilities		
		Level III	Level II	Level I	HH Flush	Public School	Public Utilities	Level III	Level II	Level I	HH Flush	Public School	Public Utilities	Level III	Level II	Level I	HH Flush	Public School	Public Utilities
1	Indianan	14,025	2,053	14,549	9,175	780	439	0	1,153	980	0	0	0	396	75	49			
2	Jolo	70,937	0	0	39,724	0	488	0	0	0	0	0	0	0	0	0	0	0	0
3	Kalinawan Caltang	0	0	0	0	1,123	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Luis	5,189	0	0	4,130	0	181	0	1,371	4,061	10,133	829	0	371	829	0	0	0	0
5	Mainitang	849	0	0	515	0	97	9,133	2,805	4,061	7,338	1,053	647	0	647	0	0	0	0
6	Panarao	4,230	0	0	850	0	409	9,461	674	8,070	2,969	666	0	666	0	0	0	0	0
7	Pandina Tahi	1,334	0	0	0	336	411	10,997	3,347	8,070	6,031	1,430	462	0	462	0	0	0	0
8	Pandina Estino	1,493	0	0	964	0	350	44	7,901	3,922	5,065	533	455	0	455	0	0	0	0
9	Panururan	0	1,270	0	0	118	71	0	5,385	2,869	630	0	630	0	630	0	0	0	0
10	Pandani	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	Paring	1,535	0	0	910	0	27	406	10,950	18,843	6,252	2,437	829	0	829	0	0	0	0
12	Pata	0	0	0	0	0	0	0	0	2,845	1,581	267	0	851	267	0	0	0	0
13	Parkul	7,373	355	0	4,841	206	147	1,353	1,682	10,278	0	1,737	461	0	461	0	0	0	0
14	Siati	6,790	0	0	3,539	41	454	4,115	4,993	21,172	1,930	2,591	661	0	661	0	0	0	0
15	Taljano	3,556	445	0	2,099	700	420	13,518	2,481	30,986	4,061	1,923	740	0	740	0	0	0	0
16	Provincial Total	112,882	10,002	14,549	66,747	4,665	3,876	75,923	31,465	120,844	43,789	17,377	7,205	49	7,205	49			
17	Physical Contingency(15% of 1)	16,932	1,500	2,182	10,012	447	700	581	11,383	18,127	6,252	2,592	7	7	2,592	7			
18	Price Contingency (10% of 1 & 2)	12,981	1,150	1,782	7,676	343	536	416	3,619	13,897	5,033	1,987	829	6	1,987	829			
19	Total Direct Cost	29,914	2,650	3,856	17,688	790	1,236	1,027	20,119	8,338	11,599	4,578	1,909	13	4,578	1,909			
20	Indirect Cost																		
21	Feasibility Study/DD (92% of 4)	2,692	219	347	1,592	111	92	1,811	750	2,882	1,044	412	172	1	412	172			
22	Construction Supervision(4% of 4)	1,197	106	154	708	49	41	805	334	1,281	464	183	76	1	183	76			
23	Training(1% and 12% for Urban & rural)	897	80	116	531	37	31	2,414	1,001	3,843	1,392	549	229	2	549	229			
24	Total Indirect Cost	4,786	424	617	2,330	198	164	5,030	2,085	8,006	2,900	1,145	477	3	1,145	477			
25	Total Project Cost	147,582	13,076	19,032	87,265	3,899	6,099	5,067	101,072	41,888	58,268	23,000	9,591	66	23,000	9,591			

Appendix 9.4.1 Total Cost (P x 1,000)

Phase I (2005-2010) Requirement															
		Urban Area								Rural Area					
		Water Supply				Sanitation				Water Supply				Sanitation	
		Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities
1	Municipal Total Cost	14,025	2,053	14,549	9,175	2,169	780	439	0	1,153	980	0	396	75	49
2	Physical Contingency (15% of 1)	2,104	308	2,182	1,376	325	117	66	0	173	147	0	59	11	7
3	Price Contingency (10% of 1 & 2)	1,613	236	1,673	1,055	249	90	50	0	133	113	0	45	9	6
4	Total Direct Cost	3,717	544	3,856	2,431	575	207	116	0	305	260	0	105	20	13
5	Indirect Cost														
6	Feasibility Study/DD (9% of 5)	334	49	347	219	52	19	10	0	27	23	0	9	2	1
7	Construction Supervision (4% of 5)	149	22	154	97	23	8	5	0	12	10	0	4	1	1
8	Training (3% and 12% for Urban & rural)	111	16	116	73	17	6	3	0	37	31	0	13	2	2
9	Total indirect Cost	595	87	617	389	92	33	19	0	76	65	0	26	5	3
10	Total Project Cost	18,356	2,684	19,022	11,995	2,835	1,020	574	0	1,534	1,305	0	527	100	66

Appendix 9.4.2 Total Cost (P x 1,000)

Municipality of Jolo		Phase I (2005-2010) Requirement													
		Urban Area						Rural Area							
		Water Supply			Sanitation			Water Supply			Sanitation				
		Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities
1	Municipal Total Cost	70,937	0	0	39,734	0	1,173	488	0	0	0	0	0	0	0
2	Physical Contingency (5% of 1)	10,640	0	0	5,959	0	168	73	0	0	0	0	0	0	0
3	Price Contingency (10% of 1 & 2)	8,158	0	0	4,568	0	129	56	0	0	0	0	0	0	0
4	Total Direct Cost	18,798	0	0	10,327	0	298	129	0	0	0	0	0	0	0
5	Indirect Cost														
6	Feasibility Study/DD (9% of 5)	1,692	0	0	947	0	27	12	0	0	0	0	0	0	0
7	Construction Supervision (4% of 5)	752	0	0	431	0	12	5	0	0	0	0	0	0	0
8	Training (3% and 12% for Urban & rural)	564	0	0	316	0	9	4	0	0	0	0	0	0	0
9	Total Indirect Cost	1,908	0	0	1,684	0	48	21	0	0	0	0	0	0	0
10	Total Project Cost	92,748	0	0	51,935	0	1,468	638	0	0	0	0	0	0	0

Appendix 9.4.3 Total Cost (P x 1,000)

Appendix 9.4.3 Total Cost (P x 1,000)															
Phase I (2005-2010) Requirement															
Municipality Kalingan Cahuang															

Appendix 9.4.4 Total Cost (P x 1,000)

Municipality Look	Phase I (2005-2010) Requirement													
	Urban Area							Rural Area						
	Water Supply			Sanitation				Water Supply			Sanitation			
	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities
1 Municipal Total Cost	5,159	0	0	4,130	0	181	97	9,133	2,805	4,061	7,338	1,053	647	0
2 Physical Contingency (15% of 1)	778	0	0	620	0	27	15	1,370	421	609	1,099	158	97	0
3 Price Contingency (10% of 1 & 2)	597	0	0	475	0	21	11	1,050	323	467	843	121	74	0
4 Total Direct Cost	1,375	0	0	1,095	0	48	26	2,420	743	1,076	1,942	279	172	0
5 Indirect Cost	124	0	0	99	0	4	2	218	67	97	125	25	15	0
6 Feasibility Study/DD (9% of 5)	55	0	0	44	0	2	1	97	30	43	78	11	7	0
7 Construction Supervision (4% of 5)	31	0	0	33	0	1	1	290	89	129	233	33	21	0
8 Training (3% and 12% for Urban & rural)	220	0	0	175	0	8	4	605	186	269	485	70	43	0
9 Total Indirect Cost	6,785	0	0	5,400	0	237	127	12,158	3,734	5,406	9,755	1,402	862	0
10 Total Project Cost														

Appendix 9.4.5 Total Cost (P x 1,000)

Municipality Mainburg	Phase I (2005-2010) Requirement													
	Urban Area							Rural Area						
	Water Supply			Sanitation				Water Supply			Sanitation			
	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities
1 Municipal Total Cost	849	0	0	515	0	336	409	4,921	674	9,461	2,969	1,162	666	0
2 Physical Contingency (15% of 1)	127	0	0	77	0	50	61	738	101	1,419	445	174	100	0
3 Price Contingency (10% of 1 & 2)	98	0	0	59	0	39	47	566	78	1,088	341	134	77	0
4 Total Direct Cost	225	0	0	136	0	89	108	1,304	179	3,507	787	308	177	0
5 Indirect Cost	30	0	0	12	0	8	10	117	16	326	71	28	16	0
6 Feasibility Study/DD (9% of 5)	9	0	0	5	0	4	4	52	7	100	31	12	7	0
7 Construction Supervision (4% of 5)	7	0	0	4	0	3	3	156	21	301	94	37	21	0
8 Training (3% and 12% for Urban & rural)	36	0	0	22	0	14	17	326	45	627	197	77	44	0
9 Total Indirect Cost	1,110	0	0	673	0	439	535	6,551	897	12,595	3,952	1,546	887	0
10 Total Project Cost														

Appendix 9.4.6 Total Cost (P x 1,000)

Municipality Pananao	Phase I (2005-2010) Requirement													
	Urban Area							Rural Area						
	Water Supply			Sanitation				Water Supply			Sanitation			
	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities
1 Municipal Total Cost	1,334	4,210	0	850	0	19	411	10,997	3,347	8,070	6,031	1,430	462	0
2 Physical Contingency (15% of 1)	200	635	0	128	0	3	62	1,650	502	1,211	905	215	69	0
3 Price Contingency (10% of 1 & 2)	153	486	0	98	0	2	47	1,265	385	928	694	164	53	0
4 Total Direct Cost	353	1,121	0	225	0	5	109	2,914	887	2,139	1,598	379	122	0
5 Indirect Cost	32	101	0	20	0	0	10	262	80	192	144	34	11	0
6 Feasibility Study/DD (9% of 5)	14	45	0	9	0	0	4	117	35	86	64	15	5	0
7 Construction Supervision (4% of 5)	11	34	0	7	0	0	3	350	106	257	192	45	15	0
8 Training (3% and 12% for Urban & rural)	57	179	0	36	0	1	17	729	222	535	400	95	31	0
9 Total Indirect Cost	1,744	5,510	0	1,111	0	25	538	14,640	4,456	10,743	8,029	1,904	615	0
10 Total Project Cost														

Appendix 9.4.7 Total Cost (P x 1,000)

	Phase I (2005-2010) Requirement									
	Urban Area					Rural Area				
	Water Supply		Sanitation			Water Supply		Sanitation		
	Level III	Level II	Level I	HH Flush	HH Pour Flush	Level III	Level II	Level I	HH Flush	HH Pour Flush
Municipality Panglima Estino										
1 Municipal Total Cost	0	1,648	0	0	335	0	0	0	0	0
2 Physical Contingency (15% of 1)	0	247	0	0	50	0	0	0	0	0
3 Price Contingency (10% of 1 & 2)	0	189	0	0	39	0	0	0	0	0
4 Total Direct Cost	0	437	0	0	89	0	0	0	0	0
5 Indirect Cost	0	39	0	0	8	0	0	0	0	0
6 Feasibility Study/DD (9% of 5)	0	17	0	0	4	0	0	0	0	0
7 Construction Supervision (4% of 5)	0	13	0	0	3	0	0	0	0	0
8 Training (3% and 12% for Urban & rural)	0	70	0	0	14	0	0	0	0	0
9 Total Indirect Cost	0	2,154	0	0	438	0	0	0	0	0
10 Total Project Cost	0					0				

Appendix 9.4.8 Total Cost (P x 1,000)

	Phase I (2005-2010) Requirement									
	Urban Area					Rural Area				
	Water Supply		Sanitation			Water Supply		Sanitation		
	Level III	Level II	Level I	HH Flush	HH Pour Flush	Level III	Level II	Level I	HH Flush	HH Pour Flush
Municipality Panglima Estino										
1 Municipal Total Cost	1,493	0	0	964	0	7,901	375	3,922	5,065	533
2 Physical Contingency (15% of 1)	224	0	0	145	0	1,185	56	588	760	80
3 Price Contingency (10% of 1 & 2)	172	0	0	111	0	909	43	451	582	61
4 Total Direct Cost	396	0	0	256	0	2,094	99	1,039	1,342	141
5 Indirect Cost	36	0	0	23	0	188	9	94	121	13
6 Feasibility Study/DD (9% of 5)	16	0	0	10	0	84	4	42	54	6
7 Construction Supervision (4% of 5)	12	0	0	8	0	251	12	125	161	17
8 Training (3% and 12% for Urban & rural)	63	0	0	41	0	573	25	260	336	35
9 Total Indirect Cost	1,552	0	0	1,261	0	10,518	499	5,222	6,743	710
10 Total Project Cost										

Appendix 9.4.9 Total Cost (P x 1,000)

	Phase I (2005-2010) Requirement									
	Urban Area					Rural Area				
	Water Supply		Sanitation			Water Supply		Sanitation		
	Level III	Level II	Level I	HH Flush	HH Pour Flush	Level III	Level II	Level I	HH Flush	HH Pour Flush
Municipality Pangutaran										
1 Municipal Total Cost	0	1,270	0	0	300	0	5,385	2,869	0	1,628
2 Physical Contingency (15% of 1)	0	191	0	0	45	0	808	430	0	244
3 Price Contingency (10% of 1 & 2)	0	146	0	0	35	0	619	330	0	187
4 Total Direct Cost	0	337	0	0	80	0	1,427	760	0	432
5 Indirect Cost	0	30	0	0	7	0	128	63	0	39
6 Feasibility Study/DD (9% of 5)	0	13	0	0	3	0	57	30	0	17
7 Construction Supervision (4% of 5)	0	10	0	0	2	0	171	91	0	52
8 Training (3% and 12% for Urban & rural)	0	54	0	0	13	0	357	190	0	103
9 Total Indirect Cost	0	1,661	0	0	393	0	7,169	3,819	0	2,165
10 Total Project Cost										

Appendix 9.4.10 Total Cost (P x 1,000)

Municipality Pandani	Phase I (2005-2010) Requirement											
	Urban Area						Rural Area					
	Water Supply			Sanitation			Water Supply			Sanitation		
	Level III	Level II	Level I	HH Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	HH Pour Flush	Public School	Public Utilities
1 Municipal Total Cost	0	0	0	0	0	0	1,769	8,621	0	1,166	481	0
2 Physical Contingency (15% of 1)	0	0	0	0	0	0	265	1,293	0	175	72	0
3 Price Contingency (10% of 1 & 2)	0	0	0	0	0	0	203	991	0	134	55	0
4 Total Direct Cost	0	0	0	0	0	0	469	2,284	0	309	128	0
5 Indirect Cost	0	0	0	0	0	0						
6 Feasibility Study/DD (9% of 5)	0	0	0	0	0	0	42	206	0	28	11	0
7 Construction Supervision (4% of 5)	0	0	0	0	0	0	19	91	0	12	5	0
8 Training (3% and 12% for Urban & rural)	0	0	0	0	0	0	56	274	0	37	15	0
9 Total Indirect Cost	0	0	0	0	0	0	117	571	0	77	32	0
10 Total Project Cost	0	0	0	0	0	0	2,355	11,476	0	1,552	641	0

Appendix 9.4.11 Total Cost (P x 1,000)

Municipality Parang	Phase I (2005-2010) Requirement											
	Urban Area						Rural Area					
	Water Supply			Sanitation			Water Supply			Sanitation		
	Level III	Level II	Level I	HH Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	HH Pour Flush	Public School	Public Utilities
1 Municipal Total Cost	1,335	0	0	910	27	406	2,585	18,843	6,252	2,437	829	0
2 Physical Contingency (15% of 1)	230	0	0	137	4	61	388	2,836	938	365	124	0
3 Price Contingency (10% of 1 & 2)	177	0	0	105	3	47	297	2,167	719	280	95	0
4 Total Direct Cost	407	0	0	241	7	108	685	4,993	1,657	646	220	0
5 Indirect Cost												
6 Feasibility Study/DD (9% of 5)	37	0	0	22	1	10	62	449	149	58	20	0
7 Construction Supervision (4% of 5)	16	0	0	10	0	4	27	200	66	26	9	0
8 Training (3% and 12% for Urban & rural)	12	0	0	7	0	3	82	599	199	77	26	0
9 Total Indirect Cost	65	0	0	39	1	17	171	1,248	414	161	55	0
10 Total Project Cost	2,007	0	0	1,190	35	531	3,441	25,055	8,323	3,244	1,104	0

Appendix 9.4.12 Total Cost (P x 1,000)

Municipality Pasa	Phase I (2005-2010) Requirement											
	Urban Area						Rural Area					
	Water Supply			Sanitation			Water Supply			Sanitation		
	Level III	Level II	Level I	HH Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	HH Pour Flush	Public School	Public Utilities
1 Municipal Total Cost	0	0	0	0	0	0	2,845	1,581	0	851	267	0
2 Physical Contingency (15% of 1)	0	0	0	0	0	0	427	237	0	128	40	0
3 Price Contingency (10% of 1 & 2)	0	0	0	0	0	0	327	182	0	98	31	0
4 Total Direct Cost	0	0	0	0	0	0	754	419	0	225	71	0
5 Indirect Cost												
6 Feasibility Study/DD (9% of 5)	0	0	0	0	0	0	68	38	0	20	6	0
7 Construction Supervision (4% of 5)	0	0	0	0	0	0	30	17	0	9	3	0
8 Training (3% and 12% for Urban & rural)	0	0	0	0	0	0	90	50	0	27	9	0
9 Total Indirect Cost	0	0	0	0	0	0	189	105	0	56	18	0
10 Total Project Cost	0	0	0	0	0	0	3,788	2,104	0	1,133	356	0

Appendix 9.4.13 Total Cost (P x 1,000)

Municipality Patulok	Phase I (2005-2010) Requirement													
	Urban Area							Rural Area						
	Water Supply			Sanitation				Water Supply			Sanitation			
	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities
1 Municipal Total Cost	7,373	355	0	4,841	31	266	147	1,353	1,682	10,278	0	1,737	461	0
2 Physical Contingency (15% of 1)	1,106	53	0	726	12	31	22	203	252	1,542	0	261	69	0
3 Price Contingency (10% of 1 & 2)	848	41	0	557	9	24	17	156	193	1,182	0	200	53	0
4 Total Direct Cost	1,954	94	0	1,283	22	54	39	359	446	2,724	0	460	122	0
5 Indirect Cost														
6 Feasibility Study/DD (9% of 3)	176	8	0	115	2	5	4	32	40	245	0	41	11	0
7 Construction Supervision (4% of 3)	78	4	0	51	1	2	2	14	18	109	0	18	5	0
8 Training 3% and 12% for Urban & rural	59	3	0	38	1	2	1	43	53	327	0	55	15	0
9 Total Indirect Cost	313	15	0	205	3	9	6	90	111	681	0	113	31	0
10 Total Project Cost	9,639	464	0	6,310	106	269	193	1,801	2,239	13,632	0	2,313	614	0

Appendix 9.4.14 Total Cost (P x 1,000)

Municipality Siasi	Phase I (2005-2010) Requirement													
	Urban Area							Rural Area						
	Water Supply			Sanitation				Water Supply			Sanitation			
	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities
1 Municipal Total Cost	6,790	0	0	3,539	0	421	454	4,115	4,993	21,172	1,210	2,521	661	0
2 Physical Contingency (15% of 1)	1,019	0	0	531	0	63	68	617	749	3,176	200	389	99	0
3 Price Contingency (10% of 1 & 2)	781	0	0	407	0	48	52	473	574	2,435	232	293	76	0
4 Total Direct Cost	1,799	0	0	938	0	112	120	1,091	1,323	5,611	512	686	175	0
5 Indirect Cost														
6 Feasibility Study/DD (9% of 3)	162	0	0	84	0	10	11	98	119	505	46	62	16	0
7 Construction Supervision (4% of 3)	72	0	0	38	0	4	5	44	53	224	20	27	7	0
8 Training 3% and 12% for Urban & rural	54	0	0	28	0	3	4	131	159	673	61	82	21	0
9 Total Indirect Cost	288	0	0	150	0	18	19	273	331	1,403	138	172	44	0
10 Total Project Cost	8,877	0	0	4,626	0	550	594	5,478	6,647	28,186	2,570	3,449	880	0

Appendix 9.4.15 Total Cost (P x 1,000)

Municipality Talpao	Phase I (2005-2010) Requirement													
	Urban Area							Rural Area						
	Water Supply			Sanitation				Water Supply			Sanitation			
	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities	Level III	Level II	Level I	HH Flush	HH Pour Flush	Public School	Public Utilities
1 Municipal Total Cost	3,356	445	0	2,099	97	740	420	13,518	2,381	30,986	4,061	1,923	740	0
2 Physical Contingency (15% of 1)	503	67	0	315	15	111	63	2,038	372	4,648	609	288	111	0
3 Price Contingency (10% of 1 & 2)	386	51	0	241	11	85	48	1,555	285	3,563	467	221	85	0
4 Total Direct Cost	889	118	0	556	26	196	111	3,582	657	8,211	1,076	510	196	0
5 Indirect Cost														
6 Feasibility Study/DD (9% of 3)	80	11	0	50	2	18	10	322	59	719	97	46	18	0
7 Construction Supervision (4% of 3)	36	5	0	22	1	8	4	143	26	328	43	20	8	0
8 Training 3% and 12% for Urban & rural	27	4	0	17	1	6	3	430	79	985	129	61	24	0
9 Total Indirect Cost	142	19	0	89	4	31	18	896	164	2,053	269	127	49	0
10 Total Project Cost	4,358	583	0	2,744	127	957	549	17,995	3,303	41,249	5,407	2,560	985	0