CHAPTER 5
PAST FINANCIAL PERFORMANCE

5. PAST FINANCIAL PERFORMANCE

5.1 General

One of the major problems usually encountered in ARMM in general and, more specifically, in the different local government units (LGUs) that compose the ARMM, is compliance to the financial reporting system of the national government. Thus, historical records of revenues and expenditures of the various ARMM LGUs are difficult to collect and, when available, the veracity of the information contained is usually questioned. Even the regular audit of these LGUs are often not undertaken due to security concerns for the Commission on Audit (COA) teams that would normally undertake the audits.

In addition, the procedural aspects of the LGU planning, programming, budgeting and expenditure process may have not been followed as required under the ARMM Local Government Code (ARMM-LGC). Thus, the reliability, consistency and truthfulness of the financial information of these LGUs should be considered seriously.

5.2 Financial Performance of the LGU

The provincial and municipals governments' financial performance for the period 1999 to 2001, which are the only available information, was generated from the Bureau of Local Government Finance database together with that of the Department of Budget and Management. At the LGU level, the results of the financial operations could not be released by the LGU Accountants unless clearance from the local chief executive (LCE) is given. In most instances, such clearance for the release of the financial information was not given and the Study Team had to find alternative sources to collect the needed information. could be looked into.

Data on the Internal Revenue Allotment (IRA) for the LGUs were readily available from the DBM, but this only provided information on financial resource availability, not use or allocation.

5.2.1 Sources and Uses of Funds

(a) Revenue Sources

The sources of income are the Internal Revenue Allotment (IRA), local tax revenues, non-tax revenues such as grants, aids and subsidies. At present, the IRA is the major funding source of the province and the municipalities therein.

As mandated in Article IX Section 9 of RA 9054, the sharing of Internal Revenue, Natural Resources, Taxes, Fees and Charges are as follows:

(a) Thirty-five percent (35%) to the province or city:

i The share of the province is apportioned as follows: 45% to the province, 35% to the municipality; and 20% to the barangays;

Ii The share of the city is distributed as follows: 50% to the city and 50% to the barangays.

(b) Thirty-five percent (35%) to the regional government; and

(c) Thirty percent (30%) to the central/national government.

There are no grants and subsidies reported by the province.

Other income usually comes from economic enterprises, but the LGU does not seem to have any such enterprise.

Table 5-1 presents the actual income and expenditures of the Province for the 1999-2001 period. Local revenues, which was less than 0.8% of the total revenues of the province, consisted of its share of real property tax, business taxes and licenses, and miscellaneous taxes. IRA's annual average share to total income was at least 99%, which indicates that the province has become very dependent on IRA, given its low tax and non-tax revenue collections.

Based on the province's net revenues, it indicates that they have substantial surplus revenue to fund their various infrastructure and other projects. The province has also seen the influx of foreign assistance, enjoying the infrastructure benefits from the U.S./Philippine military exercises in the area.

The results of the financial operations of the various municipalities in Basilan are given in Appendix 5-1.

Table 5-1 Results of the Financial Operations of the Province

Description of Items	1999	2000	2001
INCOME			
LOCAL SOURCES	**54,116,815**	**23,837,968**	**2,187,459**
REVENUE FROM TAXATION	**564,111**	**725,005**	**843,010**
Real Property Tax	206,031	298,929	260,635
Local Taxes	358,080	426,075	347,469
Other Taxes			234,906
NON-TAX REVENUES	**53,552,704**	**23,112,963**	**1,344,450**
Receipt from Eco. Ent.	2,992,817	3,398,220	
Fees/Charges	38,630	636,883	428,833
Loans and Borrowings	50,000,000	16,000,000	856,132
Other Receipts	521,257	3,077,860	59,484
AIDS AND ALLOTMENTS	**173,574,240**	**199,286,111**	243,337,382
BIR Allotments	173,574,240	199,286,111	237,125,565
National Aids	-	0	6,211,817
National Wealth	-	0	0
TOTAL INCOME	**227,691,055**	**223,124,079**	**245,524,841**
EXPENDITURES	**229,895,478**	**223,124,079**	**213,366,118**
CURRENT EXPENDITURES	**171,028,378**	**214,468,434**	**213,366,118**
General Government	66,850,626	80,307,900	82,247,575
Edu., Cult., & Sports/Mpwr Devt.			217,450
Health, Nutrition & Pop. Control			18,110,862
Public Welfare & Int. Safety	29,360,080	32,305,567	2,255,746
Economic Development	41,894,322	35,839,299	41,194,079
Operation of Econ. Ent.	-	6,169,624	0
Other Charges	32,923,350	59,846,043	69,340,405
CAPITAL OUTLAY	**58,867,100**	**31,162,847**	0
TOTAL EXPENDITURES	**229,895,478**	**245,631,281**	**213,366,118**
EXCESS (DEFICIT) OF INCOME OVER EXPENDITURES	**(2,204,423)**	**-22,507,202**	**32,158,723**

Source: Bureau of Local Government Finance

In order to mobilize fund sourcing, the 1987 Constitution and the 1991 Local Government Code granted the Provincial Government to have its initiative to create new revenue sources. The LGU financing options are based on NEDA Board Resolution 4.

(b) Uses of Funds in the Province

Actual expenditures of the provincial government for general government services were 29.08% in 1999 but subsequently increased to 38.55% of total expenditures. Expenditures on economic development activities has decreased from 18.2% in 1999 to 0.19% by 2001. The province enjoys some substantial revenue surplus. However, compared to provinces outside of the ARMM, ARMM provinces have less responsibilities as some services have not been devolved such as social services, agriculture, education, etc.

5.2.2 Availability of Funds

As previously noted, the IRA comprises 99% of total income of the province, which is used to finance most of its expenditures including capital outlays. The amount of IRA that will be received by the province is known in advance before the end of the preceding year. Thus, for budgeting purposes, the province just uses the actual amount of IRA it received in the preceding year as its estimate of IRA for the budget year. In the case where the IRA received is larger than that of the preceding year, the province prepares a supplemental budget.

For 2000, the 20% Development Fund (20% of IRA) amounted to about P37.78 million. By 2003, the estimated share of the Development Fund from the IRA is now P46.61 million. These are usually spent for development/infrastructure projects contained in the Annual Investment Plan of the province (AIP).

5.3 Annual Investment Plans

The LGU uses its 20% DF for expenditures on economic and social services, including water supply projects.

5.3.1 Budgetary Allocation to the Sector

The Budget Office of the province consolidates the budget proposal submitted by all offices of the Provincial Government. While, the DBM issues a Local Budget Memorandum every October of the preceding budget year to guide the provinces in their budget preparation, the sector allotment usually comes from the 20% DF, depending on the priorities set and approved by the Provincial Development Council (PDC) and the Governor.

The Governor endorses the AIP to the Sanggunian Panlalawigan for approval and appropriation. Unfortunately, the Governor can change the budget allocation in the AIP, based on his own priorities, with the approval of the PDC.

5.4 Cost Sharing Arrangements/ Counterpart Funding

The Province has implemented recently water supply projects funded by Rural Water Supply and Sanitation Sector Project (RW3SP). The LGU was able to comply with the cash equity requirement of 10% for the Province, 5% for the Municipality and 5% for the Barangay.

The PEO implements the Provincial government-funded projects under the General/Development Fund. For the sector implementation, the following are the local funding sources and corresponding implementing agencies.

Funding Source	Implementing Agency/ Unit
Provincial Government	PEO/PPDO
PEDAF (Congressmen)	DPWH – District Engineering Office
Municipal Government	MEO/MPDO

A new cost-sharing scheme was authorized in 2003 in accordance with the policy on national government grants. Cost sharing arrangements for levels I, II and III systems are shown as follows:

Table 5-2 PGB-approved Cost Sharing (% share)

Level and Type of Service	Income Class								
	1st/ 2nd			3rd/ 4th			5th/ 6th		
	NG[1]	LGU[2]		NG[1]	LGU[2]		NG[1]	LGU[2]	
		Equity[1]	Loan[1]		Equity[1]	Loan[1]		Equity[1]	Loan[1]
Level I/II WS	30	20	50	40	15	45	50	10	40

[1] NG – National Government grant for the respective level and type of service and respective income class of the LGU.
Equity – refers to the minimum cash equity contribution to be put up by the LGU.
Loan – refers to the portion of the project cost that the LGU must finance either through loan from MDFO or other Government Financing Institutions (GFIs), e.g., Land Bank, DBP, etc.

[2] If the LGU can raise the equity portion more than the minimum required amount, then the portion of the project cost it needs to raise through loan would be lower. Loan terms of MDFO: Interest Rate - currently at 14% per annum fixed until maturity of the sub-loan; Repayment Period - payable in 15 years inclusive of a 3-year grace period.

Level III WS	0	0	0	20	10	70	50	10	40
Sanitation	20	20	60	40	15	45	50	10	40

For any central government grants that are provided for the development of Level I water supply systems and sanitation facilities to the limited classes of municipalities, the LGUs and beneficiaries concerned shall share the capital cost required. No subsidies from the central government will be provided for the construction of Level II and III water supply systems.

Any grants from the national government that are provided for the development of Level I water supply systems and sanitation facilities are based on the income classification of the municipalities. The LGUs and beneficiaries concerned shall share the capital cost required.

5.5 LGU Financing Options

Other external source of funds of the province is foreign assisted projects either directly coursed through the province as in the case of the funds from ADB. Basilan has no water districts, which could likewise avail of funding through loans that are directly obtained from LWUA.

LGUs have the following financing options :IRA, ODA, private sector financing and debt (both public and private sector debts). The LGU can also avail of funds through conduits, e.g., MDFO, GFIs, and through foreign lending agencies and private sector financing institutions.

5.5.1 Municipal Development Fund Office (MDFO)

The MDF is a revolving fund created under Presidential Decree No. 1914 to provide LGUs access to foreign loans, assistance or grants, but. Operations of the MDF, as well as the evaluation and control of local government transactions of the fund, are guided by the financial policies defined in the Joint Circular No. 6-87 of the DOF, COA and DBM. The policies include, among others, the following:

- On-lending terms for local governments or government corporations to be in accordance with the terms and conditions of the international agreements with foreign financial institutions;
- Loan repayments to conform with the terms and conditions of the corresponding Loan and Project Agreements;

- Annual debt service liabilities to all creditors to be at least 120 per cent of total net annual revenues from all sources after operating costs, unless otherwise provided in a mutual agreement among all parties concerned;

- Repayment to MDF to take precedence over all subsequent borrowings incurred;

- Payment of additional interest, charges and fees on amounts to be relent to local governments may be required by the Secretary of Finance in consultation or agreement with foreign lending institutions and LGUs/Project Cities to cover foreign exchange risks, commitment charges and front-end fees applied on foreign borrowings by lending institutions; and

- Internal revenue/specific tax allotments to be withheld by the DOF in case of default or arrears for more than three months.

The MDF-Policy Governing Board (PGB) formulates its policies. It is composed of representatives from the DPWH, DBM, NEDA and the DILG and chaired by the DOF. The funds administered by the MDF come from loan proceeds from multilateral and bilateral sources, contributions from domestic and foreign institutions, various grants and donations, and repayments by borrowing LGUs.

5.5.2 Governmental Financing Institutions (GFI)

In the past, the LGUs could not access financing institutions for direct assistance. But with the devolution of the sector to the LGUs, the LGUs could now access direct financing from banks and other financing institutions.

Among the GFIs through which LGUs can access ODA loans are the Land Bank of the Philippines (LBP), Philippine National Bank and the Development Bank of the Philippines (DBP). For the LGU to enter into a loan, the respective legislative council (Sangguniang Panlalawigan, SP for the Province; Sangguniang Panglunsod, SP for the City; and Sangguniang Bayan, SB for the Municipality) will authorize the Chief Executive Officer (Governor or Mayor, as the case may be). The collateral that the LGU may use in order to avail of loans from the bank could be any of the following: deposit hold out, public land and assignment of IRA.

In a deposit hold out loan, the loan is based on the amount in the time deposit account of the LGU in the bank. The LGU is allowed a maximum loan amount of up to 90 per cent of the total amount of its time deposit account in the bank. One of the terms for this kind of loan includes deduction of the amount due from the LGU's IRA deposited in that bank.

Another condition that the bank usually imposes on the loan is the signing of a MOA between the LGU and the bank, where the LGU guarantees that the loan will be honored despite a change in administration in the next election. Interest rate is not fixed.

Loanable amount may be based on the amount of time deposit of the province in the bank.

Other collaterals accepted by the bank are: public land and assignment of IRA. Interest rate is not fixed but fluctuating depending on the current interest rates prevailing during repayment. Penalty charges are imposed whenever the IRA of the province is delayed.

5.5.3 Foreign Lending Agencies

The external assistance to the Sector in the province comes from foreign assisted projects.

5.5.4 Private Sector Financing Institutions

There are several private sector financing modalities that can be promoted to finance WATSAN sector projects particularly in urban areas, where existing service area coverage may warrant viability of WATSAN investments for a profit by the private sector proponent. Further, Level III water supply expansion projects are now increasingly financed through private sector financing mainly thru concession contracts and BOT schemes.

5.6 Financial Status of Water Service Providers in the Province

Basilan has three Water Districts, all of which have availed of loans from LWUA. Isabela City WD (not part of ARMM) has already fully paid its loan. Lamitan WD has a loan of P20.978 million, which is still outstanding and was sourced from the ADB-Small Towns Water Supply Project funding. The other Water District, Maluso, has also a loan of P4.783 million but has only availed of P0.215 million of the loan amount.

5.7 Cost Recovery Practices by the LGU

5.7.1 Capital Cost

In the past, the capital cost for Level I systems was given as grant to the community. As for Level II systems, the capital cost was shouldered by the RWSA through loan or grants. Water charges collected by each association cover the cost of operation and maintenance and loan amortization. According to the Loan Department of LWUA, the new loan disbursement to RWSAs has been stopped.

5.7.2 Operation and Maintenance Cost

The operation and maintenance cost for Level I and II water supply systems is the responsibility of the users upon turnover of the facilities. As such, an organization (or association) to handle the collection of water charges should have been formed beforehand by the implementer.

When DPWH had been undertaking the construction of Level I water supply facilities, the DPWH through DEOs and PEOs assisted in the formation of BWSAs. However, most of these BWSAs are no longer operational, due to the non-collection or minimal rates of water fees. As a consequence, the users had to go to the LGUs to address the problem. In some cases, the users likewise requested the PEOs for assistance.

Although the DEO had no budget for operation and maintenance, it extended assistance in the form of materials from their supplies, if the items are available. Due to this situation, the emphasis was placed on the need for monthly contributions from the users for the O & M.

Cost recovery for Level III systems, particularly those covered by Water Districts is managed through a different system. Because of the individual connections, the households covered by the Water Service Provider can be disconnected in case of non-payment by the users.

Average monthly rates range from P2 to P 262 per m^3 while collection efficiencies range from 25% to 100%.

5.8 Affordability

5.8.1 Capital Cost Contribution

Based on the workshop discussion with the PSPT and the MPDCs of all the municipalities of the Province, their experience in implementation of water supply projects is with the CVWSP, and contribution from the community was only in kind, i.e., mostly free labor. The LGU, however, provided cash equity as its counterpart.

5.8.2 Operation and Maintenance Cost

Since there are no data on average water rate for the RWSAs, no affordability analysis could be made for Basilan.

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 Basilan. 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) 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 Geosciences 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 and LWUA. Some water resources investigation reports and well data were gathered from the NWRB and LWUA. 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

Basilan 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) overlie the Quaternary Volcanics.

Recent deposits (R) include alluvium, beach deposits, 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) and the Quaternary alluvium 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.

Majority of the residents in the lowland and coastal areas derive most of the groundwater for domestic use from wells tapping the alluvial deposits. Sand and gravel layers, though of limited thickness in several localities, generally make up the water table or shallow water table aquifers within the alluvium. Brackish or salt water is to be expected in some localities particularly those near the coast.

6.2.2 Groundwater in the Geologic Units

Recent Alluvium (R). This unit consists of alluvium, beach deposits, residual clays and corals. Sand, gravel, mud, 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.

These unconsolidated, partly compacted but uncemented deposits are relatively thin and found only along beds and banks of rivers and streams and along the periphery of Basilan Island. This is generally considered as shallow well area.

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 coast.

Quaternary Volcanics (QV). The volcanic cone central areas are reported to consist of Pliocene to Pleistocene volcanic rocks. These are generally composed of basalt and andesite flows and associated pyroclastics. The basalt and andesite are generally hard and massive unless they are fractured or weathered. Agglomerates and ash flows also occur.

Pumpable groundwater, if any, is likely to be surficial and in some instances may be rendered partly not potable by sulfuric solutions derived from sulfur deposits. Groundwater, mostly of limited quantity occurs only within the fractured and/or weathered zones. There are no reported wells in this formation but springs, though not very significant, are common.

Pliocene to Recent Pyroclastics (QVP). This formation, consisting predominantly of semi-consolidated to consolidated volcanic debris, tuff, agglomerate, tuffaceous sandstone, siltstone, shale and detrital pyroclastic beds, practically covers major portions of the study area. The pyroclastic rocks are partly cemented to loosely compacted.

Like the alluvium, the pyroclastic rocks also offer a good source of groundwater in the island. As with the alluvium, the apparent lenticularity of aquifers (tuffaceous sandstone) in the pyroclastic rocks must be emphasized. Cementation and compaction have somewhat reduced the porosity and permeability of the pyroclastic rocks but they provide sufficient groundwater and may be also considered as an important groundwater reservoir in the island. Highly fractured and/or weathered agglomerate may also contain groundwater but generally of limited quantity unless there is continuous recharge from rainfall and/or nearby body of fresh surface water. The aquifers occur as lenses and pods; of larger area when reworked. Groundwater occurs under water table (unconfined) and artesian (confined) conditions.

Major portion of the province is underlain by this rock formation. Most of the productive wells in the main island are drilled within this formation. Groundwater may occur in unconfined and/or confined conditions. Well records indicate well depths from about 6m to 83m. However, recently drilled wells by the U.S. Navy were reported to have reached up to 100m. Well capacities range from 0.32 lps to more than 10 lps while specific capacities range from 0.03 to 4.57 lps per meter of drawdown. Properly designed and constructed wells should have relatively good or higher discharge and specific capacities in some localities.

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 while the summary of water well data in some of the municipalities is presented in Table 6-2 and shown in Figure 6-2.

On the map, each geologic unit is described separately as to their lithologic composition and its 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 underlies major portions of the province, 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 are shallow well areas. Some springs emanate from the Quaternary Volcanics (QV) and the Quaternary Pyroclastics.

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 Quaternary pyroclastics wherein groundwater occurs both in unconfined and confined conditions can be classified as both shallow and deep well areas.

POTENTIAL GROUNDWATER SOURCE

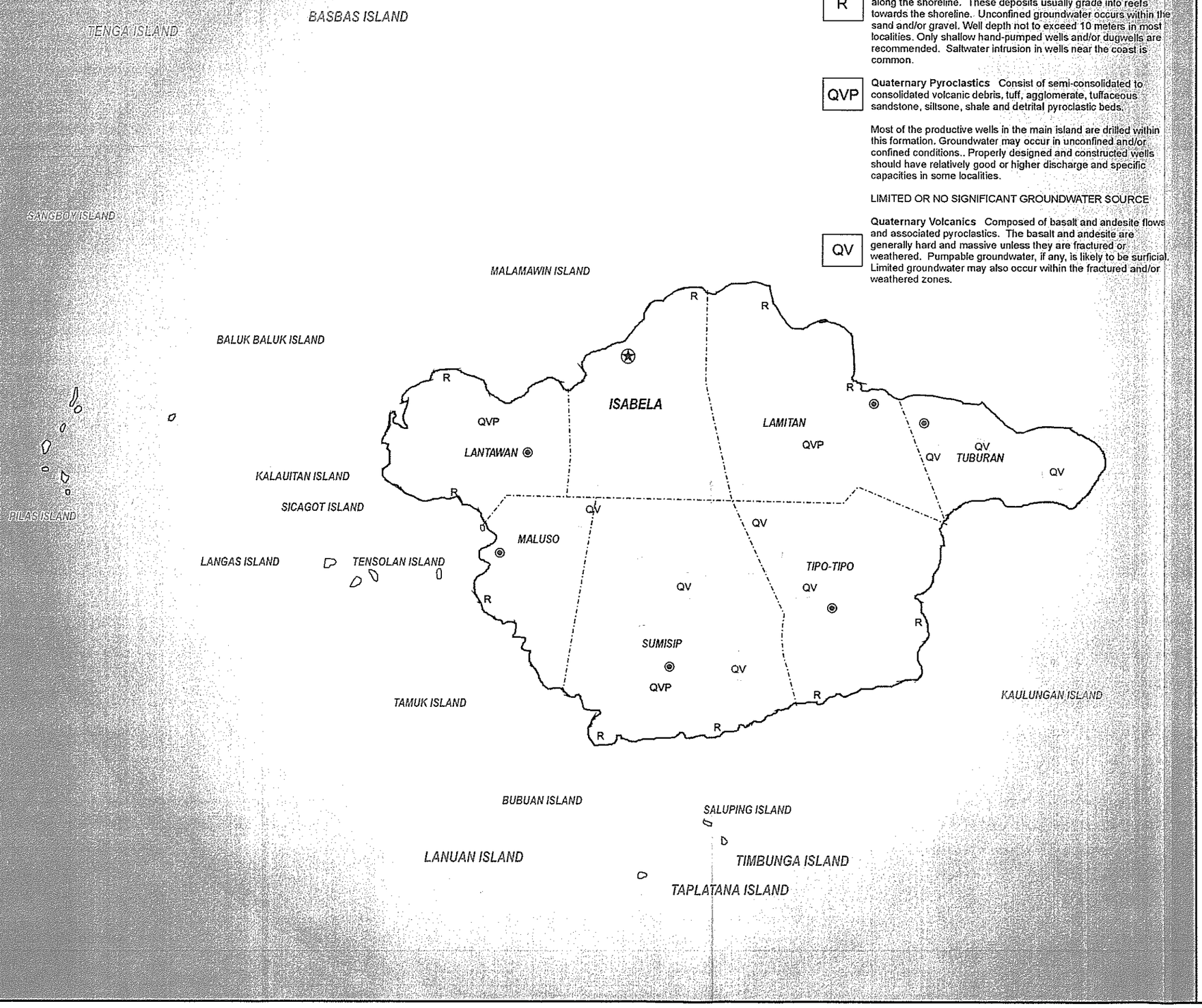
R — **Recent Deposits** Include alluvium, beach deposits, residual clays and corals. Sand, gravel, mud, silt with some decayed organic matter are usually found along river channels. Swamp deposits include organic matter, silt, fine sand and mud deposited along the shoreline. These deposits usually grade into reefs towards the shoreline. Unconfined groundwater occurs within the sand and/or gravel. Well depth not to exceed 10 meters in most localities. Only shallow hand-pumped wells and/or dugwells are recommended. Saltwater intrusion in wells near the coast is common.

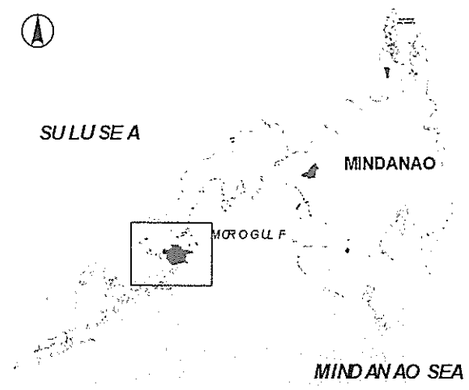
QVP — **Quaternary Pyroclastics** Consist of semi-consolidated to consolidated volcanic debris, tuff, agglomerate, tuffaceous sandstone, siltsone, shale and detrital pyroclastic beds.

Most of the productive wells in the main island are drilled within this formation. Groundwater may occur in unconfined and/or confined conditions.. Properly designed and constructed wells should have relatively good or higher discharge and specific capacities in some localities.

LIMITED OR NO SIGNIFICANT GROUNDWATER SOURCE

QV — **Quaternary Volcanics** Composed of basalt and andesite flows and associated pyroclastics. The basalt and andesite are generally hard and massive unless they are fractured or weathered. Pumpable groundwater, if any, is likely to be surficial. Limited groundwater may also occur within the fractured and/or weathered zones.





KEY MAP

LEGEND:

- Provincial Boundary
- Municipal Boundary
- River
- City Center
- Town Center

Figure 6-1
GROUNDWATER AVAILABILITY MAP OF BASILAN

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

Location (Municipality, Barangay)	Well Number	Drilling Depth (M)	Actual Capacity (Lps)	Specific Capacity (Lps/M)	Static Water Level (Mbgs)
BASILAN CITY/LAMITAN					
1. Municipal Building, Lamitan District	BPW 5841	45.7	1.26	0.41	9.15
2. Lamitan Market Site	BPW 6198	22.9	0.32	0.06	6.10
3. Sinulatan, Lamitan	BPW 54597	82.9	-	-	7.62
4. Mugeral, Lamitan	BPW 6197	25.3	0.63	0.41	13.7
5. Calong, Lamitan	BPW 6196	25.0	0.63	0.08	7.62
6. Cabobo, Lamitan	BPW 6194	45.1	0.32	0.05	15.20
7. Bapia, Lamitan	BPW 6199	36.6	0.32	0.03	18.30
8. Parang, Lamitan	BPW 5948	25.9	0.32	0.21	10.70
9. Buketambis, Lamitan	BPW 59591	33.8	-	-	24.40
10. Balas, Lamitan	BPW 6104	13.1	0.63	0.41	3.05
11. Lamitan Waterworks	BPW 20054	45.7	10.1	4.57	4.57
12. Lamitan Bo.	BPW 10051	32.0	0.63	-	5.79
13. Canpio, Lamitan	BPW 566526	61.0	0.44	0.18	49.40
14. Lamitan School	BPW 20052	22.9	0.63	-	18.30
15. Basakan, Lamitan	BPW 54602	22.9	-	-	8.84
16. Tuburan, Lamitan	BPW 54601	21.7	-	-	4.57
17. Falri-falri, Lamitan	BPW 54603	38.9	-	-	5.49
18. Tabiawan	BPW 62101	48.8	0.63	0.07	30.50
19. Balos, Lamitan	BPW 6-78-13	12.2	0.32	-	1.52
20. Tandang Allan School Site, Lamitan	BPW 73-75-04	5.79	0.44	-	-
21. Buahan, Lamitan	BPW 9A-77-08	17.4	0.38	0.62	5.49
22. Ubit, Lamitan	BPW 9A-77-07	12.2	0.63	-	0.61
23. Balagtasan Elem. School, Lamitan	BPW 12-77-10	30.5	0.38	-	15.90
ISABELA					
1. Lukasan Malaman	BPW 73-75-03	20.4	0.44	0.05	1.52
2. Sunrise Village	BPW 73-75-07	23.8	0.5	0.83	1.83
3. Basilan National High School	BPW 73-75-06	30.5	0.5	-	6.10
SUMISIP					
1. Cabcaban School Site	BPW 914-77-02	14.0	0.38	0.62	3.96
TIPO-TIPO					
1. Tipo-Tipo Market Site	BPW9-77-04	47.3	0.50	0.17	25.90
MALAMAWI					
1. Seger Elem. School	BPW 12-77-09	22.9	0.50	-	7.93
2. Upper Malamawi	BPW 12-77-11	15.2	1.49	0.41	10.98
MALUSO					
1. Batangat Elem. School	BPW 73-75-02	11.30	0.38	-	-
2. Calang	BPW 4-78-12	30.50	0.75	0.21	0.21
LANTAWAN					
1. Atong-atong	BPW 9A-77-05	12.80	0.50	-	1.22

Source: Rapid Assessment of Water Supply Sources of Province of Basilan, National Water Resources Council, May 1982

Table 6-2 Water Well Data Summary, Basilan

	No. of Wells Based on Static Water Level			No. of Wells Consi-dered	Specific Capacity (lps/m)		Well Depth (m)		Static Water Level (m)	
	1 – 3 mbgs	3.1 –6 mbgs	>6 mbgs		Average	Range	Average	Range	Average	Range
1. Basilan City	1	5	18	24	0.17	0.03-0.41	34.40	13.1-82.9	13.08	3.05-49.4
2. Lamitan	1	1	1	3	0.62	0.62	15.61	5.79-30.5	5.88	0.61-15.9
3. Lantawan	1	-	-	1	-	-	12.80	12.8	1.22	1.22
4. Maluso	-	-	1	1	10.21	0.21	20.90	11.3-30.5	6.10	6.10
5. Cabcaban(Sumi)	-	1	-	1	0.62	0.62	14.00	14.0	3.96	3.96
6. Sta. Barbara	-	1	1	1	0.41	0.41	15.20	15.2	10.98	10.98
7. Tipo-Tipo										
8. Tuburan										
9. Malamawi	-	-	1	1	-	-	22.90	22.9	7.93	7.93
* Isabele City	2	-	1	3	0.44	0.05-0.83	24.80	20.4-30.5	3.15	1.52-6.1

Source: Rapid Assessment of Water Supply Sources of Province of Basilan, National Water Resources Council, May 1982

mbgs - meters below ground level
SWL - static water level
lps - liters per second
m - meter

- ***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. Though generally classified as deep well areas, in some cases shallow groundwater also occur within the QVP.

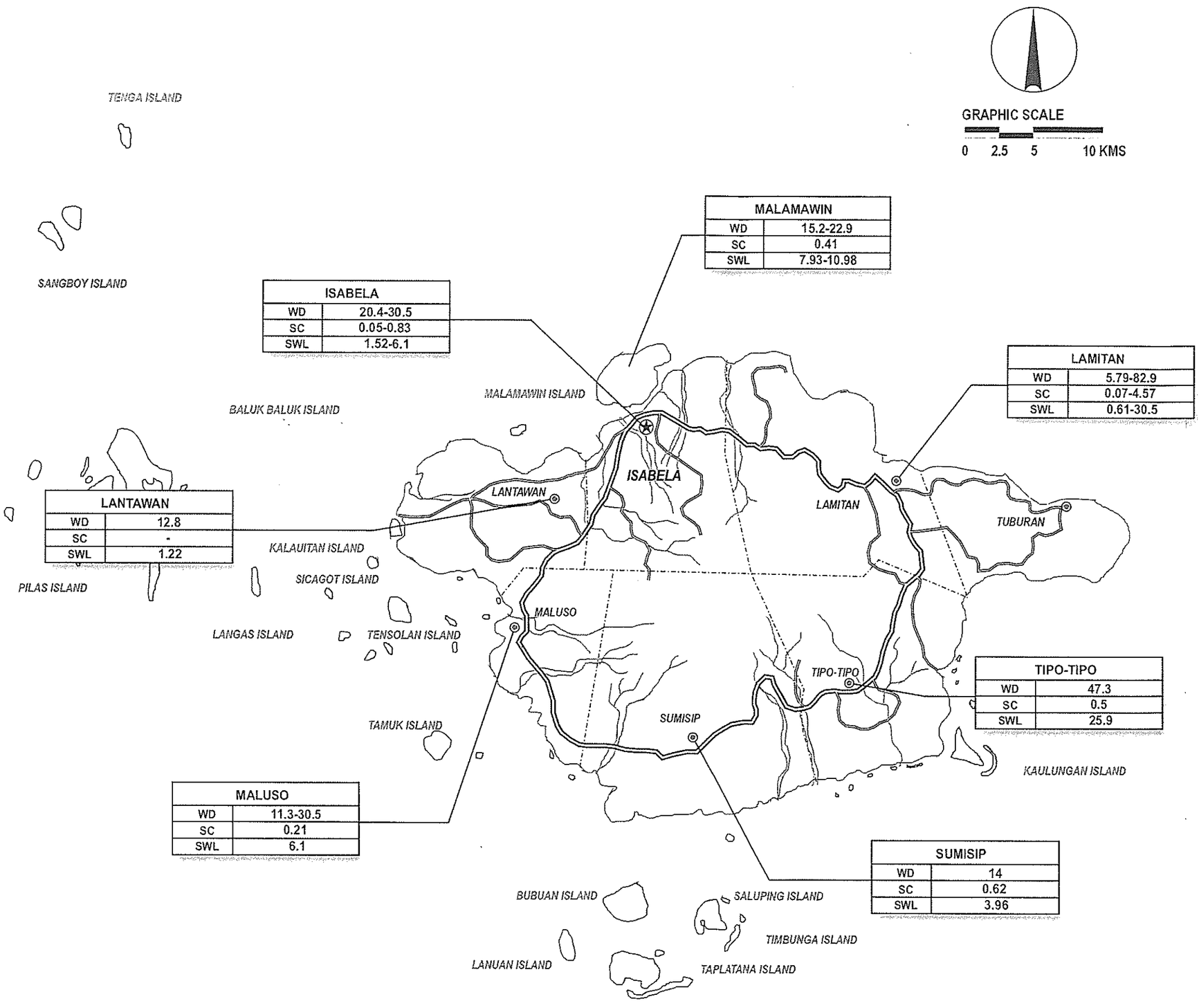
Coral deposits generally fall under this category. Limited groundwater, if any, occurs in the porous, fractured and/or weathered zones.

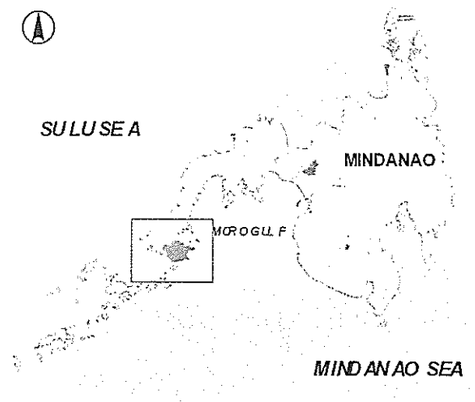
- ***Deep well areas.*** In deep well areas, the aquifers exist to depth of more than 20 m from the ground surface. These are the areas underlain by QVP.

Difficult areas. These are areas not suitable for well development. In the province the areas under this category are the Quaternary Volcanics (QV).

6.3.1 Groundwater Quality

In the Winrock – Amore Water Supply and Sanitation Feasibility Assessment, the project team conducted water quality analysis on existing water supply sources. These include electrical conductivity (EC), temperature, pH, chloride, arsenic and coliform bacteria.





KEY MAP

LEGEND:

- Provincial Boundary
- Municipal Boundary
- River
- National Road
- Provincial Road
- City Center
- Town Center
- WD — Well Depth in meters
- SC — Specific Capacity in liters per second per meter of drawdown (lps/m)
- SWL — Static Water Level in meters below ground surface

Figure 6-2
WATER WELL DATA OF BASILAN

The highest EC or TDS levels were found in wells completed close to the shorelines. Chloride concentrations followed a pattern similar to that of EC levels and were highest near the shore/coast. On the smaller islands (<5km^2), most of the wells sampled showed brackish to saline EC levels. Arsenic was not detected in any of the samples collected. Spring and surface water sources generally showed low total dissolved solid (TDS) levels.

Some water samples from Sumisip, Lantawan, Lamitan, Tuburan and Tipo-Tipo were collected and subjected to laboratory analysis. Results of the tests are presented in Table 6-3. Some of tested samples have exceeded the permissible limits of turbidity, chloride content and total hardness.

Field analysis for coliform bacteria showed that most of the open dugwells currently used for drinking and washing have bacteriological contamination. The construction of these wells provides no protection of the well from surface water contamination.

Table 6-3 Laboratory Analytical Results for Well and Spring Samples (Platinum Laboratories)

Parameters (mg/l)	Municipality										
	Sumisip		Lanta-wan	Lamitan	Tuburan			Tipo-Tipo			
	1	2	3	4	5	6	7	8	9	10	11
Turbidity (NTU)	8.5*	25	25	6.5*	525*	25	25	9.5*	25	1.5	1.0
Chloride	10	500*	700*	10	75	45	40	10	10	25	25
Calcium	8	120	120	12	48	20	80	16	16	40	24
Total Hardness	40	500*	800*	50	330*	130	280	90	90	190	130
Iron	0.6	0.25	0.20	0.50	25*	0.20	0.25	0.40	0.40	0.20	0.25
Mg	4.86	49	122	4.86	51	32	19	3.6	12	22	17
Chromium	na	na	na	na	na	na	na	na	na	na	na
Total Solids	na	na	na	na	na	na	na	na	na	na	na
Total Dissolved Solids	76	1,498	1,971	101	527	367	528	61	137	343	226
Total Suspended Solids	na	na	na	na	na	na	na	na	na	na	na

**- Laboratory result exceeds the permissible limit*
na – Not analyzed

Number	Source of Sample
1	Manikaan River, Lower Kabengbeng
2	Open Dug Well No.1, Kaumpomah
3	Open Dug Well No.1, Sangbay Small
4	Open Dug Well No.1, Parang Basak
5	Open Dug Well No.10, Linungan East
6	Open Dug Well No.10, Basakan
7	Open Dug Well No.13, Sibago
8	Lingisan Creek, Kamamburingan
9	Drilled Hand-pumped well, Lagayas Elementary School
10	Open Dug Well No.5, Luuk Visaya
11	Free-flowing well, Banah Elementary School

6.4 Surface Water

Several short rivers drain Basilan with the south-north flowing Gumalarang River as the largest and longest, being more than 19km long. Its tributaries, which originate from the central highlands of the island, are mostly flowing towards the northwest.

The next biggest river is the south-north flowing Gubauan River whose upper stretch drains the northern portion of Tipo-Tipo. Its middle and lower stretches drain most of the sloping and relatively flat areas of Lamitan. The west-east flowing Bojelebung River is the other river draining major portions of Tipo-Tipo.

Several small south-flowing rivers and creeks drain the southern portions of Basilan. The biggest is the Mangal River in Sumisip.

The northwest-flowing Maluso River and its east-west tributaries drain major portions of the municipality of Maluso.

The small south-north-flowing Aguado River drains some portions of the municipality of Isabela.

Based on the report prepared by Tom Bauhan, most of the perennial rivers have average annual discharges ranging from 0.5 to 10 m^3/s. Maximum flow can be more than 156 m^3/s while the minimum flows for perennial rivers range from 0.04 to 0.4 m^3/s.

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 dug wells are possible sources for Level I and also for Level II in some places. Potential aquifers for shallow wells occur even 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 Quaternary pyroclastics have fair to good aquifers from 20m to 100m as revealed by some of the well data presented in Table 6-1.

6.5.2 Spring

Although the 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 is difficulty in getting potable water both from wells and springs, the different rivers and creeks mentioned in section 6.4 can be considered as alternative sources for water supply. Prior to their usage as sources of potable water their flow frequency and quality must be first be considered.

CHAPTER 7

FUTURE REQUIREMENTS IN WATER SUPPLY AND SANITATION IMPROVEMENT

7. FUTURE REQUIREMENTS IN WATER SUPPLY AND SANITATION IMPROVEMENT

7.1 General

The future requirements of each Municipality was evaluated base on its current condition of existing water supply system and sanitation facilities. Existing level of water system will be evaluated either to sustain the present demand and/or to expand the water system to a larger service coverage area(s). The proposed development was also based on respective LGU's priority service areas, water source(s) availability, and service area population.

In the province of Basilan, majority of the base year (2003) data furnished by the PPDO and MPDC's are insufficient. As a result of this, direct correlation of current water supply facilities (for a particular municipality) to future water supply requirement could not be made with high degree of accuracy. For LGUs with insufficient information, analyses will be made by extrapolation of data, statistical correlation and use of average provincial or municipal values.

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 Basilan. 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.

Provincial sector targets for design year 2010 and 2015 are determined based on physical target, which is mainly governed by population growth trend. Physical target for future water supply requirement was computed as direct ration to yearly increase in population growth trend. in the case of Basilan province the average population growth rate is at an average of 1.50% per year. Consequently for a five-year implementation plan this will account to 7.50%, vis-à-vis an assumed sector target of the same rate is being considered. The total increase in projected percentage growth rate shall be added to the percent current service coverage of 40% (refer to Table 3-5), and this sums up to a sector target of 47.50% and rounded up to about 50%. The same method will also be adopted for design year 2010, which gives a sector target of 60%. Table 7-1 summarizes the target for the water and sanitation projects.

Table 7-1 Provincial Sector Targets

FACILITIES	Existing Facilities (2003)		Phase I (2005-2010)		Phase II (2010-2015)	
	Population Coverage	Population presently served	Population Coverage	Additional Population to be served	Population Coverage	Additional Population to be served
A. WATER SUPPLY						
Urban	13%	36,050	16%	16,531	17%	7,050
Rural	27%	73,756	34%	42,182	41%	29,746
Total	40%	109,805	50%	58,713	59%	36,796
B. SANITATION - HOUSEHOLD TOILETS						
Household Toilet	Household Coverage	Households presently served	Household Coverage	Additional Household to be served	Household Coverage	Additional Household to be served
Urban	11%	31,307	16%	3,034	16%	667
Rural	21%	57,993	30%	6,459	30%	1,248
Total	33%	89,300	46%	9,493	46%	1,914
C. SANITATION -SCHOOL TOILETS						
School Toilet	School Toilet Coverage	Existing Schools Toilets	School Toilet Coverage	Additional Schools Toilets	School Toilet Coverage	Additional Schools Toilets
	94%	235	100%	103	100%	172
D. SANITATION -PUBLIC UTILITIES						
Public Toilet	Public Utility Coverage	Existing Public Utilities	Public Utility Coverage	Additional Public Utilities	Public Utility Coverage	Additional Public Utilities
	100%	17	100%	24	100%	23

The projected service coverage was calculated taking into account the 2003 existing facilities. Current service area(s) and coverage will be analyzed for future expansion in terms of physical targets, which is being considered as the potential for population growth. Further consideration will also be given to 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 per classification by National Statistics Office (NSO). Tables 7-2, 7-3, and 7-4 show 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 1	Total	% Coverage
1 Lamitan	Urban	61,996	12,830	3,272	9,862	25,965	42%
	Rural	0	0	0	0	0	0%
	Total	61,996	12,830	3,272	9,862	25,965	42%
2 Lantawan	Urban	0	0	0	0	0	0%
	Rural	29,031	0	3,322	8,291	11,612	40%
	Total	29,031	0	3,322	8,291	11,612	40%
3 Maluso	Urban	12,074	4,830	0	0	4,830	15%
	Rural	20,728	3,659	2,449	2,184	8,291	25%
	Total	32,802	8,488	2,449	2,184	13,121	40%
4 Sumisip	Urban	3,054	0	914	308	1,222	2%
	Rural	51,498	0	2,634	17,658	20,292	37%
	Total	54,552	0	3,548	17,966	21,513	39%
5 Tipo Tipo	Urban	8,011	0	0	3,204	3,204	7%
	Rural	41,095	0	0	16,438	16,438	33%
	Total	49,106	0	0	19,642	19,642	40%
6 Tuburan	Urban	2,073	0	0	829	829	2%
	Rural	42,807	0	0	17,123	17,123	38%
	Total	44,880	0	0	17,952	17,952	40%
Provincial Total	Urban	87,208	17,660	4,186	14,204	36,050	13%
	Rural	185,158	3,659	8,404	61,693	73,756	27%
	Total	272,367	21,318	12,590	75,897	109,805	40%

Table 7-3 Base Year Coverage of Household Toilets

Municipality	Type	2003		Households with Sanitary Toilet		
		Population	No. of HH	No. of HH	Served Pop	Coverage
1 Lamitan	Urban	61,996	12,235	4,894	24,798	40%
	Rural	0	0	0	0	0%
	Total	61,996	12,235	4,894	24,798	40%
2 Lantawan	Urban	0	0	0	0	0%
	Rural	29,031	5,497	1,814	9,580	33%
	Total	29,031	5,497	1,814	9,580	33%
3 Maluso	Urban	20,728	2,121	382	2,173	7%
	Rural	12,074	3,642	656	3,731	11%
	Total	32,802	5,763	1,037	5,904	18%
4 Sumisip	Urban	3,054	513	169	1,008	2%
	Rural	51,498	8,653	2,856	16,994	31%
	Total	54,552	9,166	3,025	18,002	33%

Municipality	Type	2003		Households with Sanitary Toilet		
		Population	No. Of HH	No. of HH	Served Pop	Coverage
5 Tipo Tipo	Urban	8,011	1,458	481	2,644	5%
	Rural	41,095	7,478	2,468	13,561	28%
	Total	49,106	8,936	2,949	16,205	33%
6 Tuburan	Urban	2,073	377	124	684	2%
	Rural	42,807	7,789	2,570	14,126	31%
	Total	44,880	8,167	2,695	14,810	33%
Provincial Total	Urban	95,862	16,704	6,051	31,307	11%
	Rural	176,505	33,059	10,363	57,993	21%
	Total	272,367	49,763	16,414	89,300	33%

Table 7-4 Base Year Coverage of Public School and Public Utility 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 Lamitan	45	45	100%	16	16	100%
2 Lantawan	44	41	93%	1	1	100%
3 Maluso	21	21	100%	0	0	0%
4 Sumisip	55	52	95%	0	0	0%
5 Tipo Tipo	49	46	94%	0	0	0%
6 Tuburan	36	30	83%	0	0	0%
Provincial Total	**250**	**235**	**94%**	**17**	**17**	**100%**

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.

In projecting future population, the ratio method was applied. The mathematical formula used is shown as:

$$P_1 = P_0 \times (1+r)^n$$

where:

P_1 = population after n years

P_0 = population in base year

r = growth rate

n = no. of years

Population projections for the 6 municipalities comprising the Province of Basilan as classified into urban and rural are shown in Table 7-5.

Table 7-5 Future Municipal Population by Urban and Rural Area

Municipality	2000			2003			2005			2010			2015		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
1. Lamitan	58,709	0	58,709	61,996	0	61,996	64,320	0	64,320	69,329	0	69,329	74,729	0	74,729
2. Lantawan	0	27,487	27,487	0	29,031	29,031	0	30,114	30,114	0	32,459	32,459	0	34,987	34,987
3. Maluso	11,427	19,627	31,054	12,074	20,728	32,802	12,526	21,496	34,022	13,507	23,164	36,672	14,563	24,964	39,528
4. Sumisip	2,935	48,777	51,712	3,054	51,498	54,552	3,136	53,518	56,654	3,277	57,790	61,066	3,409	62,413	65,822
5. Tipo Tipo	7,741	40,543	48,284	8,011	41,095	49,106	8,625	44,273	52,898	9,099	47,919	57,018	9,621	51,838	61,459
6. Tuburan	80,812	136,434	217,246	2,073	42,807	44,880	2,132	44,485	46,616	2,231	48,016	50,247	2,322	51,838	54,160
Provincial Total	161,624	272,868	434,492	87,208	185,158	272,367	90,739	193,886	284,624	97,443	209,349	306,792	104,645	226,041	330,656

7.3.2 Household Toilets

Projection of household toilets was based on the number of households computed from the population projection by municipality. Extrapolated value for household toilet coverage for 2003 was computed to be 40% of total households based on the data furnished by PPDO & MPDC's. The projected number of household toilets is shown on the next page.

Table 7-6 Additional Number of Households Toilets by Target Year

Municipality	Phase I (2010-2015)				Phase I (2010-2015)		
	Type	Total Households	Total Households to be served	Addi'l Number of HH to be served	Total Households	Total Households to be served	Addi'l Number of HH to be served
1. Lamitan	Urban	13,682	5,473	3,026	14,747	6,636	1,164
	Rural	0	0	0	0	0	0
	Total	13,682	5,473	3,026	14,747	6,636	1,164
2. Lantawan	Urban	0	0	0	0	0	0
	Rural	6,147	2,766	952	6,625	2,981	215
	Total	6,147	2,766	952	6,625	2,981	215
3. Maluso	Urban	2,373	1,068	686	2,559	1,151	84
	Rural	4,070	1,831	1,176	4,386	1,974	142
	Total	6,443	2,899	1,862	6,945	3,125	226
4. Sumisip	Urban	551	248	78	573	258	10
	Rural	9,710	4,370	1,514	10,487	4,719	312
	Total	10,261	4,617	1,592	11,060	4,977	322
5. Tipo Tipo	Urban	1,656	745	264	1,751	788	27
	Rural	8,720	3,924	1,456	9,433	4,245	286
	Total	10,375	4,669	1,720	11,183	5,033	313
6. Tuburan	Urban	406	183	58	423	190	7
	Rural	8,737	3,932	1,361	9,433	4,245	292
	Total	9,143	4,114	1,419	9,855	4,435	300
Total	Urban	18,667	7,716	4,112	20,052	9,024	1,291
	Rural	37,384	16,823	6,459	40,364	18,164	1,248
	Total	56,051	24,539	10,572	60,416	27,187	2,539

7.3.3 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. The projected number of public schools and public utilities are shown in Table 7-7 on the next page.

Table 7-7 Projected Public School Toilets and Public Utility Toilets

Municipality	Public Schools			Public Uitlities		
	2003	2010	2015	2003	2010	2015
1. Lamitan	45	32	12	16	3	6
2. Lantawan	44	9	3	1	7	1
3. Maluso	21	7	5	0	3	3
4. Sumisip	55	17	74	0	2	7
5. Tipo Tipo	49	20	0	0	5	3
6. Tuburan	36	38	78	0	4	3
Provincial Total	250	122	172	17	24	23

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 deepwells. In this context, deepwell 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 at15 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 below.

Table 7-8 Standard Specifications of Level I Well

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

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 at15 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.

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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 below.

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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	40% 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%

The population to be served by target years is listed in Table 7-9.

Table 7-9 Population to be Served by Target Year (Water Supply)

Municipality	Type	Phase I (2005-2010)						Phase II (2010-2015)								
		Total Population	Service Coverage			Additional Population to be served			Total Population	Service Coverage			Additional Population to be served			
			Level III	Level II	Level I	Total	Level III	Level II	Level I	Total		Level III	Level II	Level I	Total	Level III	Level II	Level I	Total
1 Lamitan	Urban	69,329	18,911	6,376	9,378	34,665	4,402	4,782	2,460	11,645	74,729	20,534	6,884	11,936	39,354	1,623	508	2,529	4,660
	Rural	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	69,329	18,911	6,376	9,378	34,665	4,402	4,782	2,460	11,645	74,729	20,534	6,884	11,936	39,354	1,623	508	2,529	4,660
2 Lantawan	Urban	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rural	32,459	4,624	8,269	3,337	16,230	1,322	3,661	954	5,936	34,987	11,558	5,665	3,615	20,838	2,514	1,114	981	4,609
	Total	32,459	4,624	8,269	3,337	16,230	1,322	3,661	954	5,936	34,987	11,558	5,665	3,615	20,838	2,514	1,114	981	4,609
3 Maluso	Urban	13,507	6,754	0	0	6,754	1,924	0	0	1,924	14,563	8,738	0	0	8,738	0	0	0	0
	Rural	23,164	5,094	3,887	2,602	11,582	1,435	1,438	733	3,606	24,964	6,575	5,046	3,358	14,978	0	1,159	756	1,915
	Total	36,672	11,847	3,887	2,602	18,336	3,359	1,438	733	5,530	39,528	15,313	5,046	3,358	23,717	0	1,159	756	1,915
4 Sumisip	Urban	2,452	1,226	0	0	1,226	1,226	0	105	1,331	3,409	1,530	0	515	2,045	305	0	103	407
	Rural	58,615	5,023	10,158	14,127	29,307	5,023	9,845	3,365	18,233	62,413	6,272	14,153	17,023	37,448	1,248	3,996	3,309	8,553
	Total	61,066	6,249	10,158	14,127	30,533	6,249	9,845	3,470	19,564	65,822	7,802	14,153	17,538	39,493	1,553	3,996	3,412	8,960
5 Tipo Tipo	Urban	9,099	0	1,538	3,011	4,550	0	275	1,070	1,345	9,621	0	1,966	3,807	5,773	0	427	796	1,223
	Rural	47,919	0	1,638	22,322	23,960	0	342	7,179	7,521	51,838	0	2,093	29,475	31,568	0	455	6,688	7,143
	Total	57,018	0	3,176	25,333	28,509	0	617	8,249	8,867	61,459	0	4,058	33,283	37,341	0	882	7,484	8,366
6 Tuburan	Urban	2,231	0	579	536	1,115	0	149	138	286	2,322	0	1,206	670	1,876	0	627	134	760
	Rural	48,016	0	517	23,491	24,008	0	133	6,753	6,885	51,838	0	1,077	30,457	31,534	0	560	6,966	7,526
	Total	50,247	0	1,096	24,027	25,124	0	281	6,890	7,172	54,160	0	2,283	31,127	33,409	0	1,186	7,099	8,286
Total	Urban	96,618	26,890	8,493	12,925	48,309	7,552	5,206	3,772	16,531	104,645	30,802	10,055	16,929	57,786	1,928	1,561	3,561	7,050
	Rural	210,174	14,741	24,468	65,878	105,087	7,780	15,418	18,984	42,182	226,041	24,404	28,034	83,928	136,367	3,762	7,283	18,701	29,746
	Total	306,792	41,631	32,962	78,803	153,396	15,332	20,624	22,756	58,713	330,686	55,207	38,089	100,857	194,152	5,689	8,844	22,262	36,796

For the Phase I period, a total of 58,713 persons in the province will served by additional water supply services, of which 16,531 persons or 28% of the total will be urban population and 42,182 persons or 72% will be for rural population. For Phase II a total of 36,796 additional persons will be served. From this total 3,561 will serve the urban population and 18,701 will be for rural population, corresponding to 19 % and 81% 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 computed at an average of 34% of the number of households based on provincial data on sanitation (refer to Chapter 3-Section3.2.3). Additional service coverage based on provincial targets shall be 45% of households for Phase I and II.

For both Phases, pour flush type toilets will be utilized in areas with proposed or existing Level I and II systems while automatic flush type will be used in areas with Level III systems.

The projected additional number of served households at the end of Phase I period is 10,.572 of which 4,112 or 39% is classified as urban and 6,549 or 61% as rural. At the end of the Phase II period, the projected number of additional households to be served is 2,539 of which 1,291 or 51% as urban and 1,248 or 49% as rural.

The projected sanitation coverage and additional number of households by target years is listed in Table 7-10.

Table 7-10 Additional Number of Household Toilets by Target Year

Municipality	Type	Phase I (2005-2010)							Phase II (2010-2015)						
		Total Households	Number of HH to be served			Add'l Number of HH to be served			Total Households	Number of HH to be served			Add'l Number of HH to be served		
			Flush	Pour Flush	Total	Flush	Pour Flush	Total		Flush	Pour Flush	Total	Flush	Pour Flush	Total
1 Lamitan	Urban	13,682	3,732	3,109	6,841	736	1,211	1,947	14,747	3,847	3,526	7,374	188	351	539
	Rural	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	13,682	3,732	3,109	6,841	736	1,211	1,947	14,747	3,847	3,526	7,374	188	351	539
2 Lantawan	Urban	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Rural	6,147	788	1,978	2,766	212	740	952	6,625	1,654	1,328	2,981	118	98	215
	Total	6,147	788	1,978	2,766	212	740	952	6,625	1,654	1,328	2,981	0	98	215
3 Maluso	Urban	2,373	1,068	0	1,068	239	447	686	2,559	1,151	0	1,151	0	84	84
	Rural	4,070	805	1,026	1,831	305	871	1,176	4,386	866	1,107	1,974	0	142	142
	Total	6,443	1,873	1,026	2,899	544	1,318	1,862	6,945	2,018	1,107	3,125	0	226	226
4 Sumisip	Urban	551	248	0	248	72	6	78	573	193	65	258	7	3	10
	Rural	9,710	749	3,621	4,370	417	1,097	1,514	10,487	790	3,929	4,719	45	266	312
	Total	10,261	997	3,621	4,617	489	1,103	1,592	11,060	983	3,994	4,977	53	269	322
5 Tipo Tipo	Urban	1,656	0	745	745	0	264	264	1,751	0	788	788	0	27	27
	Rural	8,720	0	3,924	3,924	0	1,456	1,456	9,433	0	4,245	4,245	0	286	286
	Total	10,375	0	4,669	4,669	0	1,720	1,720	11,183	0	5,033	5,033	0	313	313
6 Tuburan	Urban	406	0	183	183	0	58	58	423	0	190	190	0	7	7
	Rural	8,737	0	3,932	3,932	0	1,361	1,361	9,433	0	4,245	4,245	0	292	292
	Total	9,143	0	4,114	4,114	0	1,419	1,419	9,855	0	4,435	4,435	0	300	300
Total	Urban	18,667	5,048	4,037	9,084	1,047	1,987	3,034	20,052	5,192	4,569	9,761	195	471	667
	Rural	37,384	2,342	14,480	16,823	934	5,525	6,459	40,364	3,310	14,853	18,164	163	1,084	1,248
	Total	56,051	7,390	18,517	25,907	1,981	7,512	9,493	60,416	8,502	19,423	27,925	241	1,556	1,914

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 were also projected based on the increase of student population and consequent required school building(s) by municipality.

Public toilet facilities are projected based on existing number of public utilities with sanitary toilet facilities. Table 7-11 shows the corresponding projections, wherein the required additional number of public schools toilets and public utility toilets corresponds to the required number of additional schools and public utility buildings to be constructed.

Table 7-11 Projected School and Public Utility Toilets by Target Year

Municipality	Public Schools			Public Utilities		
	2003	2010	2015	2003	2010	2015
1. Lamitan	45	32	12	16	3	6
2. Lantawan	44	9	3	1	7	1
3. Maluso	21	7	5	0	3	3
4. Sumisip	55	17	74	0	2	7
5. Tipo Tipo	49	20	0	0	5	3
6. Tuburan	36	38	78	0	4	3
Provincial Total	250	122	172	17	24	23

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 taking into account the existing water supply facilities and their condition, and the projected served population for all service areas. The implementation of the required facilities are broken down into two(2) phases, phase I is targeted in 2005 to 2010 while phase II will cover 2010 to 2015. The required number of service connections (Level III), public faucets (Level II), and shallow/deep wells as point source (Level I) are presented in Table 7-12, to cover Phase I & II development, and is shown in Figure 7-1 and 7-2 respectively.

Table 7-12 Water Supply Facilities Required by Target Year

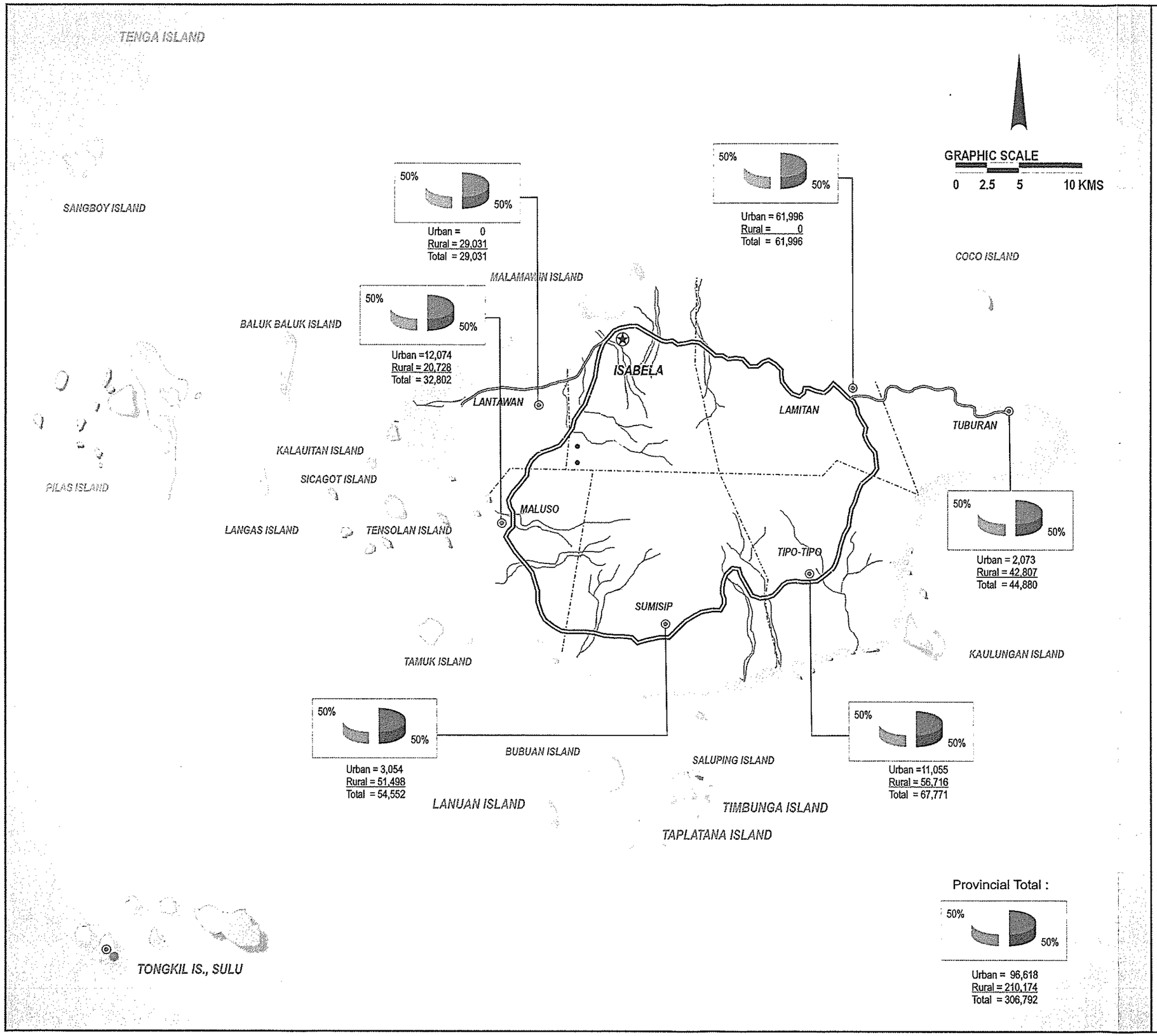
Municipality	Phase I (2005-2010) Requirement					Phase II (2010-2015) Requirement		
	Level III		Level II		Level I	Level III	Level II	Level I
	Mode of Project	No. of Connections	Mode of Project	No. of stand faucets	Total No. of wells	No. of Connections	No. of stand faucets	Total No. of wells
1. Lamitan	New and Expansion	734	New	159	27	270	17	28
2. Lantawan	New	220	New	122	11	419	37	11
3. Maluso	New and Expansion	560	New and Expansion	48	8	0	39	8
4. Sumisip	New	1,042	New	328	39	259	133	38
5. Tipo Tipo	None	0	New	9	92	0	0	83
6. Tuburan	None	0	0	9	77	0	40	79
Provincial Total		**2,555**		**676**	**253**	**948**	**265**	**247**

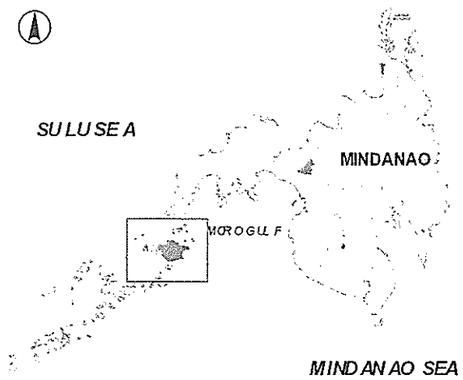
7.6.2 Sanitation

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 7-13 below shows the required sanitary facilities and household toilet required additional coverage is shown in Figure 7-3 and Figure 7-4 for Phase I and II respectively.

Table 7-13 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. Lamitan	1,947	4	3	539	3	6
2. Lantawan	952	0	0	215	0	0
3. Maluso	1,862	0	0	226	0	0
4. Sumisip	1,592	0	0	322	0	0
5. Tipo Tipo	1,720	4	5	313	4	2
6. Tuburan	1,419	8	4	300	7	3
Total	**9,493**	**15**	**12**	**1,914**	**14**	**11**





KEY MAP

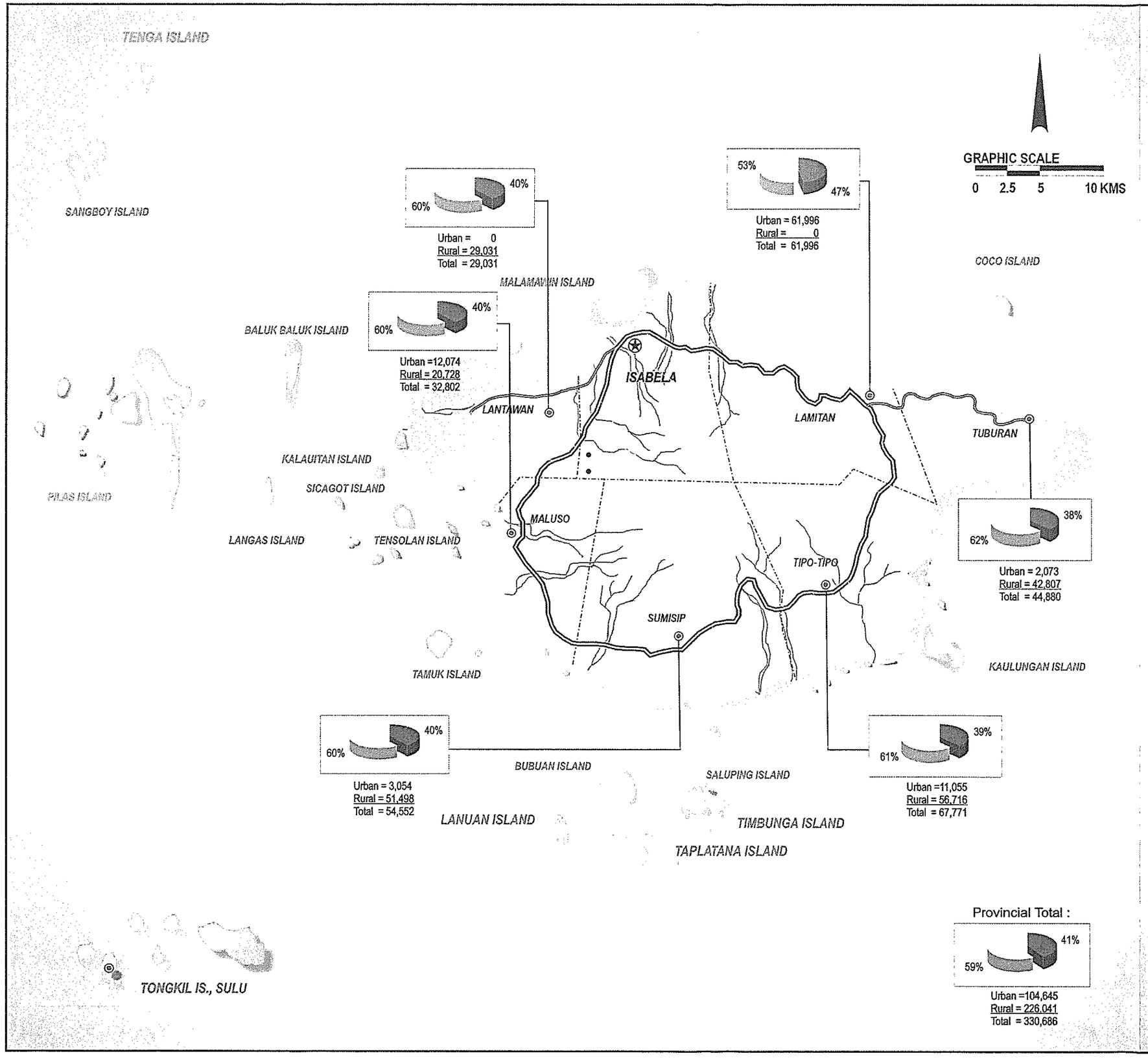
LEGEND:

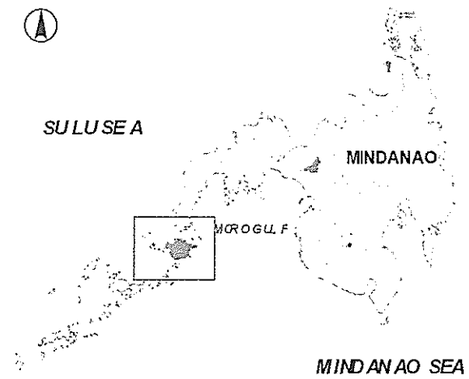
- Provincial Boundary
- Municipal Boundary
- River
- National Road
- Provincial Road
- City Center
- Town Center
- Population served by water supply facilities (%)
- Population un-served by water supply facilities (%)

Source: PPDO & ACTUAL FIELD VERIFICATION

Figure 7-1

WATER SUPPLY FACILITIES FUTURE REQUIREMENT PHASE I (2005-2010) BASILAN





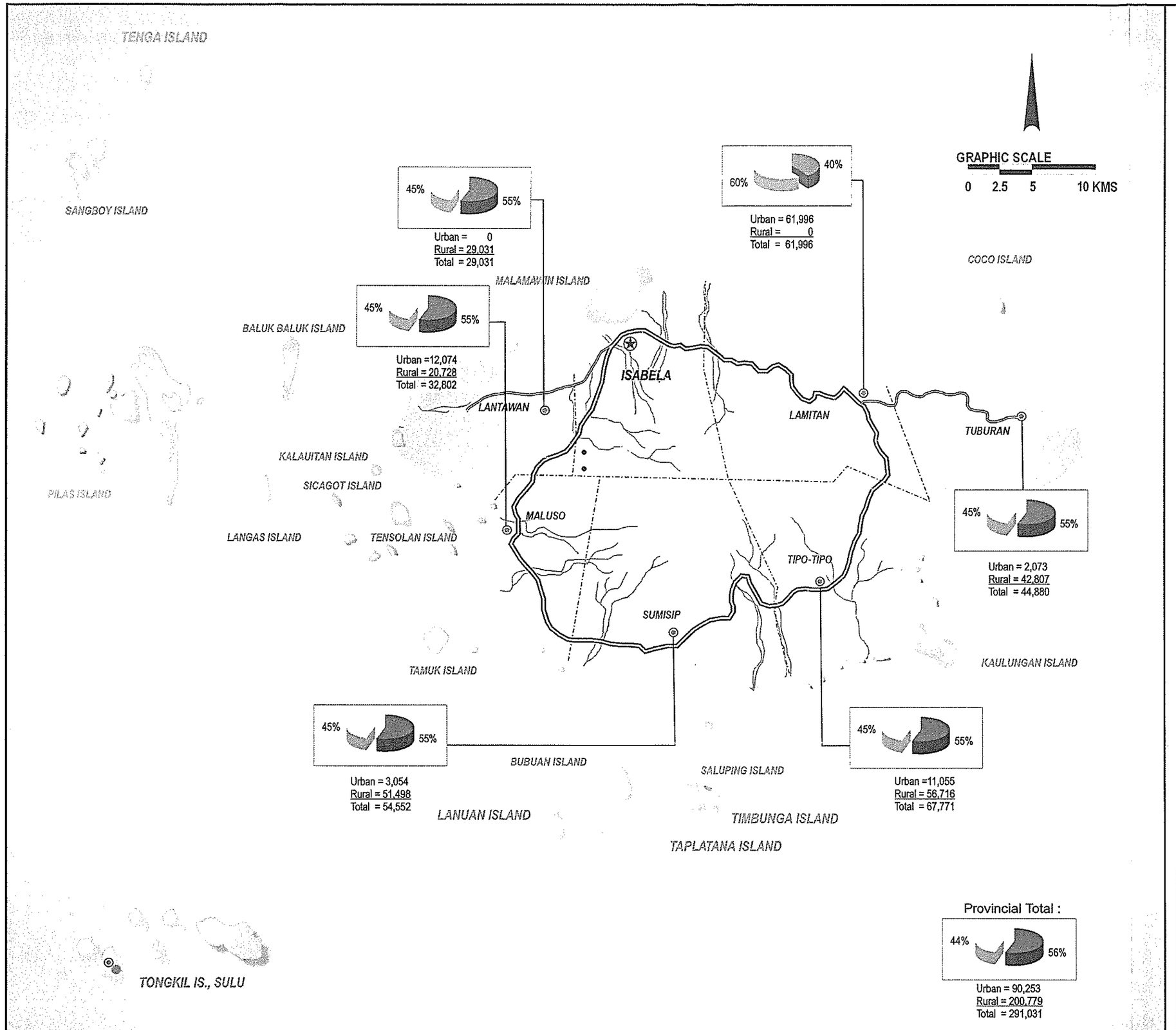
KEY MAP

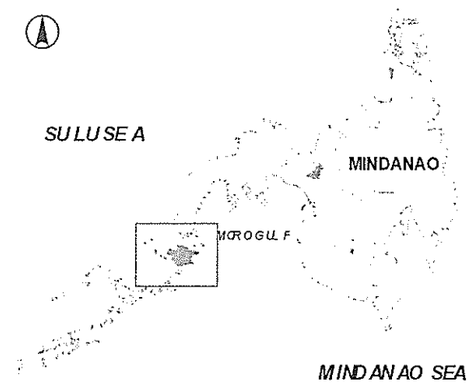
LEGEND:

- Provincial Boundary
- Municipal Boundary
- River
- National Road
- Provincial Road
- City Center
- Town Center
- Population served by water supply facilities (%)
- Population un-served by water supply facilities (%)

Source: PPDO & ACTUAL FIELD VERIFICATION

Figure 7-2
WATER SUPPLY FACILITIES
FUTURE REQUIREMENT
PHASE II (2010-2015)
BASILAN





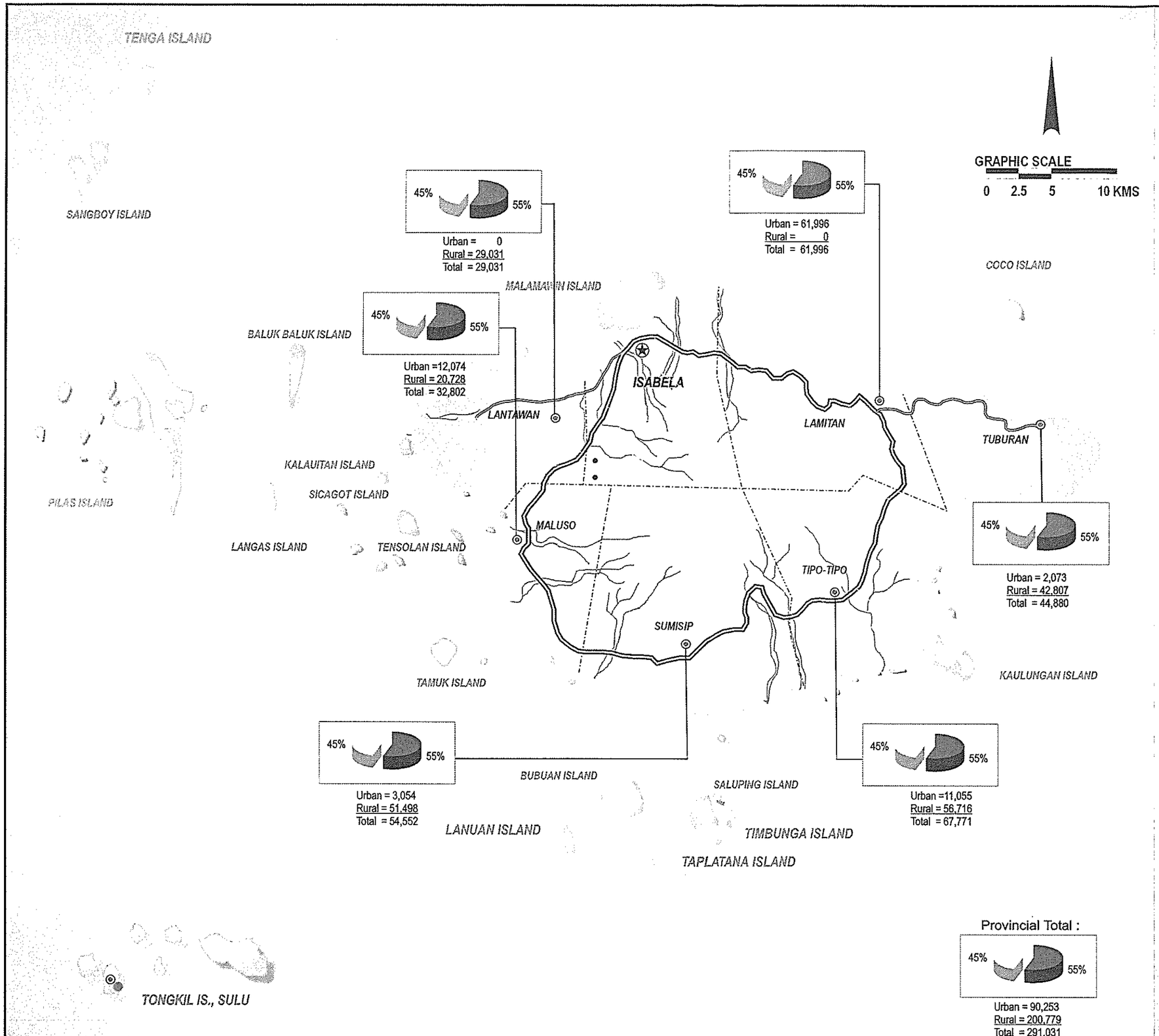
KEY MAP

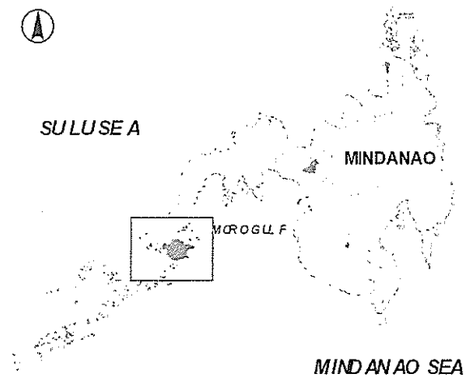
LEGEND:

- Provincial Boundary
- Municipal Boundary
- River
- National Road
- Provincial Road
- City Center
- Town Center
- Population served by sanitation facilities (%)
- Population un-served by sanitation facilities (%)

Source: PPDO & ACTUAL FIELD VERIFICATION

Figure 7-3
SANITATION FACILITIES
FUTURE REQUIREMENT
PHASE I (2005-2010)
BASILAN





KEY MAP

LEGEND:

- Provincial Boundary
- Municipal Boundary
- River
- National Road
- Provincial Road
- City Center
- Town Center
- Population served by sanitation facilities (%)
- Population un-served by sanitation facilities (%)

Source: PPDO & ACTUAL FIELD VERIFICATION

Figure 7-4
SANITATION FACILITIES
FUTURE REQUIREMENT
PHASE II (2010-2015)
BASILAN

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

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 the 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. Details of unit cost is presented in Appendix 9.2.1 to Appendix 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 House-holds	Pesos/ Person	Pesos/ House-hold
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 adjusted 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 Equipment Requirement Cost (P x 1,000)

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 (4Wheel Drive Pick-up)	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 Table 9-4 for Phase I and Phase II development cost respectively. The details of proposed improvement is also presented in Appendix 9.3.1 to 9.3.20, which shows the estimates by municipality.

During the 2005 Medium Term Development period, a total of 455,887 million pesos will be required for construction of required facilities. Of the requirements, the total required cost will be distributed at 16% for urban water supply and 74% for rural water supply. The remaining 10% will be required for urban and rural sanitation.

Table 9-3 Total Cost (P x 1,000)

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	Public School	Public Utilities
1 Lamitan	20,481	8,558	8,582	3,586	790	1,201	1,247	0	0	0	0	0	0	0
2 Lantawan	0	0	0	0	0	0	0	6,150	6,551	3,328	1,032	483	2,728	486
3 Maluso	8,950	0	0	1,163	292	307	390	6,677	5,697	55,315	1,487	568	1,602	0
4 Sumisip	4,395	0	366	352	4	307	390	18,010	0	19,224	2,032	716	4,077	0
5 Tipo Tipo	0	493	3,733	0	172	307	390	0	15,183	93,665	0	950	2,978	0
6 Tuburan	0	266	480	0	38	307	390	0	1,374	23,666	0	889	862	0
7 Provincial Total	33,827	9,316	13,162	5,100	1,297	2,429	2,807	30,837	28,805	195,198	4,551	3,606	12,247	486
8 Physiscal Contingency(15% of 7)	5,074	1,397	1,974	765	195	364	421	4,625	4,321	29,280	683	541	1,837	73
9 Price Contingency (10% of 7 & 8)	3,890	1,071	1,514	586	149	279	323	3,546	3,313	22,448	523	415	1,408	56
10 Total Direct Cost	8,964	2,469	3,488	1,351	344	644	744	8,172	7,633	51,727	1,206	956	3,245	129
11 Indirect Cost														
12 Feasibility Study/DD (9% of 10)	807	222	314	122	31	58	67	735	687	4,655	109	86	292	12
13 Construction Supervision(4% of 10)	359	99	140	54	14	26	30	327	305	2,069	48	38	130	5
14 Training(3% and 12% for Urban & rural of 10)	269	74	105	41	10	19	22	981	916	6,207	145	115	389	15
15 Total indirect Cost	1,434	395	558	216	55	103	119	2,043	1,908	12,932	301	239	811	32
16 Total Project Cost	44,225	12,180	17,208	6,668	1,695	3,176	3,670	41,051	38,346	259,857	6,058	4,801	16,304	647

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

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	Public School	Public Utilities
1. Lamitan	7,550	908	8,824	914	229	994	2,405	0	0	0	0	0	0	0
2 Lantawan	0	0	0	0	0	0	0	11,694	1,993	3,424	573	64	2,173	781
3 Maluso	0	0	0	0	55	307	390	0	5,697	55,315	0	93	1,602	0
4 Sumisip	1,323	0	358	37	2	307	390	5,421	0	19,224	221	174	4,077	0
5 Tipo Tipo	0	764	2,777	0	17	307	390	0	15,183	93,665	0	187	2,978	0
6 Tuburan	0	1,121	466	0	5	307	390	0	1,374	23,666	0	191	862	0
7 Provincial Total	8,873	2,794	12,425	951	308	2,222	3,965	17,114	24,246	195,294	795	708	11,692	781
8 Physiseal Contingency(15% of 1))	1,331	419	1,864	143	46	333	595	2,567	3,637	29,294	119	106	1,754	117
9 Price Contingency (10% of 1 & 2)	1,020	321	1,429	109	35	255	456	1,968	2,788	22,459	91	81	1,345	90
10 Total Direct Cost	2,351	740	3,293	252	82	589	1,051	4,535	6,425	51,753	211	188	3,098	207
11 Indirect Cost														
12 Feasibility Study/DD (9% of 5)	212	67	296	23	7	53	95	408	578	4,658	19	17	279	19
13 Construction Supervision(4% of 5)	94	30	132	10	3	24	42	181	257	2,070	8	8	124	8
14 Training(3% and 12% for Urban S rural)	71	22	99	8	2	18	32	544	771	6,210	25	23	372	25
15 Total indirect Cost	376	118	527	40	13	94	168	1,134	1,606	12,938	53	47	775	52
16 Total Project Cost	11,601	3,653	16,245	1,243	402	2,905	5,184	22,784	32,278	259,986	1,058	942	15,565	1,040

The number of sets of equipment required was estimated based on the town clustering of the province. In the province of Basilan, two(2) clusters of Municipalities were made. Cluster I consists of the Municipalities of Lamitan , Tuburan and Tipo Tipo and two(2) sets of equipment are allocated. Cluster II are the Municipalities of Maluso, Lantawan and Sumisip, two(2) sets of equipment is allocated. The total cost of equipment to be procured by the province is shown in Table 9-5.

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

Name of Equipment	Quantity	Unit	Unit Cost	Total Cost
Truck-mounted rotary drilling machine	2	set	34,978	69,956
Truck-mounted percussion drilling machine	2	set	27,691	55,382
Well rehabilitation equipment	2	set	303	606
Service truck with crane	2	set	1,299	2,598
Support vehicle (4-wheel drive Pick-up)	2	set	1,485	2,970
Total Equipment Cost				**131,512**

CHAPTER 10

EXAMINATION OF CRITERIA FOR SELECTING PRIORITY PROJECT/AREA

10. EXAMINATION OF CRITERIA FOR SELECTING PRIORITY PROJECT/AREA

10.1 Criteria for Selecting Projects/Areas

In the province of Basilan, 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 lists the technical, socio-economic, and financial criteria established and considered during the course of this study. The above 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 Basilan, 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 Basilan should be based on the aspects of accessibility of the project area, type of proposed water service, and number of potential served population. 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 - BASILAN
INCOME & EXPENDITURES

	1999	2000	2001
INCOME			
LOCAL SOURCES	54,116,815	23,837,968	2,187,459
REVENUE FROM TAXATION	564,111	725,005	843,010
Real Property Tax	206,031	298,929	260,635
Local Taxes	358,080	426,075	347,469
Other Taxes			234,906
NON-TAX REVENUES	53,552,704	23,112,963	1,344,450
Receipt from Eco. Ent.	2,992,817	3,398,220	
Fees/Charges	38,630	636,883	428,833
Loans and Borrowings	50,000,000	16,000,000	856,132
Other Receipts	521,257	3,077,860	59,484
AIDS AND ALLOTMENTS	173,574,240	199,286,111	243,337,382
BIR Allotments	173,574,240	199,286,111	237,125,565
National Aids	0	0	6,211,817
National Wealth	0	0	0
TOTAL INCOME	227,691,055	223,124,079	245,524,841
EXPENDITURES	229,895,478	223,124,079	213,366,118
CURRENT EXPENDITURES	171,028,378	214,468,434	213,366,118
General Government	66,850,626	80,307,900	82,247,575
Edu., Cult., & Sports/Mpwr Devt.			217,450
Health, Nutrition & Pop. Control			18,110,862
Public Welfare & Int. Safety	29,360,080	32,305,567	2,255,746
Economic Development	41,894,322	35,839,299	41,194,079
Operation of Econ. Ent.	0	6,169,624	0
Other Charges	32,923,350	59,846,043	69,340,405
CAPITAL OUTLAY	58,867,100	31,162,847	0
TOTAL EXPENDITURES	229,895,478	245,631,281	213,366,118
EXCESS (DEFICIT) OF INCOME	-2,204,423	-22,507,202	32,158,723
OVER EXPENDITURES			

Source : BOS Databank - Bureau of Local Government Finance

BUDGET OPERATIONS STATEMENT

BASILAN

LGU Name:	Lamitan			Lantawan			Maluso		
	1999	2000	2001	1999	2000	2001	1999	2000	2001
INCOME									
Local Sources	4,008,326.89	5,214,629.25	4,290,039.63	317,696.31	296,724.28	194,521.10	480,777.00	398,417.47	398,417.47
Revenue from Taxation	2,066,180.49	2,355,013.26	1,861,140.30	114,874.14	148,074.77	131,802.89	227,107.00	233,934.77	233,934.77
Real Property Tax	381,334.54	518,953.01	402,742.40	88,197.94	121,839.77	116,776.89	73,726.00	18,026.88	18,026.88
Business Tax	1,684,845.95	1,836,060.25	1,106,853.39	26,676.20	26,235.00	5,610.00	153,381.00	215,907.89	215,907.89
Other Taxes	0.00	0.00	351,544.51	0.00	0.00	9,416.00	0.00	0.00	0.00
Non-Tax Revenues	1,942,146.40	2,859,615.99	2,428,899.33	202,822.17	148,649.51	62,718.21	253,670.00	164,482.70	164,482.70
Receipts from Eco. Enterprise	920,635.05	1,986,665.92	1,590,942.92	0.00	0.00	0.00	184,981.00	57,062.70	57,062.70
Fees/Charges	976,803.99	857,565.07	653,134.41	53,375.00	44,020.00	62,718.21	68,689.00	107,420.00	107,420.00
Loans & Borrowings	0.00	0.00	0.00	149,447.17	0.00	0.00	0.00	0.00	0.00
Other Receipts	44,707.36	15,385.00	184,822.00	0.00	104,629.51	0.00	0.00	0.00	0.00
Aids and Allotments	31,973,494.00	38,792,901.00	41,065,317.00	20,666,042.00	24,774,148.00	26,765,811.00	13,436,400.00	21,141,580.02	21,141,580.02
BIR Allotment (IRA)	31,973,494.00	38,792,901.00	41,065,317.00	20,666,042.00	24,774,148.00	26,765,811.00	13,436,400.00	18,732,432.80	18,732,432.80
National Aids	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,409,147.22	2,409,147.22
National Wealth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL INCOME	**35,981,820.89**	**44,007,530.25**	**45,355,356.63**	**20,983,738.31**	**25,070,872.28**	**26,960,332.10**	**13,917,177.00**	**21,539,997.49**	**21,539,997.49**
EXPENDITURES									
Current Expenditures	35,256,693.79	44,954,877.73	38,051,184.54	19,188,458.38	20,130,596.68	25,845,146.05	13,580,428.00	25,563,157.96	16,046,497.64
General Government	14,565,303.78	20,159,469.38	23,877,179.00	12,860,604.84	12,156,399.41	14,892,651.10	8,809,138.00	10,175,809.63	10,175,809.63
Public Welfare & Internal Safety	7,101,309.03	9,466,393.69	989,199.25	3,931,279.14	3,684,212.89	1,161,223.32	1,578,799.00	2,937,333.39	2,937,333.39
Economic Development	10,840,176.36	12,996,800.25	7,771,300.08	2,396,574.40	2,675,744.60	2,881,770.32	2,795,331.00	2,933,354.62	2,933,354.62
Operation of Eco. Enterprise	1,327,306.62	1,487,214.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Charges	1,422,598.00	845,000.00	5,413,506.21	0.00	1,614,239.78	6,909,501.31	397,160.00	9,516,660.32	0.00
Capital Outlay	0.00	0.00	7,216,426.60	1,835,447.97	2,070,010.78	1,053,933.73	1,189,356.00	146,280.90	9,662,941.22
TOTAL EXPENDITURES	**35,256,693.79**	**44,954,877.73**	**45,267,611.14**	**21,023,906.35**	**22,200,607.46**	**26,899,079.78**	**14,769,784.00**	**25,709,438.86**	**25,709,438.86**
Excess (Deficit) of Income	725,127.10	-947,347.48	87,745.49	-40,168.04	2,870,264.82	61,252.32	-852,607.00	-4,169,441.37	-4,169,441.37
Over Expenditures									

Source : SIE Databank - Bureau of Local Government Finance

BUDGET OPERATIONS STATEMENT

BASILAN

LGU Name:	Sumisip			Tipo-Tipo			Tuburan		
	1999	2000	2001	1999	2000	2001	1999	2000	2001
INCOME									
Local Sources	113,461.98	98,606.83	392,112.16	40,323.23	82,168.52	82,168.52	76,800.70		62,187.41
Revenue from Taxation	101,347.98	63,580.71	379,811.19	14,583.93	56,358.52	56,358.52	31,540.70		31,492.41
Real Property Tax	2,084.89	30,487.98	8,304.67	14,583.93	40,281.44	40,281.44	7,794.56		7,582.59
Business Tax	99,263.09	33,092.73	9,550.80	0.00	16,077.08	16,077.08	23,746.14		0.00
Other Taxes	0.00	0.00	361,955.72	0.00	0.00	0.00	0.00		23,909.82
Non-Tax Revenues	12,114.00	35,026.12	12,300.97	25,739.30	25,810.00	25,810.00	45,260.00		30,695.00
Receipts from Eco. Enterprise	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00
Fees/Charges	12,114.00	2,048.00	12,300.97	25,739.30	25,810.00	25,810.00	44,510.00		30,695.00
Loans & Borrowings	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00
Other Receipts	0.00	32,978.12	0.00	0.00	0.00	0.00	750.00		0.00
Aids and Allotments	34,972,270.00	36,838,823.00	39,586,490.00	27,659,396.54	32,443,428.12	32,443,428.12	29,125,523.00		33,196,859.00
BIR Allotment (IRA)	34,972,270.00	36,838,823.00	39,586,490.00	27,659,396.54	32,443,428.12	32,443,428.12	29,125,523.00		32,925,384.00
National Aids	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		271,475.00
TOTAL INCOME	**35,085,731.98**	**36,937,429.83**	**39,978,602.16**	**27,699,719.77**	**32,525,596.64**	**32,525,596.64**	**29,202,323.70**		**33,259,046.41**
EXPENDITURES									
Current Expenditures	34,331,634.49	32,120,651.21	29,930,478.47	25,099,443.10	22,309,768.98	22,309,768.98	25,625,712.14		28,076,527.70
General Government	20,285,229.66	17,718,884.65	23,157,319.43	14,416,171.84	15,606,229.78	15,606,229.78	16,898,078.56		21,452,677.65
Public Welfare & Internal Safety	3,006,179.32	2,635,678.09	998,060.20	1,763,324.84	3,058,972.88	3,058,972.88	3,049,025.02		597,775.05
Economic Development	4,361,188.01	4,150,640.57	3,681,498.29	1,218,562.92	3,644,566.32	3,644,566.32	2,276,518.56		2,643,129.03
Operation of Eco. Enterprise	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00
Other Charges	6,679,037.50	7,615,447.90	2,093,600.55	7,701,383.50	0.00	0.00	3,402,090.00		3,382,945.97
Capital Outlay	0.00	439,700.00	7,743,961.82	0.00	10,343,661.70	10,343,661.70	3,850,900.00		10,317,717.00
TOTAL EXPENDITURES	**34,331,634.49**	**32,560,351.21**	**37,674,440.29**	**25,099,443.10**	**32,653,430.68**	**32,653,430.68**	**29,476,612.14**		**38,394,244.70**
Excess (Deficit) of Income Over Expenditures	754,097.49	4,377,078.62	2,304,161.87	2,600,276.67	-127,834.04	-127,834.04	-274,288.44		-5,135,198.29

Source : SIE Databank - Bureau of Local Government Finance

BUDGET OPERATIONS STATEMENT

LGU Name:	Isabela			BASILAN		
	1999	2000	2001			
INCOME						
Local Sources	9,311,335.76	9,843,400.03	6,793,317.07			
Revenue from Taxation	3,666,310.91	3,788,877.59	3,028,255.48			
Real Property Tax	2,705,030.07	1,093,285.91	529,055.33			
Business Tax	961,280.84	2,695,591.68	2,051,660.42			
Other Taxes	0.00	0.00	447,539.73			
Non-Tax Revenues	5,645,024.85	6,054,522.44	3,765,061.59			
Receipts from Eco. Enterprise	2,023,100.84	2,540,819.08	2,314,494.49			
Fees/Charges	1,080,888.96	997,826.36	1,450,567.10			
Loans & Borrowings	0.00	0.00	0.00			
Other Receipts	2,541,035.05	2,515,877.00	0.00			
Aids and Allotments	37,603,508.00	37,846,710.00	43,726,894.00			
BIR Allotment (IRA)	37,603,508.00	37,846,710.00	41,097,114.00			
National Aids	0.00	0.00	0.00			
National Wealth	0.00	0.00	2,629,780.00			
TOTAL INCOME	46,914,843.76	47,690,110.03	50,520,211.07			
EXPENDITURES						
Current Expenditures	46,942,932.50	47,733,064.10	56,400,632.58			
General Government	22,716,507.74	24,411,948.45	38,394,908.60			
Public Welfare & Internal Safety	8,559,500.60	8,198,810.72	1,710,828.96			
Economic Development	11,275,892.66	8,607,182.68	8,976,312.50			
Operation of Eco. Enterprise	953,549.95	0.00	0.00			
Other Charges	3,437,481.55	6,515,122.25	7,318,582.52			
Capital Outlay	316,980.00	274,000.00	0.00			
TOTAL EXPENDITURES	47,259,912.50	48,007,064.10	56,400,632.58			
Excess (Deficit) of Income	-345,068.74	-316,954.07	-5,880,421.51			
Over Expenditures						

Source : SIE Databank - Bureau of Local Government Finance

PHASE I Development

Appendix 9.3.1 Total Construction 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	Public School	Public Utilities
1 Lamitan	20,481	8,558	8,582	3,586	790	1,201	1,247	0	0	0	0	0	0	0
2 Lantawan	0	0	0	0	0	0	0	6,150	6,551	3,328	1,032	483	2,728	486
3 Maluso	8,950	0	0	1,163	292	307	390	6,677	5,697	55,315	1,487	568	1,602	0
4 Sumisip	4,395	0	366	352	4	307	390	18,010	0	19,224	2,032	716	4,077	0
5 Tipo Tipo	0	493	3,733	0	172	307	390	0	15,183	93,665	0	950	2,978	0
6 Tuburan	0	266	480	0	38	307	390	0	1,374	23,666	0	889	862	0
7 Provincial Total	33,827	9,316	13,162	5,100	1,297	2,429	2,807	30,837	28,805	195,198	4,551	3,606	12,247	486
8 Physiscal Contingency(15% of 7)	5,074	1,397	1,974	765	195	364	421	4,625	4,321	29,280	683	541	1,837	73
9 Price Contingency (10% of 7 & 8)	3,890	1,071	1,514	586	149	279	323	3,546	3,313	22,448	523	415	1,408	56
10 Total Direct Cost	8,964	2,469	3,488	1,351	344	644	744	8,172	7,633	51,727	1,206	956	3,245	129
11 Indirect Cost														
12 Feasibility Study/DD (9% of 10)	807	222	314	122	31	58	67	735	687	4,655	109	86	292	12
13 Construction Supervision(4% of 10)	359	99	140	54	14	26	30	327	305	2,069	48	38	130	5
14 Training(3% and 12% for Urban & rural of 10)	269	74	105	41	10	19	22	981	916	6,207	145	115	389	15
15 Total indirect Cost	1,434	395	558	216	55	103	119	2,043	1,908	12,932	301	239	811	32
16 Total Project Cost	44,225	12,180	17,208	6,668	1,695	3,176	3,670	41,051	38,346	259,857	6,058	4,801	16,304	647

PHASE I DEVELOPMENT

Appendix 9.3.2 - 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 Toilet	Public Utilities Toilet	Level III Pop	Level II Pop	Level I No. of wells	HH Flush	HH Pour Flush	Public School Toilet	Public Utilities Toilet
1 Lamitan	4,402	4,782	27	736	1,211	4	3	0	0	0	0	0	0	0
2 Lantawan	0	0	0	0	0	0	0	1,322	3,661	11	212	740	9	1
3 Maluso	1,924	0	0	239	447	1	1	1,435	1,438	8	305	871	6	1
4 Sumisip	1,226	0	1	72	6	2	1	5,023	9,845	37	417	1,097	4	1
5 Tipo Tipo	0	275	12	0	264	1	3	0	342	80	0	1,456	2	3
6 Tuburan	0	149	2	0	58	3	1	0	133	75	0	1,361	5	3
Provincial Total	7,552	5,206	42	1,047	1,987	12	9	7,780	15,418	211	934	5,525	25	9

Appendix 9.3.3 - 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	Public School	Public Utilities
1 Lamitan	4,652	1,790	314,000	4,871	653	307,000	390,000	4,652	1,790	314,000	4,871	653	307,000	390,000
2 Lantawan	4,652	1,790	314,000	4,871	653	307,000	390,000	4,652	1,790	314,000	4,871	653	307,000	390,000
3 Maluso	4,652	1,790	314,000	4,871	653	307,000	390,000	4,652	1,790	314,000	4,871	653	307,000	390,000
4 Sumisip	3,585	1,790	314,000	4,871	653	307,000	390,000	3,585	1,790	314,000	4,871	653	307,000	390,000
5 Tipo Tipo	4,652	1,790	314,000	4,871	653	307,000	390,000	4,652	1,790	314,000	4,871	653	307,000	390,000
6 Tuburan	4,652	1,790	314,000	4,871	653	307,000	390,000	4,652	1,790	314,000	4,871	653	307,000	390,000
Provincial Total	26,847	10,737	1,884,000					26,847	10,737	1,884,000				

Appendix 9.3.4 - 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	HH Flush	HH Pour Flush	Public School	Public Utilities
1 Lamitan	20,481,475	8,557,983	8,582,181	3,585,580	790,377	1,201,083	1,247,270	0	0	0	0	0	0	0
2 Lantawan	0	0	0	0	0	0	0	6,149,591	6,551,103	3,327,782	1,032,364	482,940	2,727,984	485,911
3 Maluso	8,950,480	0	0	1,162,547	292,011	307,000	390,000	6,677,399	5,696,744	55,314,699	1,486,601	568,333	1,602,105	0
4 Sumisip	4,394,839	0	365,978	351,768	4,034	307,000	390,000	18,009,633	0	19,223,926	2,031,869	715,994	4,076,915	0
5 Tipo Tipo	0	492,558	3,733,394	0	172,348	307,000	390,000	0	15,183,415	93,665,488	0	950,412	2,977,796	0
6 Tuburan	0	265,835	480,104	0	37,974	307,000	390,000	0	1,373,586	23,666,213	0	888,532	862,298	0
Provincial Total	33,826,794	9,316,376	13,161,656	18,582,133	1,935,690	6,889,145	7,410,000	30,836,623	28,804,849	195,198,107	16,431,181	22,612,978	41,807,249	2,730,000

PHASE I DEVELOPMENT

Appendix 9.3.5 - Total Cost (P x 1,000)

Municipality of Lamitan	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	20,481	8,558	8,582	3,586	790	1,201	1,247	0	0	0	0	0	0	0
2. Physical Contingency (15% of 1))	3,072	1,284	1,287	538	119	180	187	0	0	0	0	0	0	0
3. Price Contingency (10% of 1 & 2)	2,355	984	987	412	91	138	143	0	0	0	0	0	0	0
4. Total Direct Cost	5,428	2,268	2,274	950	209	318	331	0	0	0	0	0	0	0
5. Indirect Cost														
(Feasibility Study/DD (9% of 5)	488	204	205	86	19	29	30	0	0	0	0	0	0	0
7. Construction Supervision(4% of 5)	217	91	91	38	8	13	13	0	0	0	0	0	0	0
8. Training(3% and 12% for Urban & rural)	163	68	68	29	6	10	10	0	0	0	0	0	0	0
9. Total indirect Cost	868	363	364	152	34	51	53	0	0	0	0	0	0	0
10. Total Project Cost	26,777	11,189	11,220	4,688	1,033	1,570	1,631	0	0	0	0	0	0	0

Appendix 9.3.6 - Total Cost (P x 1,000)

Municipality of Lantawan	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	6,150	6,551	3,328	1,032	483	2,728	486
2. Physical Contingency(15% of 1))	0	0	0	0	0	0	0	922	983	499	155	72	409	73
3. Price Contingency (10% of 1 & 2)	0	0	0	0	0	0	0	707	753	383	119	56	314	56
4. Total Direct Cost	0	0	0	0	0	0	0	1,630	1,736	882	274	128	723	129
5 Indirect Cost														
6. Feasibility Study/DD (9% of 5)	0	0	0	0	0	0	0	147	156	79	25	12	65	12
7. Construction Supervision(4% of 5)	0	0	0	0	0	0	0	65	69	35	11	5	29	5
8. Training(3% and 12% for Urban & rural)	0	0	0	0	0	0	0	196	208	106	33	15	87	15
9. Total indirect Cost	0	0	0	0	0	0	0	407	434	220	68	32	181	32
10 Total Project Cost	0	0	0	0	0	0	0	8,187	8,721	4,430	1,374	643	3,632	647

PHASE I DEVELOPMENT

Appendix 9.3.7 - Total Cost (P x 1,000)

Municipality Maluso	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	8,950	0	0	1,163	292	307	390	6,677	5,697	55,315	1,487	568	1,602	0
2. Physical Contingency(15% of 1))	1,343	0	0	174	44	46	59	1,002	855	8,297	223	85	240	0
3. Price Contingency (10% of 1 & 2)	1,029	0	0	134	34	35	45	768	655	6,361	171	65	184	0
4. Total Direct Cost	2,372	0	0	308	77	81	103	1,770	1,510	14,658	394	151	425	0
5. Indirect Cost														
6. Feasibility Study/DD (9% of 5)	213	0	0	28	7	7	9	159	136	1,319	35	14	38	0
7. Construction Supervision(4% of 5)	95	0	0	12	3	3	4	71	60	586	16	6	17	0
8. Training(3% and 12% for Urban $ rural)	71	0	0	9	2	2	3	212	181	1,759	47	18	51	0
9. Total indirect Cost	380	0	0	49	12	13	17	442	377	3,665	98	38	106	0
10. Total Project Cost	11,702	0	0	1,520	382	401	510	8,889	7,584	73,638	1,979	757	2,133	0

Appendix 9.3.8 - Total Cost (P x 1,000)

Municipality Sumisip	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	4,395	0	366	352	4	307	390	18,010	0	19,224	2,032	716	4,077	0
2. Physical Contingency(15% of 1))	659	0	55	53	1	46	59	2,701	0	2,884	305	107	612	0
3. Price Contingency (10% of 1 & 2)	505	0	42	40	0	35	45	2,071	0	2,211	234	82	469	0
4. Total Direct Cost	1,165	0	97	93	1	81	103	4,773	0	5,094	538	190	1,080	0
5. Indirect Cost														
6. Feasibility Study/DD (9% of 5)	105	0	9	8	0	7	9	430	0	458	48	17	97	0
7. Construction Supervision(4% of 5)	47	0	4	4	0	3	4	191	0	204	22	8	43	0
8. Training(3% and 12% for Urban $ rural)	35	0	3	3	0	2	3	573	0	611	65	23	130	0
9. Total indirect Cost	186	0	16	15	0	13	17	1,193	0	1,274	135	47	270	0
10. Total Project Cost	5,746	0	478	460	5	401	510	23,975	0	25,592	2,705	953	5,427	0

PHASE I DEVELOPMENT

Appendix 9.3.9 - Total Cost (P x 1,000)

Municipality Tipo Tipo	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		493	3,733	0	172	307	390	0	15,183	93,665	0	950	2,978	0
2. Physical Contingency(15% of 1))		74	560	0	26	46	59	0	2,278	14,050	0	143	447	0
3. Price Contingency (10% of 1 & 2)		57	429	0	20	35	45	0	1,746	10,772	0	109	342	0
4. Total Direct Cost		131	989	0	46	81	103	0	4,024	24,821	0	252	789	0
5. Indirect Cost														
6. Feasibility Study/DD (9% of 5)		12	89	0	4	7	9	0	362	2,234	0	23	71	0
7. Construction Supervision(4% of 5)		5	40	0	2	3	4	0	161	993	0	10	32	0
8. Training(3% and 12% for Urban & rural)		4	30	0	1	2	3	0	483	2,979	0	30	95	0
9. Total indirect Cost		21	158	0	7	13	17	0	1,006	6,205	0	63	197	0
10. Total Project Cost		644	4,881	0	225	401	510	0	20,213	124,692	0	1,265	3,964	0

Appendix 9.3.10 - Total Cost (P x 1,000)

Municipality Tuburan	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		266	480	0	38	307	390	0	1,374	23,666	0	889	862	0
2. Physical Contingency(15% of 1))		40	72	0	6	46	59	0	206	3,550	0	133	129	0
3. Price Contingency (10% of 1 & 2)		31	55	0	4	35	45	0	158	2,722	0	102	99	0
4. Total Direct Cost		70	127	0	10	81	103	0	364	6,272	0	235	229	0
5. Indirect Cost														
6. Feasibility Study/DD (9% of 5)		6	11	0	1	7	9	0	33	564	0	21	21	0
7. Construction Supervision(4% of 5)		3	5	0	0	3	4	0	15	251	0	9	9	0
8. Training(3% and 12% for Urban & rural)		2	4	0	0	2	3	0	44	753	0	28	27	0
9. Total indirect Cost		11	20	0	2	13	17	0	91	1,568	0	59	57	0
10. Total Project Cost		348	628	0	50	401	510	0	1,829	31,506	0	1,183	1,148	0

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Appendix 9.3.11 - Total Cost (P x 1,000)

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	Public School	Public Utilities
1. Lamitan	7,550	908	8,824	914	229	994	2,405	0	0	0	0	0	0	0
2 Lantawan	0	0	0	0	0	0	0	11,694	1,993	3,424	573	64	2,173	781
3 Maluso	0	0	0	0	55	307	390	0	5,697	55,315	0	93	1,602	0
4 Sumisip	1,323	0	358	37	2	307	390	5,421	0	19,224	221	174	4,077	0
5 Tipo Tipo	0	764	2,777	0	17	307	390	0	15,183	93,665	0	187	2,978	0
6 Tuburan	0	1,121	466	0	5	307	390	0	1,374	23,666	0	191	862	0
7 Provincial Total	8,873	2,794	12,425	951	308	2,222	3,965	17,114	24,246	195,294	795	708	11,692	781
8 Physiseal Contingency(15% of 1))	1,331	419	1,864	143	46	333	595	2,567	3,637	29,294	119	106	1,754	117
9 Price Contingency (10% of 1 & 2)	1,020	321	1,429	109	35	255	456	1,968	2,788	22,459	91	81	1,345	90
10 Total Direct Cost	2,351	740	3,293	252	82	589	1,051	4,535	6,425	51,753	211	188	3,098	207
11 Indirect Cost														
12 Feasibility Study/DD (9% of 5)	212	67	296	23	7	53	95	408	578	4,658	19	17	279	19
13 Construction Supervision(4% of 5)	94	30	132	10	3	24	42	181	257	2,070	8	8	124	8
14 Training(3% and 12% for Urban $ rur	71	22	99	8	2	18	32	544	771	6,210	25	23	372	25
15 Total indirect Cost	376	118	527	40	13	94	168	1,134	1,606	12,938	53	47	775	52
16 Total Project Cost	11,601	3,653	16,245	1,243	402	2,905	5,184	22,784	32,278	259,986	1,058	942	15,565	1,040

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Appendix 9.3.12 - Total Cost (P x 1,000)

Municipality	Phase II (2010-2015) 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 Lamitan	1,623	508	28	188	351	3	6	0	0	0	0	0	0	0
2 Lantawan	0	0	0	0	0	0	0	2,514	1,114	11	118	98	7	2
3 Maluso	0	0	0	0	84	2	5	0	1,159	8	0	142	3	2
4 Sumisip	305	0	1	7	3	1	1	1,248	3,996	37	45	266	2	2
5 Tipo Tipo	0	427	9	0	27	2	1	0	455	74	0	286	2	1
6 Tuburan	0	627	1	0	7	3	1	0	560	77	0	292	4	2
Provincial Total	**1,928**	**1,561**	**40**	**195**	**471**	**10**	**15**	**3,762**	**7,283**	**208**	**163**	**1,084**	**18**	**10**

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

Municipality	Phase II (2010-2015) 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 Lamitan	4,652	1,790	314,000	4,871	653	307,000	390,000	4,652	1,790	314,000	4,871	653	307,000	390,000
2 Lantawan	4,652	1,790	314,000	4,871	653	307,000	390,000	4,652	1,790	314,000	4,871	653	307,000	390,000
3 Maluso	4,652	1,790	314,000	4,871	653	307,000	390,000	4,652	1,790	314,000	4,871	653	307,000	390,000
4 Sumisip	4,342	1,790	314,000	4,871	653	307,000	390,000	4,342	1,790	314,000	4,871	653	307,000	390,000
5 Tipo Tipo	4,652	1,790	314,000	4,871	653	307,000	390,000	4,652	1,790	314,000	4,871	653	307,000	390,000
6 Tuburan	4,652	1,790	314,000	4,871	653	307,000	390,000	4,652	1,790	314,000	4,871	653	307,000	390,000
Provincial Total	**27,604**	**10,737**	**1,884,000**	**29,226**	**3,916**	**1,842,000**	**2,340,000**	**27,604**	**10,737**	**1,884,000**	**29,226**	**3,916**	**1,842,000**	**2,340,000**

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

Municipality	Phase II (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 Lamitan	7,550,213	908,247	8,823,686	914,101	229,191	993,639	2,404,834	0	0	0	0	0	0	0
2 Lantawan	0	0	0	0	0	0	0	11,693,833	1,992,724	3,424,044	573,058	63,817	2,173,091	780,845
3 Maluso	0	0	0	0	54,518	307,000	390,000	0	5,696,744	55,314,699	0	92,869	1,602,105	0
4 Sumisip	1,322,771	0	357,655	36,502	1,646	307,000	390,000	5,420,588	0	19,223,926	221,474	173,664	4,076,915	0
5 Tipo Tipo	0	764,473	2,777,397	0	17,427	307,000	390,000	0	15,183,415	93,665,488	0	186,696	2,977,796	0
6 Tuburan	0	1,121,198	466,449	0	4,895	307,000	390,000	0	1,373,586	23,666,213	0	190,783	862,298	0
Provincial Total	**8,872,983**	**2,793,917**	**12,425,186**	**18,582,133**	**1,935,690**	**6,889,145**	**7,410,000**	**17,114,422**	**24,246,469**	**195,294,369**	**16,431,181**	**22,612,978**	**41,807,249**	**2,730,000**

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

Municipality of Lamitan	Phase II (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	7,550	908	8,824	914	229	994	2,405	0	0	0	0	0	0	0
2. Physiscal Contingency(15% of 1))	1,133	136	1,324	137	34	149	361	0	0	0	0	0	0	0
3. Price Contingency (10% of 1 & 2)	868	104	1,015	105	26	114	277	0	0	0	0	0	0	0
4. Total Direct Cost	2,001	241	2,338	242	61	263	637	0	0	0	0	0	0	0
5. Indirect Cost														
6. Feasibility Study/DD (9% of 5)	180	22	210	22	5	24	57	0	0	0	0	0	0	0
7. Construction Supervision(4% of 5)	80	10	94	10	2	11	25	0	0	0	0	0	0	0
8. Training(3% and 12% for Urban & rural)	60	7	70	7	2	8	19	0	0	0	0	0	0	0
9. Total indirect Cost	320	39	374	39	10	42	102	0	0	0	0	0	0	0
10. Total Project Cost	9,871	1,187	11,536	1,195	300	1,299	3,144	0	0	0	0	0	0	0

Appendix 9.3.16 - Total Cost (P x 1,000)

Municipality of Lantawan	Phase II (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	0	0	0	0	0	0	0	11,694	1,993	3,424	573	64	2,173	781
2. Physiscal Contingency(15% of 1))	0	0	0	0	0	0	0	1,754	299	514	86	10	326	117
3. Price Contingency (10% of 1 & 2)	0	0	0	0	0	0	0	1,345	229	394	66	7	250	90
4. Total Direct Cost	0	0	0	0	0	0	0	3,099	528	907	152	17	576	207
5. Indirect Cost														
6. Feasibility Study/DD (9% of 5)	0	0	0	0	0	0	0	279	48	82	14	2	52	19
7. Construction Supervision(4% of 5)	0	0	0	0	0	0	0	124	21	36	6	1	23	8
8. Training(3% and 12% for Urban & rural)	0	0	0	0	0	0	0	372	63	109	18	2	69	25
9. Total indirect Cost	0	0	0	0	0	0	0	775	132	227	38	4	144	52
10. Total Project Cost	0	0	0	0	0	0	0	15,567	2,653	4,558	763	85	2,893	1,040

Appendix 9.3.17 - Total Cost (P x 1,000)

Municipality of Maluso	Phase II (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		0	0	0	55	307	390	0	5,697	55,315	0	93	1,602	0
2. Physiscal Contingency(15% of 1))		0	0	0	8	46	59	0	855	8,297	0	14	240	0
3. Price Contingency (10% of 1 & 2)		0	0	0	6	35	45	0	655	6,361	0	11	184	0
4. Total Direct Cost		0	0	0	14	81	103	0	1,510	14,658	0	25	425	0
5. Indirect Cost														
6. Feasibility Study/DD (9% of 5)		0	0	0	1	7	9	0	136	1,319	0	2	38	0
7. Construction Supervision(4% of 5)		0	0	0	1	3	4	0	60	586	0	1	17	0
8 Training(3% and 12% for Urban & rural)		0	0	0	0	2	3	0	181	1,759	0	3	51	0
9. Total indirect Cost		0	0	0	2	13	17	0	377	3,665	0	6	106	0
10. Total Project Cost		0	0	0	71	401	510	0	7,584	73,638	0	124	2,133	0

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Appendix 9.3.18 - Total Cost (P x 1,000)

Municipality of Sumisip	Phase II (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	1,323	0	358	37	2	307	390	5,421	0	19,224	221	174	4,077	0
2. Physiscal Contingency(15% of 1))	198	0	54	5	0	46	59	813	0	2,884	33	26	612	0
3. Price Contingency (10% of 1 & 2)	152	0	41	4	0	35	45	623	0	2,211	25	20	469	0
4. Total Direct Cost	351	0	95	10	0	81	103	1,436	0	5,094	59	46	1,080	0
5. Indirect Cost														
6. Feasibility Study/DD (9% of 5)	32	0	9	1	0	7	9	129	0	458	5	4	97	0
7. Construction Supervision(4% of 5)	14	0	4	0	0	3	4	57	0	204	2	2	43	0
8. Training(3% and 12% for Urban & rural)	11	0	3	0	0	2	3	172	0	611	7	6	130	0
9. Total Indirect Cost	56	0	15	2	0	13	17	359	0	1,274	15	12	270	0
10. Total Project Cost	1,729	0	468	48	2	401	510	7,216	0	25,592	295	231	5,427	0

Appendix 9.3.19 - Total Cost (P x 1,000)

Municipality of Tipo Tipo	Phase II (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	0	764	2,777	0	17	307	390	0	15,183	93,665	0	187	2,978	0
2. Physiscal Contingency (15% of 1)	0	115	417	0	3	46	59	0	2,278	14,050	0	28	447	0
3. Price Contingency (10% of 1 & 2)	0	88	319	0	2	35	45	0	1,746	10,772	0	21	342	0
4. Total Direct Cost	0	203	736	0	5	81	103	0	4,024	24,821	0	49	789	0
5. Indirect Cost														
6. Feasibility Study/DD (9% of 5)	0	18	66	0	0	7	9	0	362	2,234	0	4	71	0
7. Construction Supervision(4% of 5)	0	8	29	0	0	3	4	0	161	993	0	2	32	0
8. Training(3% and 12% for Urban & rural)	0	6	22	0	0	2	3	0	483	2,979	0	6	95	0
9. Total Indirect Cost	0	32	118	0	1	13	17	0	1,006	6,205	0	12	197	0
10. Total Project Cost	0	999	3,631	0	23	401	510	0	20,213	124,692	0	249	3,964	0

Appendix 9.3.20 - Total Cost (P x 1,000)

Municipality of Tuburan	Phase II (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		1,121	466	0	5	307	390	0	1,374	23,666	0	191	862	0
2. Physiscal Contingency(15% of 1))		168	70	0	1	46	59	0	206	3,550	0	29	129	0
3. Price Contingency (10% of 1 & 2)		129	54	0	1	35	45	0	158	2,722	0	22	99	0
4. Total Direct Cost		297	124	0	1	81	103	0	364	6,272	0	51	229	0
5. Indirect Cost														
6. Feasibility Study/DD (9% of 5)		27	11	0	0	7	9	0	33	564	0	5	21	0
7. Construction Supervision(4% of 5)		12	5	0	0	3	4	0	15	251	0	2	9	0
8. Training(3% and 12% for Urban & rural)		9	4	0	0	2	3	0	44	753	0	6	27	0
9. Total Indirect Cost		48	20	0	0	13	17	0	91	1,568	0	13	57	0
10. Total Project Cost		1,466	610	0	6	401	510	0	1,829	31,506	0	254	1,148	0