Chapter 10

COST ESTIMATE FOR FUTURE SECTOR DEVELOPMENT

10. COST ESTIMATES FOR FUTURE SECTOR DEVELOPMENT

10.1 General

The total investment cost required in the two phases was studied for implementation of the future requirements identified in Chapter 8 and Chapter 9. The investment cost is defined to include direct cost for construction/rehabilitation of required facilities and sector management, as well as physical and price contingencies. Cost requirements for the equipment and vehicle are discussed as a reference to the LGUs and considered in the long-term development. In addition, recurrent cost is estimated for the operation and maintenance of facilities.

Conditions and assumptions to come up with investment cost were established covering all sub-sector components referring to the National Sector Master Plan and current standards of relevant sector agencies (DPWH, DOH and LWUA). Of the total investment cost required, only construction cost for sector components by municipality was included in this Chapter. The total investment cost is presented in Chapter 11 as a total requirement of the province. In this regard, the required cost for on-going ADB assisted project was excluded from the investment plan.

With regard to construction cost, unit construction cost per person/household/facility was first prepared under contract-out basis for respective sub-sector component facilities in 1998 price level (refer to Supporting Report).

Recurrent cost was also included in this Chapter taking into account of regular operation, spare parts and equipment replacement for sector components concerned.

10.2 Assumptions for Cost Estimates

(1) Unit Construction Cost

Unit construction cost per person (household or facility) of each sector component was estimated based on the current standard unit cost of relevant sector agencies and typical standards developed for previous PW4SP as contract-out basis in 1995 price level. Referred cost data are urban water supply of LWUA, rural water supply of DPWH and sanitation of DOH. For price adjustment of construction materials, the NSO price index of 1995 to 1998 was referred to.

Unit construction cost consists of, in general, direct cost (mobilization/demobilization, material and labor), indirect cost (profit and VAT of contractor) and government expense (detailed engineering, institutional development and water quality analysis-when deemed necessary).

Freight cost of construction materials excluding indigenous materials, i.e., sand and gravel, was counted for sanitation and rural water supply in consideration of the distance from Manila. The cost is estimated at fixed percentage (8%) based on the standard practice being adopted by sector agencies.

Table 10.2.1 shows a summary of unit construction cost and their descriptions are given below (details are referred to Supporting Report).

Urban water supply:

- Unit cost for three different sizes of Level III system covering served population of 5,000, 10,000 and 15,000.
- Unit cost for Level III system shall be applicable to both systems utilizing spring source and deep well. However, especially in case of utilization of spring source, it is desirable to confirm by surveying in the implementation stage, since the location (distance/elevation) of untapped spring might affect the construction cost.

Rural water supply:

- Unit cost for four types of Level I wells (shallow well at 18m in depth and deep wells at 40, 80 and 120m in depth).
- Unit cost for deep well was estimated in combination of open hole with gravel packed well and natural gravel packed well based on water source study results. The profile of the two kinds of wells, gravel packed and natural gravel packed wells is assumed to be 95% and 5%. Required costs for iron removal facility shall be included as required for deep wells at high iron contained area (details are referred to Table 7.3.1, Main Report).
- Unit cost for deep well using anti-corrosive materials (PVC casing and stainless screen, riser pipe and sucker rod) was considered additional 7% to the unit cost of ordinary deep well. Of the total number of gravel packed well, 5% shall be applied based on groundwater quality study results.
- Unit cost for Level I spring development was estimated considering system upgrading to Level II adopting 63mm diameter of transmission line.
- Unit cost for Level II system to cover 600 served population.

Sanitation:

- Household toilet: (Construction cost is not considered since it is out of public works; unit cost is a reference for financial study in terms of affordability.)
  Unit cost for four types of sanitary toilets (flush, pour-flush, VIP and Sanitary Pit Latrine) to cover one served household in urban or rural areas. Cost of flush toilet includes costs for demolition, water closet and water line.

Table 10.2.1 Unit Cost of Facilities by Type and Service Level

Sector	Service Level	Unit Construction Cost per Facility (Pesos)	Service Coverage		Unit Cost		Rehabilitation Cost of Level I Deep Well (Pesos/Well)
			Served Population	Served Households	Pesos/ Person	Pesos/ Household	
Urban Water Supply	***New System***						
	For 5,000 population	25,073,750	5,000	N/A	5,100	N/A	
	For 10,000 population	37,262,500	10,000	N/A	3,800	N/A	
	For 15,000 population	53,785,000	15,000	N/A	3,600	N/A	
	Expansion						
	For 5,000 population	23,171,250	5,000	N/A	4,700	N/A	
	For 10,000 population	35,360,000	10,000	N/A	3,600	N/A	
	For 15,000 population	51,882,500	15,000	N/A	3,500	N/A	
Rural Water Supply	**Level II**	1,369,922	600	120	2,290	11,500	
	Level I						
	Deep Well						
	40 meter depth	360,000	N/A	15	N/A	24,000	78,400
	80 meter depth	535,000	N/A	15	N/A	35,670	
	120 meter depth	702,000	N/A	15	N/A	46,800	
	Shallow Well	84,300	N/A	15	N/A	5,620	
	Spring Development	737,600	N/A	15	N/A	49,180	
Sanitation	***Household Toilet***						
	Flush	23,000	N/A	1	N/A	23,000	
	Pour Flush	14,100	N/A	1	N/A	14,100	
	VIP Latrine	7,100	N/A	1	N/A	7,100	
	Public School Toilet	233,500	250	N/A	1,000	N/A	
	Public Toilet	361,600	N/A	N/A	N/A	N/A	
	Urban Sewerage				7,300		
	Disinfection of Level I Wells	70					

- Public school toilet:

  Unit cost for public school toilet was estimated in combination of toilet facility with 5 toilet bowls and 5 units of classroom toilet to cover 200 served students. The profile of the two kinds of toilet facility is assumed to be 50% each.
- Public toilet:

  Unit cost for one facility with 6 toilet bowls.
- Well disinfection:

  Unit disinfection cost per well based on DOH standard cost. The unit cost shall be applied to all existing and new wells once a year.

Urban Sewerage:

- Unit cost per served population. Preliminary estimates derived from the Philippine National Urban Sewerage and Sanitation Strategy and Feasibility Studies report.

(2) Unit Cost of Equipment

Unit cost of equipment shown in Table 10.2.2 was prepared based on the standard unit cost and recent procurement experience of the relevant sector agencies (details are referred to Supporting Report).

Table 10.2.2 Unit Cost of Equipment and Vehicle

Name of Equipment	Unit Cost (Peso 1,000)
Truck-mounted rotary drilling rig	32,314
Truck-mounted percussion drilling rig	25,582
Well rehabilitation equipment	280
Service truck with crane	1,200
Support vehicle (Pick-up with winch)	590
Refuse collection truck	2,057
Maintenance tools	11
Water quality testing kit	16

(3) Sector Management Cost

Sector management cost consists of:

- Engineering studies (F/S, D/D and construction supervision) for water supply, public toilet and school toilet facilities.
- Community development and training including health & hygiene education and logistic support.

Cost of engineering studies was estimated based on the fixed percentages to the total construction cost; 9% for F/S and D/D and 4% for construction supervision.

Community development and training with logistic support was also estimated on the same manner; 12% of respective construction costs for rural water supply and sanitation, and 3% of construction cost for urban water supply.

(4) Recurrent cost

Recurrent cost was estimated for water supply and sanitation (school and public toilets) facilities to cover the regular operating cost and the cost for spare parts and equipment replacement based on the following cost assumptions, while household toilet is assumed to be maintained by the owner.

Regular operating cost normally includes salaries of operation staff, electricity, fuel and chemicals. Due to the nature of this cost, it is only applied to urban water supply (Level III system). As a typical unit cost being applied to preparation of PW4SP referring to LWUA data, 365 Pesos/household/year was employed.

Cost for spare parts and equipment replacement was considered by different service level as described below.

Level III system:

- Mechanical and electrical equipment has normally a life cycle of 8 to 12 years and is considered in depreciation cost, i.e., 10% per annum. Assuming that the equipment cost comprise 10% of construction cost, annual depreciation will be 1% of the construction cost.
- Accordingly, cost of spare parts was assumed to be 10% of the equipment cost or equivalent to 1% of the construction cost.
- As a whole, 2% of the construction cost was applied for the cost of spare parts and equipment replacement.

Level II system:

- Operation and maintenance (O&M) cost of Level II system utilizing spring sources includes minor repair of pipeline and communal faucets (1% of the direct cost) and salaries of maintenance staff.
- A unit cost of 180 Pesos/household/year was assumed for cost estimates.

Level I facility:

- O&M cost of Level I facility simply includes spare parts of hand-pump and caretaker.
- A unit cost of 100 Pesos/household/year was assumed for cost estimates.

School and public toilets:

- O&M cost includes the salaries of maintenance staff, cost of pumping sludge from septic tanks (periodically) and rehabilitation cost (for depreciation).
- For cost estimates, 5% of the construction cost was applied per facility per year.

Management cost:

- Management cost of water supply, sewerage and sanitation sector is part of the cost required for public services of LGUs mainly consisting of salaries of officers and workers and normally included in the annual budget of each LGU. The rest of management cost, such as equipment for information processing and dissemination was considered as part of logistic support under the sector management cost. Owing to the nature of this cost item, the management cost pertaining to salaries of officers/workers depends largely on the population size and institutional set-up of each LGU.
- Management cost was not estimated in this PW4SP considering the above mentioned reasons.

10.3 Cost of Required Facilities and Equipment

10.3.1 Cost of Required Facilities

The construction cost of required facilities as public investment of LGUs was summarized in Table 10.3.1 by sub-sector by municipality for target years. In this regard, the construction cost of household toilets is limited to the procurement and distribution of toilet bowl for pour-flush type toilets as being implemented by DOH under the FW4SP (refer to over-all construction cost requirements, Supporting Report).

The required cost for medium-term period shows the over-all construction cost including the facilities to be constructed under on-going ADB-assisted project, however, the total investment cost shall be considered excluding ADB-assisted project, since financial arrangements for the said project were decided between concerned parties.

During the medium-term development period, a total of 106.5 million Pesos (excluding required cost for ADB-assisted project) will be required for construction of the facilities. Of the requirements, urban water supply will share 45%, while 55% will be required for urban and rural sanitation. With reference to urban water supply, some cost required would be managed by newly created WD/s, which is out of public investment to be undertaken by LGUs.

Table 10.3.1 Construction Cost of Required Facility by Municipality

Unit: P 1,000

Name of Municipality	Phase I (2005) Requirements							Phase I (2010) Requirements							
	Urban Area			Rural Area			Grand Total	Urban Area				Rural Area			Grand Total
	Water Supply	Sanitation	Sub-total	Water Supply	Sanitation	Sub-total		Water Supply	Sanitation	Urban Sewerage	Sub-total	Water Supply	Sanitation	Sub-total	
Anini-y	505	364	869	4,437	1,974	6,411	7,281	4,061	362		4,422	39,788	6,800	46,588	51,010
Barbaza	1,885	1,337	3,222	3,134	2,065	5,199	8,421	11,886	829		12,715	24,615	5,630	30,245	42,960
Belison	3,162	1,092	4,254	368	37	405	4,659	19,062	362		19,424	10,706	2,246	12,952	32,376
Bugasong	4,169	1,498	5,667	4,146	2,477	6,623	12,290	12,098	362		12,459	19,404	6,630	26,034	38,493
Caluya		1,110	1,110	422	1,494	1,915	3,025	25,734	701		26,434	9,357	4,511	13,868	40,302
Culasi	2,961	829	3,790	6,798	3,012	9,809	13,600	3,502	829		4,330	15,342	8,053	23,395	27,725
Hamtic	2,359	844	3,203	3,395	4,220	7,615	10,818	12,577	234		12,811	91,209	12,035	103,244	116,055
Laua-an	2,341	518	2,859	1,326	2,239	3,565	6,424	17,437	595		18,032	15,427	5,868	21,295	39,327
Libertad	1,637	1,100	2,737	705	1,834	2,539	5,276	13,052	595		13,647	17,266	5,026	22,292	35,939
Pandan		857	857	7,587	2,618	10,205	11,062	3,065			3,065		7,318	7,318	10,383
Patnongon	2,731	1,300	4,030	12,415	4,825	17,240	21,270	14,081	362		14,443	44,792	8,398	53,190	67,633
San Jose de Buenavista (Capital	18,281	4,606	22,886	368	239	606	23,493	122,007	362	191,713	314,081	5,518	1,015	6,532	320,613
San Remigio	760	1,096	1,856	7,211	3,151	10,362	12,219	5,795			5,795	3,380	7,914	11,293	17,088
Sebaste		1,085	1,085	2,253	7	2,260	3,344	29,268	595	40,676	70,538		739	739	71,277
Sibalom	4,907	1,298	6,204	1,977	5,111	7,088	13,293	20,238	362	38,281	58,881	68,043	14,367	82,410	141,291
Tibiao		842	842	1,127	1,430	2,557	3,399	16,947			16,947	5,633	4,125	9,758	26,705
Tobias Fornier		1,124	1,124	16,522		16,522	17,646	4,774			4,774	30,554	5,677	36,231	41,005
Valderrama	2,285	841	3,125	705	1,554	2,259	5,385	17,409	1,062		18,471	13,886	4,437	18,323	36,794
Provincial Total (w/ ADB Assisted Project)	47,982	21,740	69,722	74,895	38,287	113,182	182,904	352,992	7,608	270,669	631,269	414,920	110,786	525,706	1,156,975
Provincial Total (PW4SP)	47,982	21,740	69,722		36,792	36,792	106,514	352,992	7,608	270,669	631,269	414,920	110,786	525,706	1,156,975

10.3.2 Cost of Required Equipment and Vehicle

The procurement cost of required equipment was estimated as shown in Table 10.3.2 (details are referred to Supporting Report), however, in this PW4SP, one set/unit of well rehabilitation equipment and support vehicle shall be incorporated in the medium-term investment plan (Phase I). While one set of truck-mounted drilling rig shall be procured by the province in long-term development plan (Phase II) considering budgetary constraints and technical capability at the present time.

Table 10.3.2 Cost of Equipment and Vehicle

Unit; Peso 1,000

Name of Equipment	Unit Cost	Q'ty (set)	Amount
Truck-mounted rotary drilling rig	32,314	NA	0
Truck-mounted percussion drilling rig	25,582	1	25,582
Well rehabilitation equipment	280	1	280
Service truck with crane	1,200	1	1,200
Support vehicle (Pick-up with winch)	590	1	590
Refuse collection truck	2,057	13	26,741
Total Equipment Cost			54,393

Note: Truck-mounted rotary drilling rig is not applicable based on water source study.
N.A: Not applicable

Aside from the above, one set each of maintenance tools and water quality testing kits shall be provided to all municipalities for O&M of Level I facilities (details are referred to Supporting Report).

10.3.3 Cost for Laboratory

Three (3) new laboratories will be established in the compound of exiting hospitals in Aniniy, Bugasong and Culasi. These laboratories will be provided under the ADB-assisted project (details are referred to Supporting Report). Thus, financial arrangement for the required cost shall not be considered in the medium-term investment plan (refer to Table 11.3.1 in Main Report).

Aside from ADB-assisted project, the province has a plan to establish additional laboratory at the exiting district hospital in Pandan. Required cost for instruments and chemicals is estimated at 478,000 Pesos.

10.4 Recurrent Cost

Recurrent cost is estimated in 1998 price level as a provincial total of each sub-sector covering existing facilities and additional facilities to be constructed during the medium-term development as shown in Table 10.4.1.

In the year 2005, the recurrent cost will increase to 25.5 million Pesos/year from 20.1 million Pesos/year in 1998, which is 27% increase from the base year corresponding to the implementation of the medium-term development.

Table 10.4.1 Recurrent Cost

Unit: ₱ 1,000

Sector Component	Item	Base Year Existing Facilities	2001	2002	2003	2004	2005	Total (2001-2005)
Urban Water Supply	Operating Cost	5,072	5,072	5,232	5,472	5,712	5,872	27,360
	Spare Parts/Equipment	4,980	4,980	5,137	5,373	5,609	5,766	26,865
Rural Water Supply	Spare Parts/Equipment for Level II System	1,126	1,126	1,126	1,126	1,126	1,126	5,629
	Spare Parts/Equipment for Level I Facilities	4,320	4,320	4,438	4,615	4,792	4,910	23,076
Sanitation	Public School Toilets	4,123	4,123	4,669	5,488	6,306	6,852	27,438
	Public Toilets	510	510	606	750	894	990	3,750
Total Recurrent Cost		20,131	20,131	21,208	22,824	24,439	25,516	114,118

Chapter 11

FINANCIAL ARRANGEMENTS FOR MEDIUM-TERM DEVELOPMENT PLAN

11. FINANCIAL ARRANGEMENTS

11.1 General

Financial arrangements to attain medium-term (Phase I) targets are sought taking into account potential funds. However, quantitative study is limited to the use of projected Internal Revenue Allotment (IRA). In this connection, this Chapter addresses to identify financial shortfall with reference to available IRA for this sector and to seek comprehensive logistics in terms of acquisition of various funds, augmentation of current practices in the Government assistance to this sector and effective investments and cost recovery.

Available funds (IRA) during the medium-term development period are projected with the use of computer-based programs that allow for the future application to include additional funds that are available. Figure 11.1.1 shows the sector budget allocation in the different administrative levels to come up with total funds available in the province. Figure 11.1.2 illustrates the manner of sector fund allocation to respective municipalities from the national and provincial governments with a detailed study flow availing IRA. Interfaces between provincial government and municipalities/barangays are also presented in the same figure.

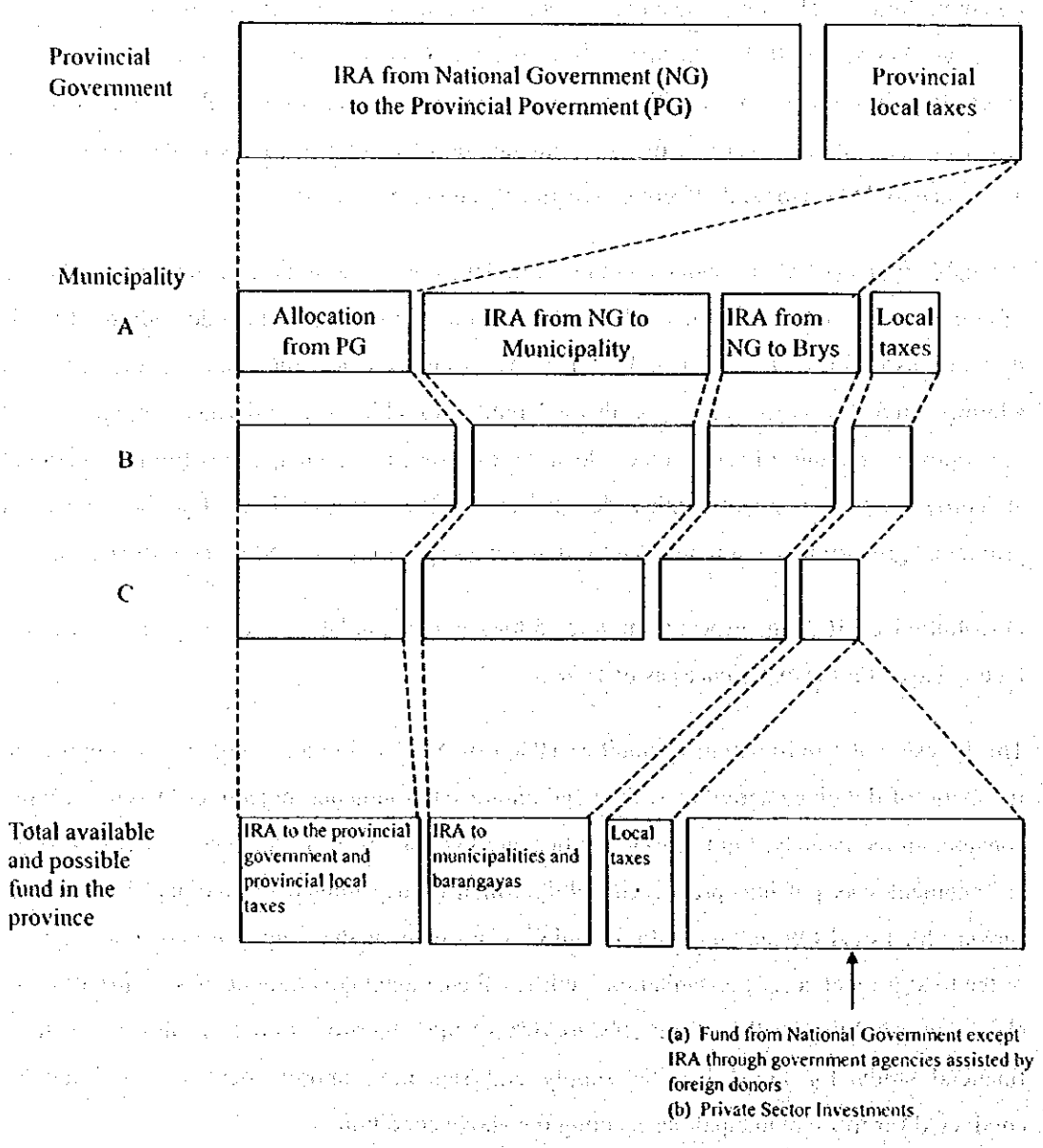
Distribution of IRA to respective municipalities is contemplated in assumption of various factors based on the experiences as of 1998.

The Investment Coordination Committee (ICC) of NEDA adopted a policy "to support the financing of devolved activities with social and/or environmental-objectives" based on three considerations, namely: Equity, Externalities and Economies of Scale. The new cost-sharing arrangement was put into practice in 1998, which clearly limited the national government subsidy for Level I water supply to 5th and 6th class municipalities up to a maximum of 50% of the total project cost. For sanitation facilities, the national government subsidy for 3rd to 6th class municipalities shall be from 50% to 70% of the total project cost. In this connection, financial study for Level I water supply and sanitation improvement was additionally conducted for those municipalities meeting the above conditions.

11.2 Projection of IRA

The projection of IRA to the relevant sector for Phase I period is made covering different administrative levels. Current manner of allocation by the national government is directed to three different governmental levels; province, municipality and barangay. Municipal fund available for this sector is calculated as a sum of municipal and provincial allotments.

Figure 11.1.1 Sector Budget Allocation



Notes: (1) Budget from different sources in the figure above are those shared to water supply and sanitation sector from allotted amount for overall sectors.

(2) Shaded portion above is the potential fund source to be negotiated/arranged to meet target requirements.

FIGURE 11.1.2
GENERAL FLOW OF FINANCIAL ARRANGEMENTS FOR RELEVANT SECTOR DEVELOPMENT

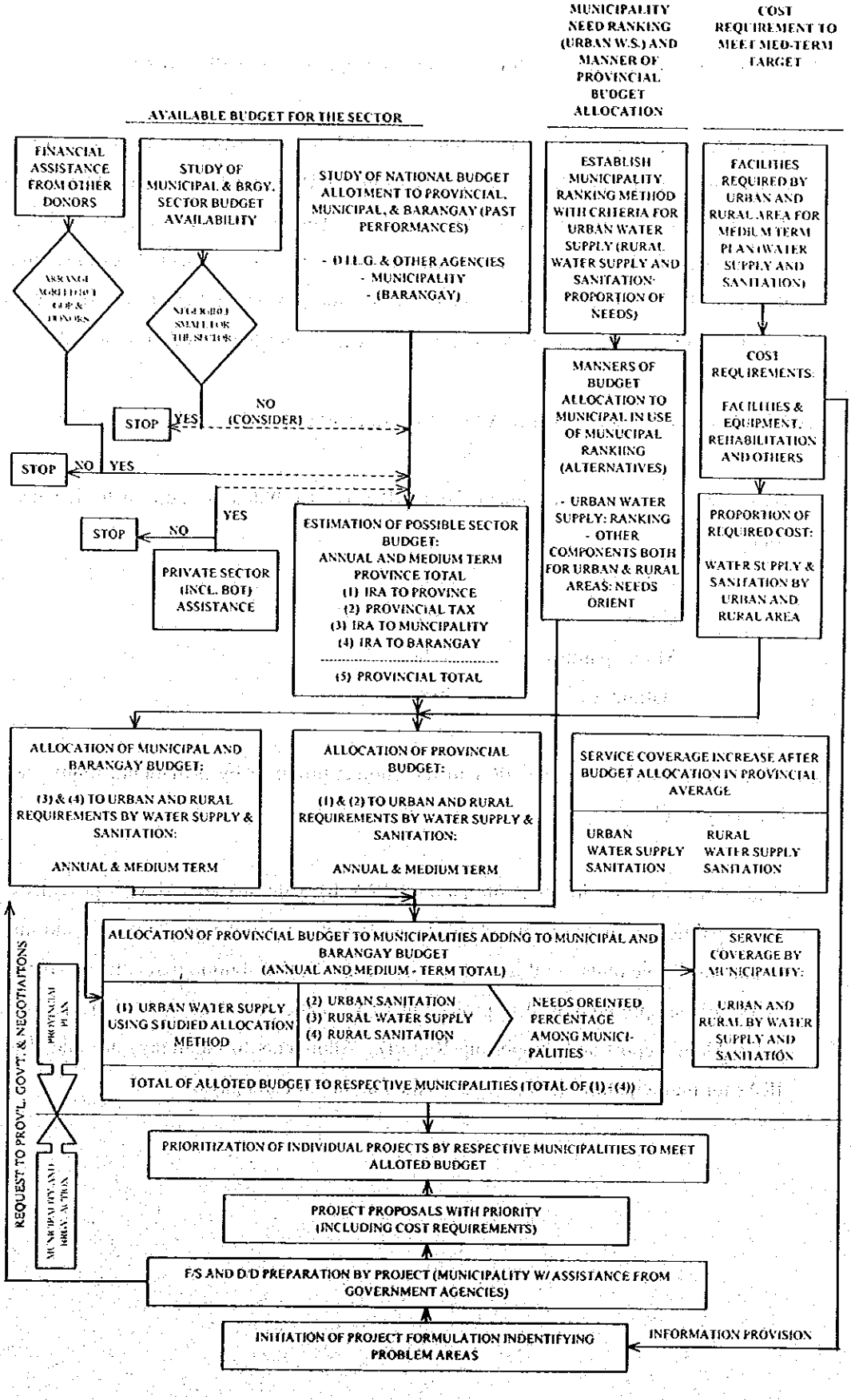


Figure 11.2.1 shows the calculation procedure with assumptions and Tables 11.2.1 and 11.2.2 present the calculation results. Calculation process is further described as follows:

(1) Projection of annual IRA to all LGUs in the Philippines from 2001 to 2005

The IRA projection for the period 2001 to 2002 have been derived as equivalent to 40% of the total revenues of the actual National Internal Revenue Taxes of the 3rd Fiscal Year preceding the current year (e.g. 1997 to 1999). This 40% ratio is based on the Local Government Code in 1991. For the years 2003 to 2005, the projected National Internal Revenue Taxes by DOF served as the basis for projecting the IRA. Projected IRA registered an annual average growth rate of 11 percent for the period 2001 to 2005.

(2) Distribution of national total IRA to each administrative unit

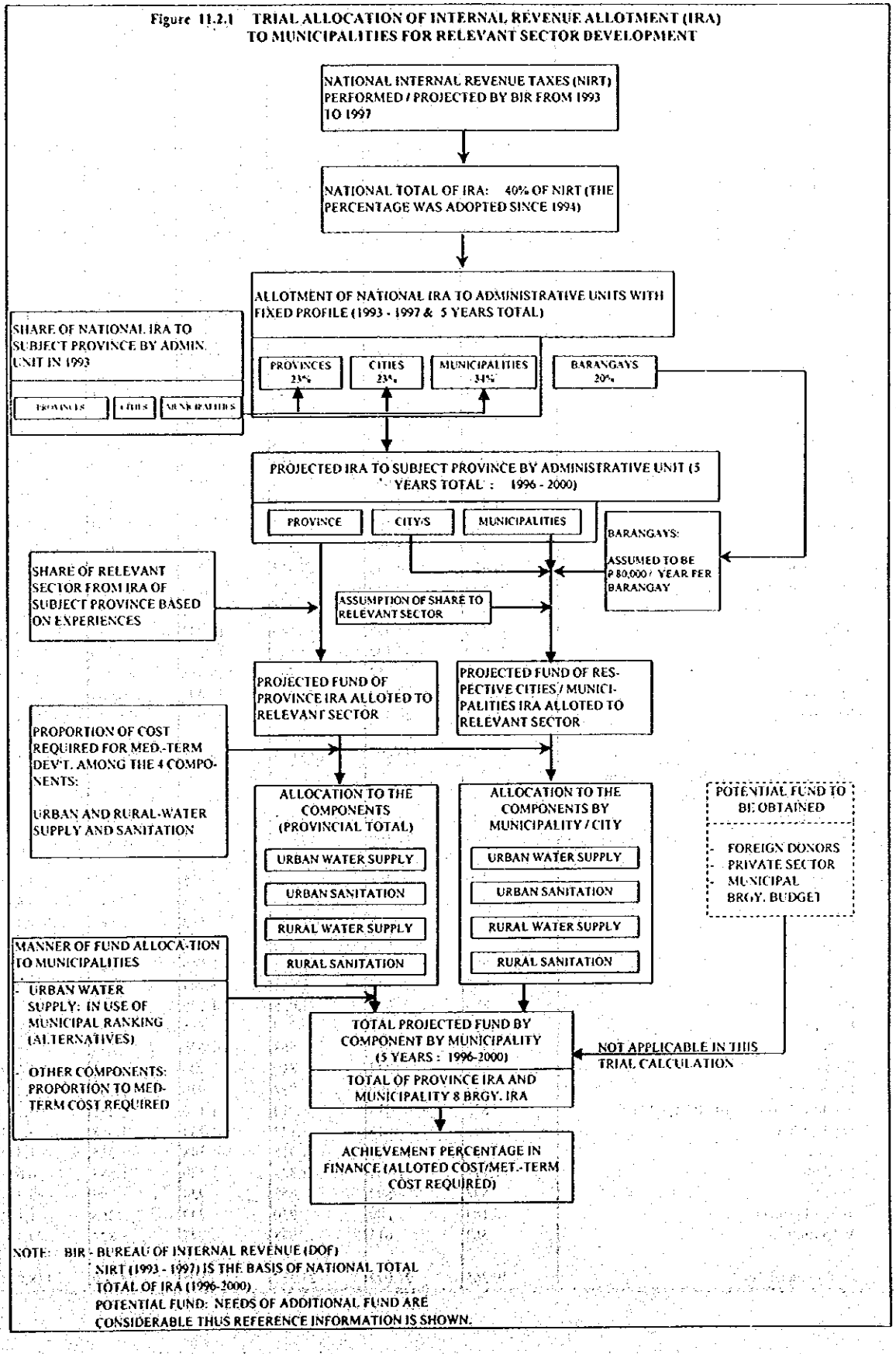
Based on the Local Government Code, IRA is distributed by administrative level as follows:

Provinces	23%
Cities	23%
Municipalities	34%
Barangays	20%

(3) Distribution of national total IRA to the subject province by provincial, municipal and barangay level

With reference to allocation of national IRA by administrative level, provinces and municipalities are based on weighted three (3) factors: population, land area and number of administrative units. In this analysis, however, the distribution percentage experienced in 1999 is simply employed in projecting IRA for the period 2001-2005 (refer to Table 6.2.2, Main Report and Supporting Report). Allotments to barangays are added to the IRAs for municipalities (₱80,000 times the number of barangays).

Figure 11.2.1 TRIAL ALLOCATION OF INTERNAL REVENUE ALLOTMENT (IRA) TO MUNICIPALITIES FOR RELEVANT SECTOR DEVELOPMENT



NOTE: BIR - BUREAU OF INTERNAL REVENUE (DOF)
NIRT (1993 - 1997) IS THE BASIS OF NATIONAL TOTAL
TOTAL OF IRA (1996-2000)
POTENTIAL FUND: NEEDS OF ADDITIONAL FUND ARE CONSIDERABLE THUS REFERENCE INFORMATION IS SHOWN.

Table 11.2.1 Projected Internal Revenue Allotment for Medium-Term Sector Development

Unit: P 1,000

		2001	2002	2003	2004	2005	Total
1	40% of Actual/Projected National Internal Revenue Taxes of the 3rd Fiscal Year preceding the current year	115,801,280	127,449,920	142,317,600	157,972,536	175,349,515	718,890,851
2	Internal Revnue Allotment to all LGUs						
	(a) province (23%)	26,634,294	29,313,482	32,733,048	36,333,683	40,330,388	165,344,896
	(b) cities (23%)	26,634,294	29,313,482	32,733,048	36,333,683	40,330,388	165,344,896
	(c) municipalities (34%)	39,372,435	43,332,973	48,387,984	53,710,662	59,618,835	244,422,889
	(d) barangays (20%)	23,160,256	25,489,984	28,463,520	31,594,507	35,069,903	143,778,170
	(e) total IRA to all LGUs	115,801,280	127,449,920	142,317,600	157,972,536	175,349,515	718,890,851
3	Projected IRA to Subject Province by Administrative Unit						
	(a) province	256,619	282,433	315,380	350,072	388,580	1,593,083
	(b) municipalities/city including barangays	415,888	452,975	500,311	550,153	605,478	2,524,804
	Anini-y	17,951	19,571	21,640	23,818	26,235	109,215
	Barbaza	21,196	23,015	25,336	27,779	30,492	127,817
	Belison	12,753	13,947	15,471	17,076	18,858	78,104
	Bugasong	25,435	27,776	30,764	33,910	37,403	155,287
	Caluya	18,618	20,346	22,552	24,874	27,452	113,841
	Culasi	28,902	31,455	34,714	38,146	41,954	175,171
	Hamtic	28,508	30,997	34,174	37,520	41,234	172,433
	Laua-an	21,736	23,601	25,981	28,487	31,268	131,073
	Libertad	15,682	17,107	18,925	20,840	22,965	95,520
	Pandan	22,728	24,741	27,310	30,015	33,017	137,811
	Patnongon	24,469	26,640	29,412	32,331	35,570	148,422
	San Jose de Buenavista (Capital)	27,856	30,432	33,721	37,184	41,028	170,221
	San Remigio	31,112	33,879	37,412	41,131	45,259	188,794
	Sebaste	14,100	15,438	17,146	18,944	20,939	86,567
	Sibalom	37,020	40,132	44,104	48,287	52,930	222,473
	Tibiao	21,280	23,252	25,769	28,418	31,360	130,079
	Tobias Fomier	27,818	30,214	33,272	36,492	40,066	167,863
	Valderrama	18,724	20,431	22,609	24,902	27,448	114,114
	(c) Provincial Total	672,507	735,408	815,691	900,225	994,057	4,117,888
4	Project fund of IRA to Relevant Sector by Administrative Unit						
	(a) province	7,699	8,473	9,461	10,502	11,657	47,793
	(b) municipalities/city including barangays	11,566	12,599	13,916	15,303	16,843	70,227
	Anini-y	539	587	649	715	787	3,276
	Barbaza	636	690	760	833	915	3,835
	Belison	383	418	464	512	566	2,343
	Bugasong	763	833	923	1,017	1,122	4,659
	Caluya	559	610	677	746	824	3,415
	Culasi	867	944	1,041	1,144	1,259	5,255
	Hamtic	855	930	1,025	1,126	1,237	5,173
	Laua-an	652	708	779	855	938	3,932
	Libertad	470	513	568	625	689	2,866
	Pandan	682	742	819	900	991	4,134
	Patnongon	734	799	882	970	1,067	4,453
	San Jose de Buenavista (Capital)	836	913	1,012	1,116	1,231	5,107
	San Remigio	933	1,016	1,122	1,234	1,358	5,664
	Sebaste	259	284	315	348	385	1,592
	Sibalom	1,111	1,204	1,323	1,449	1,588	6,674
	Tibiao	542	592	657	724	799	3,314
	Tobias Fomier	184	200	220	242	265	1,112
	Valderrama	562	613	678	747	823	3,423
	(c) Provincial Total	19,265	21,072	23,377	25,805	28,500	118,019

Table 11.2.2 Projected Allotment of IRA to the Relevant Sector by Component, 2001-2005

Unit: P 1,000

Allocation of IRA to Provincial Units	Urban Water Supply	Rural Water Supply	Urban Sanitation	Rural Sanitation	Total
1. Province	21,636		9,314	16,843	47,793
2. Municipalities					
Anini-y	582		420	2,275	3,276
Barbaza	1,367		970	1,498	3,835
Belison	1,727		596	20	2,343
Bugasong	2,385		857	1,417	4,659
Caluya			1,456	1,960	3,415
Culasi	2,288		641	2,327	5,255
Hamtic	1,698		607	2,868	5,173
Laua-an	1,806		400	1,727	3,932
Libertad	1,143		768	955	2,866
Pandan			1,019	3,115	4,134
Patnongon	1,373		654	2,426	4,453
San Jose de Buenavista (Capital)	4,144		962	1	5,107
San Remigio	860		1,240	3,564	5,664
Sebaste			1,582	10	1,592
Sibalom	2,990		570	3,114	6,674
Tibiao			1,228	2,086	3,314
Tobias Fornier			1,112		1,112
Valderrama	1,671		615	1,137	3,423
3. Total	45,667		25,011	47,342	118,019

(4) Projection of available IRA to the relevant sector by administrative unit of the province

According to the Provincial Annual Report in 1998, less than one percent of provincial IRA on the average was availed for the water supply and sanitation sector. However, referring to the experience in other provinces, provincial allocation to the relevant sector is assumed to be about 3%. This means that approximately 15% of "20% Development Fund" from national IRA are counted on sector projects. The same percentage is applied for the allocation of municipal IRA to the sector.

(5) Available IRA of municipalities by sub-sector

Available municipal fund for the four components (urban and rural water supply, and urban and rural sanitation) is estimated as a sum of respective components in combination

of those allocated from the province and distributed in each municipality. Distribution of sector total fund to sub-components both in the provincial and municipal levels is arranged in proportion to the direct construction cost required for Phase I development. ADB will finance the rural sector component, hence, no IRA was allotted to this sub-sector.

With regards to the distribution of provincial IRA for urban water supply to respective municipalities, weighing method with ranking is employed, which will be discussed in detail in Section 11.4. For the other components, provincial IRA is distributed to municipalities in proportion to their required costs in Phase I (refer to Table 11.2.2).

The projected provincial IRA to the sector during the period of 2001-2005 is estimated at ₱118.02 million, which is equivalent to 2.86% of combined provincial and municipal IRA. This percentage is computed based on the result of adjustment in use of IRA for those municipalities, required cost of which is lower than the allotted IRA. With regard to the allocation to sub-sectors, rural sanitation has the largest allotment of 40.11% (₱47.34 million out of the total ₱118.02 million) followed by urban water supply (38.7% or ₱45.67 million). Urban sanitation is allotted ₱25.01 million (21.2%). The proportion of IRA allotment for the sub-sectors differs by municipality and depends on their priority sub-sectors.

In the allocation of municipal IRA, Sibalom has the largest allotment with ₱6.67 million (5.65%) followed by the municipality of San Remigio with ₱5.66 million (4.80%).

11.3 Additional Funding Requirements

Annual cost required for the whole province during the medium-term development is summarized in Table 11.3.1 referring to the study results in Chapter 10. The total cost required covers physical contingency; 10% of the direct cost and price contingency; 7% per year covering the direct cost and physical contingency, and value added tax. Details of implementation arrangements for annual investment are shown in Table 11.3.1, Supporting Report. The required cost excluding price contingency was also shown in the Table to compare with available IRA on a current price level.

Table 11.3.2 presents additional funding requirements of the province on the current price level (or shortfall in funding), which are figured out comparing with available fund for the relevant sector (IRA) in the province over the Phase I requirements. Other funds such as

those provided by foreign assistance and local tax portions are kept blank to supplement upon confirmation of additional funds available. Out of ₱154.57 million required on 1999 price level for Phase I (2001-2005), IRA can fund only ₱118.02 million or 76.3% of the requirements. Hence, there is a shortfall of ₱46.01 million in funding in consideration of contingencies, price escalation and value added tax.

Municipal achievement percentages in finance (1998 price level) are shown in Table 11.3.3 in provision of available fund originated by IRA against Phase I financial requirements. The percentages of Anini-y, Caluya, Pandan, San Remigo, Sebaste, Tibiao, and Tobias Fornier (100%) are the highest among the municipalities. Majority is in the range between 76% and 96% to the respective requirements, while the provincial average is 76% (58% in consideration of contingencies and VAT).

11.4 Medium-Term Implementation Arrangements

The financial requirements to meet Phase I target coverage are substantial. However, projected funding available (IRA) in application of past trend revealed that considerable amount of additional fund must be arranged. Under this situation, reference scenarios are discussed with the assumption of different levels of funding availability with reference to service coverage. Alternative countermeasures are also discussed in view of (1) acquisition of external funds, (2) augmentation of sector finance under current arrangements (IRA and others), (3) introduction of private sector participation to mitigate public investment needs, and (4) effective and economical investments.

11.4.1 Reference Scenarios in Different Funding Levels

Achievement levels of service coverage in the target year are examined in assumption of five funding levels. It is regarded that the service coverage is increased in proportion to the investment during Phase I period. The relationships between funding levels and corresponding percentages of service coverage are illustrated in Figure 11.4.1 and Figure 11.4.2 for water supply and sanitation sectors, respectively.

Table 11.3.1 Financing Requirement by Sector Component for the Province

Unit: P 1,000

Sector Components	2001	2002	2003	2004	2005	Total 2001-2005	Total 2006-2010
Direct Cost							
1. Direct Construction Cost							
Urban Water Supply							
Level III System	0	9,596	14,395	14,395	9,596	47,982	352,992
Rural Water Supply							
Level II System	0	0	0	0	0	0	0
Level I Facilities	0	0	0	0	0	0	414,920
Urban Sanitation							
Household toilet	0	119	179	179	119	596	0
Public school toilet	0	1,915	2,872	2,872	1,915	9,574	3,269
Public toilet	0	2,097	3,146	3,146	2,097	10,486	4,339
Disinfection of Level I Deep Well and Shallow	33	61	61	61	61	278	0
Rural Sanitation							
Household toilet	0	447	670	670	447	2,234	5,945
Public school toilet	0	6,912	10,367	10,367	6,912	34,558	104,842
Disinfection of Level I Deep Well and Shallow	107	196	196	196	196	890	172
Urban Sewerage	N/A	N/A	N/A	N/A	N/A	N/A	270,669
Sub-total	140	21,343	31,886	31,886	21,343	106,597	1,157,147
2. Procurement of Vehicle/Equipment/Maintenance tools							
Well drilling rig and service truck with crane	0	0	0	0	0	0	26,782
Support vehicle	0	590	0	0	0	590	0
Well rehabilitation equipment	0	280	0	0	0	280	0
Maintenance tools	0	36	54	54	36	180	0
Water quality testing kit	0	3	5	5	3	15	0
Sub-total	0	909	59	59	39	1,065	26,782
3. Water Quality Laboratory	478	0	0	0	0	478	0
4. Sector Management Cost							
Engineering Studies							
Feasibility study and detail design	7,075	2,159	0	0	0	9,234	79,248
Construction supervision	0	821	1,231	1,231	821	4,175	35,221
Institutional Development	2,398	2,254	1,599	943	799	7,994	79,248
Sub-total	9,473	5,234	2,830	2,175	1,620	21,402	193,717
Total Direct Cost	10,091	27,486	34,774	34,119	23,002	129,542	1,377,647
Contingencies							
1. Physical Contingency	1,909	2,749	3,477	3,412	2,300	12,947	137,765
2. Price Contingency	1,608	6,804	11,888	15,108	12,670	48,078	N.A
3. Value-Added Tax (VAT)	769	2,523	3,318	3,318	2,220	12,148	N.A
Total Investment Cost	13,478	39,562	53,458	55,956	40,192	202,715	1,515,411
Total Investment Cost (excluding Price Contingency)	11,869	32,758	41,569	40,848	27,522	154,567	1,515,411

Note: Institutional development includes:
1. Capacity enhancement programs,
2. Community management program,
3. Health and hygiene educations,
4. Water quality surveillance, and
5. Administrative support.

Table 11.3.2 Additional Fund Requirement for the Medium-Term Plan

Unit: P 1,000

	2001	2002	2003	2004	2005	Total 2001-2005
Financing Requirement	11,869	32,758	41,569	40,848	27,522	154,567
Expected available fund						
National						
Local (IRA)	19,265	21,072	23,377	25,805	28,500	118,019
Others						
Total	19,265	21,072	23,377	25,805	28,500	118,019
Shortfall in funding	-7,396	11,686	18,192	15,043	-978	36,547
(Additional Fund Requirements)	-7,913	13,379	22,286	19,718	-1,371	46,098

Note: Shortfall in funding: above - current year price level.
below - current year price escalated at 7% per year.

Three reference scenarios are discussed with respect to different levels of funding. These scenarios will be referred to in combination with alternative countermeasures discussed in Section 11.4.2. Using computer-based programs, these scenarios may be modified by policy makers according to updated information and policy on the available fund and sector targets.

(1) The First Reference Scenario

No funding constraints are considered in this scenario to realize Phase I development as planned. This scenario is too optimistic based on the past experience of the province.

(2) The Second Reference Scenario

An intermediate scenario with 50-75 % funding ranges are considered. Urban water supply coverage in the year 2005 is attained between 76-78%. For urban and rural sanitation (household toilets), coverage will reach 81-85% and 74-80%, respectively based on the assumption that required private investments are followed.

(3) The Third Reference Scenario

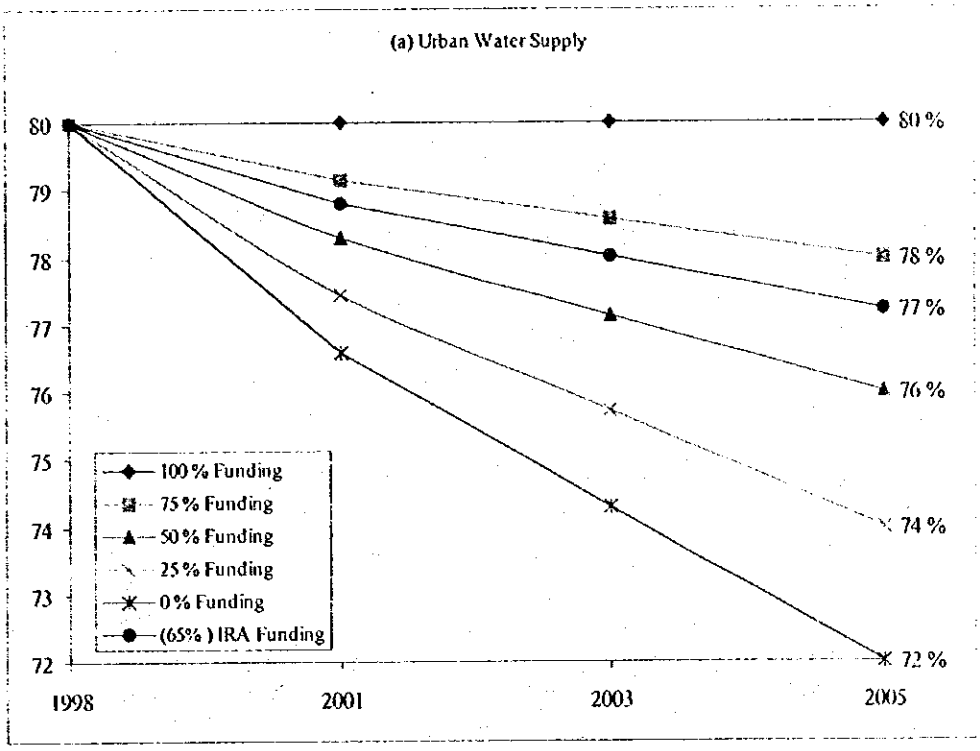
In the scenario of 25% funding against the total requirements of Phase I, urban water supply coverage in the year 2005 will be attained at 74%, while urban and rural sanitation coverage will be at 76% and 69%. All sub-sectors will not be able to keep current service levels.

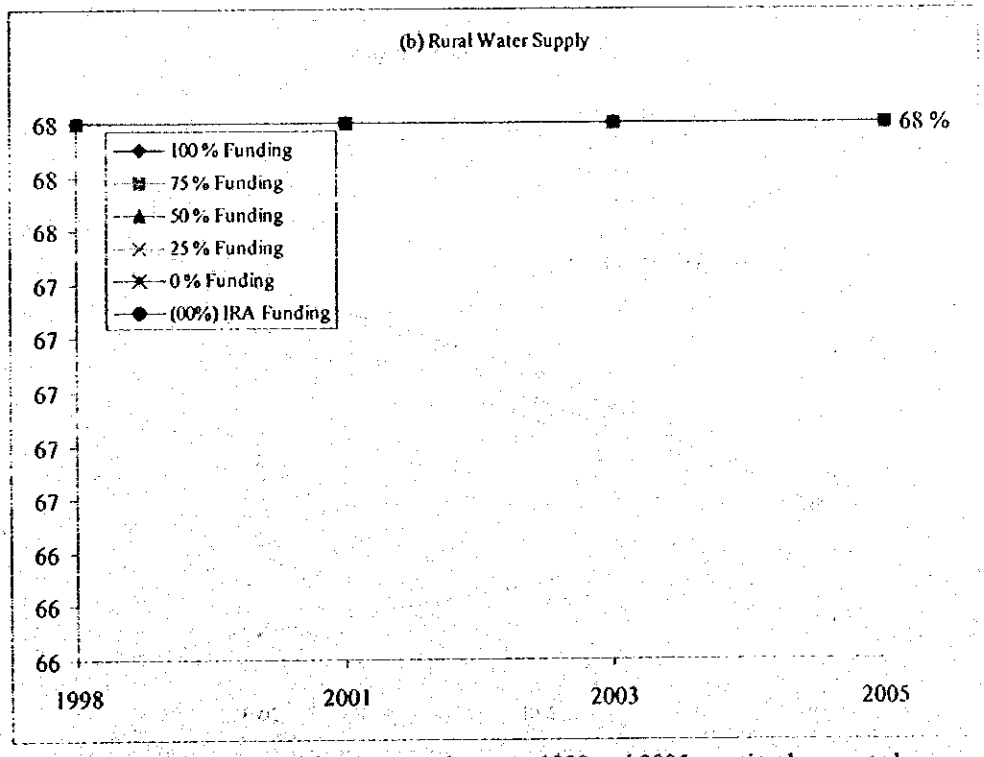
Table 11.3.3 Internal Revenue Allotment for Water Supply and Sanitation Sector by Municipality
(Medium-term Development, 2001-2005)

Unit: P 1,000

Name of Municipality	IRA Allocation to Municipalities												Available Fund of Municipality (a)	Phase I Investment Cost Requirement (b)	Achievement Percentage (%) in Finance (a)/(b)
	Urban Water Supply			Rural Water Supply			Urban Sanitation			Rural Sanitation					
	Allotted from Provincial Government	Allotted Municipality Fund	Total	Allotted from Provincial Government	Allotted Municipality Fund	Total	Allotted from Provincial Government	Allotted Municipality Fund	Total	Allotted from Provincial Government	Allotted Municipality Fund	Total			
Anini-y	154	582	736				259	420	679	457	2,275	2,732	4,147	4,147	100
Barbaza	1,381	1,367	2,748				698	970	1,668	1,213	1,498	2,711	7,127	7,710	92
Belison	2,313	1,727	4,040				587	596	1,184	299	20	319	5,543	6,258	89
Bugasong	2,313	2,385	4,698				771	857	1,628	1,399	1,417	2,816	9,141	11,877	77
Caluya							382	1,456	1,837		1,960	1,960	3,797	3,797	100
Culasi	2,030	2,288	4,318				469	641	1,110	1,640	2,327	3,967	9,395	9,920	95
Hamtic	1,743	1,698	3,441				475	607	1,082	2,080	2,868	4,948	9,471	10,484	90
Laua-an	1,608	1,806	3,414				329	400	728	1,292	1,727	3,019	7,161	7,435	96
Libertad	1,244	1,143	2,387				591	768	1,359	899	955	1,853	5,599	5,985	94
Pandan							481	1,019	1,500	451	3,115	3,567	5,067	5,067	100
Patnongon	2,313	1,373	3,686				681	654	1,335	2,458	2,426	4,884	9,905	12,914	77
San Jose de Buenavista (Cap	2,313	4,144	6,457				2,009	962	2,971	285	1	286	9,713	32,856	30
San Remigio	248	860	1,108				590	1,240	1,830	800	3,564	4,364	7,302	7,302	100
Sebaste								1,582	1,582		10	10	1,592	1,592	100
Sibalom	2,313	2,990	5,303				517	570	1,087	2,587	3,114	5,701	12,091	15,974	76
Tibiao								1,228	1,228		2,086	2,086	3,314	3,314	100
Tobias Fornier								1,112	1,112				1,112	1,112	100
Valderrama	1,661	1,671	3,332				474	615	1,089	983	1,137	2,120	6,541	6,824	96
Total	21,636	24,031	45,667				9,314	15,697	25,011	16,843	30,499	47,342	118,019	154,568	76

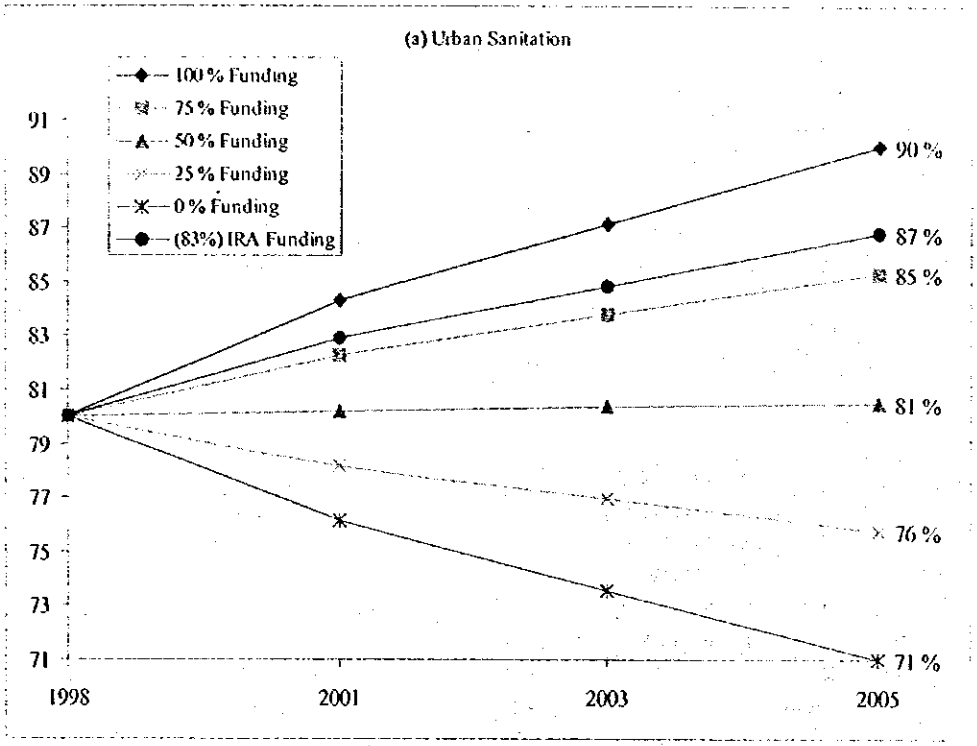
Figure 11.4.1 Relation Between Funding Levels and Percent of Coverage for Water Supply Sector

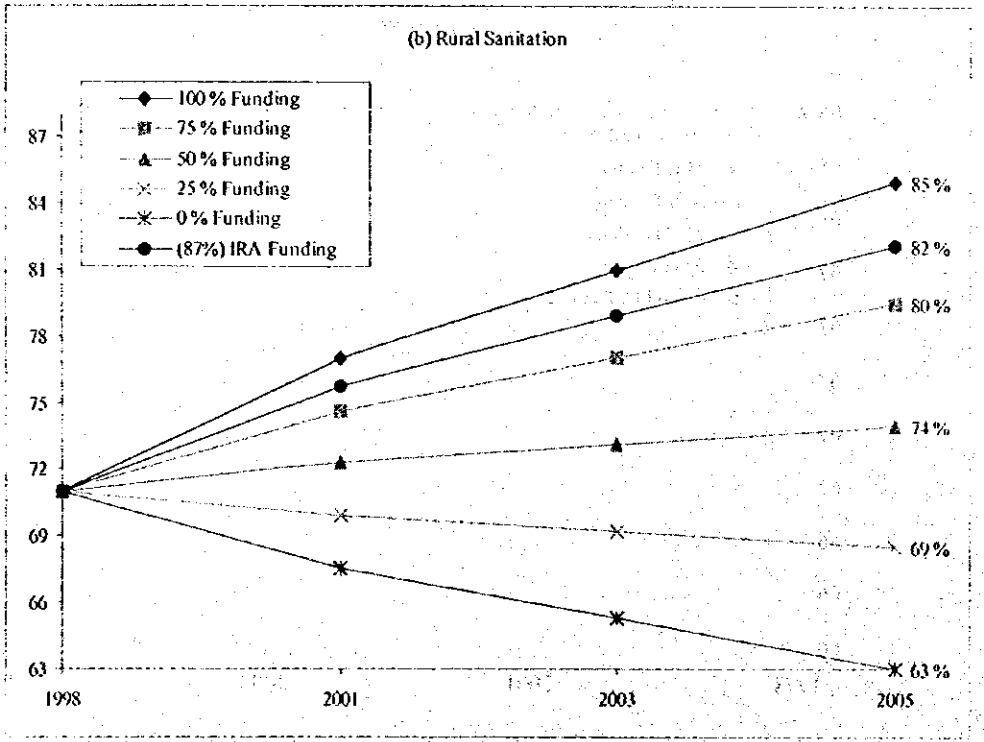




Note: Percentages of the coverage between 1998 and 2005 are simply prorated as the reference

Figure 11.4.2 Relation Between Funding Levels and Percent of Coverage for Sanitation Sector





Note: Percentages of the coverage between 1998 and 2005 are simply prorated as the reference

The allocated IRA funding of urban water supply in the year 2005 will be 65% which will cover 77% of the population. In order to attain the Phase I development target of 80% service coverage, it needs an additional IRA funding of 35%.

For urban and rural sanitation, 100% funding shall have coverage percentage of 90% and 85%, respectively. However, at IRA funding of 83% and 87%, service coverage will only be at 87% and 82%. Thus, to meet the Phase I development targets of 90% and 85% of the population, additional IRA funding of 17% and 13%, respectively, is required.

11.4.2 Alternative Countermeasures

This sub-section presents the means of financing the shortfall for the investment program.

(1) Acquisition of external funds

Foreign assistance has played a significant role in the development of the relevant sector in the past. Negotiations with the central government agencies (DILG, LWUA, etc.) are requisites to access the foreign funds. Development of new local financial mechanism is also needed for LGUs under current policy shifts to increase the opportunities of LGUs undertaking foreign-assisted projects.

As a matter of fact, Local Government Empowerment Fund (LGEF) was established in 1996 to provide a mechanism for channeling external grants and loans to 19 priority provinces under the Social Reform Agenda and/or those classified as 5th or 6th class LGUs (details are referred to Chapter 11.4.2, Supporting Report).

The foreign loan may be availed of at the maximum financing limit of 75% of the overall project cost. This can be secured by GOP and channeled through the MDF.

(2) Augmentation of sector finance under current arrangements

Increase of the IRA to the Relevant Sector

Increase of IRA from the national government to LGUs is at first needed along with current procedure. LGUs shall also arrange the funds with a priority to the relevant sector.

Local Taxes

More allocation of local taxes to the relevant sector shall be arranged although the share of local taxes in the provincial total budget is small.

Utilization of Other Local Funds

Utilization of other funds, Countryside Development Fund (CDF) in particular, shall be sought for development of the relevant sector.

(3) Introduction of private sector

Privatization of Level III Waterworks System

Privatization of Level III systems helps expedite sector development and sustainability of the system as suggested by NEDA Board Resolution No. 4 (series 1994).

LGU Guarantee Organization

LGU Guarantee Organization as a public-private corporation managed by private sector in the national level shall be studied to encourage private financing for the development of environmental infrastructure, which is introduced in other developing countries. The organization will guarantee local private loans to LGUs in provision of a longer term financing.

(4) Effective and economical investment

Investment Need Ranking of Municipalities

Investment need ranking of the municipalities is discussed as a guide for implementation of PW4SP and a measure for effective and economical public investment. Referring to this ranking, the provincial government will arrange its financial resources more effectively.

The ranking for urban water supply is specifically studied considering three factors, while a sole factor of additional requirements is assumed to coincide with the priority of other sub-sectors. Synthetic evaluation of concerned sub-sectors is finally presented in the context of comprehensive improvement of this sector. The result for urban water supply is employed for allocation of provincial IRA to the municipalities in the concerned sub-sector. The synthetic ranking may be availed for the huge investment in use of the funds to be provided by other donors in the future.

For the urban water supply component, the ranking criteria comprise three essential evaluation factors, namely: (a) percentage of underserved and unserved population in the base year; (b) percentage of underserved and unserved population in Phase I; and (c) percentage of population unserved by Level III Systems in the base year. First, these factors are scored by the range of underserved and unserved percentage and totaled by municipality with the application of weighing method. Adopted weight to the factors (a), (b) and (c) are 50%, 35% and 15%, respectively. Table 11.4.1 shows ranking procedures, overall weighted score and investment need ranking of the municipalities. The priority municipality is Hamtic followed by Valderrama.

With reference to the provincial fund allocation, 60% of the fund for urban water supply from provincial government is prioritized to the top five ranking municipalities, while the remaining 40% are distributed to the rest of the municipalities. In this case however, the top five municipalities would require only 28.6% of the provincial funds. 71.4% of the funds therefore were distributed to the rest of the municipalities. The result of distribution is shown in Table 11.4.2. The available funds for about half of the municipalities are adequate to meet the Phase I requirements for urban water supply.

To come up with the synthetic ranking of the municipalities, scoring method is also employed for other sub-sectors. The score is derived from the range of underserved and unserved percentage in the base year. Synthetic investment need ranking of municipalities covering four sub-sectors is shown in Table 11.4.3 (refer to ranking procedures in Table 11.4.1, Supporting Report). The top ranking municipalities are Laua-an, Valderrama, Bugasong, and Caluya which indicate that they are given priority for investments in all sub-sectors. The municipalities of Belison, Pandan, and San Jose de Buenavista are the least priority in terms of investment ranking.

11.5 National Government Assisted Level I Water Supply and Sanitation Project

Of the overall project requirements for the medium-term development, those for Level I water supply and sanitation improvement with possible assistance from the GOP were studied in application of new cost-sharing arrangement. In 1997, the six provinces in the Luzon area (after completion of PW4SP) jointly submitted the project proposal, as a package of 23rd OECF assisted loan, to the NEDA through the DILG for the limited sub-sectors under the above conditions. The loan agreement between the two parties was made on September, 1999.

Table 11.4.1 Municipal Investment Need Ranking for Urban Water Supply

Name of Municipality	Evaluation Factor			Scoring by the Factor			Overall Weighted Score	Investment Need Ranking
	% of Underserved and Unserved Population in Base Year	% of Underserved and Unserved Population in Phase I	% of Population Unserved by Level III Systems in Base Year	Underserved and Unserved Population in Base Year	Underserved and Unserved Population in Phase I	Population Unserved by Level III Systems in Base Year		
Anini-y	35	45	100	0.80	0.60	1.00	0.76	4
Barbaza	36	50	74	0.80	0.80	0.80	0.80	3
Belison	15	28	100	0.40	0.40	1.00	0.49	7
Bugasong	17	28	31	0.40	0.40	0.40	0.40	13
Caluya	8	17	100	0.20	0.40	1.00	0.39	14
Culasi	18	23	18	0.40	0.40	0.20	0.37	16
Hamtic	58	62	62	1.00	1.00	0.80	0.97	1
Laua-an	20	29	100	0.40	0.40	1.00	0.49	7
Libertad	24	43	100	0.60	0.60	1.00	0.66	5
Pandan	8	16	8	0.20	0.40	0.20	0.27	18
Patnongon	25	34	61	0.60	0.60	0.80	0.63	6
San Jose de Buenavista (Capital)	20	29	76	0.40	0.40	0.80	0.46	10
San Remigio	20	28	100	0.40	0.40	1.00	0.49	7
Sebaste	14	15	72	0.40	0.20	0.80	0.39	14
Sibalom	15	27	45	0.40	0.40	0.60	0.43	12
Tibiao	17	17	73	0.40	0.40	0.80	0.46	10
Tobias Fornier	13	17	16	0.40	0.40	0.20	0.37	16
Valderrama	39	47	100	0.80	0.80	1.00	0.83	2
Provincial Total	20	28	67					

Note: 1. Scoring to Underserved and Unserved Percentage.

Score	Range of Underserved and Unserved Percentage		
1.0	41 < %	61 < %	81 < %
0.8	31 < % < 40	46 < % < 60	61 < % < 80
0.6	21 < % < 30	31 < % < 45	41 < % < 60
0.4	11 < % < 20	16 < % < 30	21 < % < 40
0.2	% < 10	% < 16	% < 20

2. Weight Allocation to Score.

50	35	15	Allocated Weight

Table 11.4.2 Distribution of Provincial IRA to Municipalities for Urban Water Supply

Unit: P 1,000

Ranking	Name of Municipalities	Fund Distribution		IRA to Municipalities from National Government (2)	Available Fund Distributed to Municipalities (1) + (2)	Phase I Requirements	Accomplishment Percentage (%)
		Fund Distribution from Provincial Government (1)	Distribution Percentage (%)				
4	Anini-y	154	0.71	582	736	736	100
3	Barbaza	1,381	6.38	1,367	2,748	2,748	100
7	Belison	2,313	10.69	1,727	4,040	4,611	87.61
13	Bugasong	2,313	10.69	2,385	4,698	6,080	77.27
14	Caluya						
16	Culasi	2,030	9.38	2,288	4,318	4,318	100
1	Hamtic	1,743	8.06	1,698	3,441	3,441	100
7	Laua-an	1,608	7.43	1,806	3,414	3,414	100
5	Libertad	1,244	5.75	1,143	2,387	2,387	100
18	Pandan						
6	Patnongon	2,313	10.69	1,373	3,686	3,982	92.57
10	San Jose de Buenavista (Capital)	2,313	10.69	4,144	6,457	26,659	24.22
7	San Remigio	248	1.15	860	1,108	1,108	100
14	Sebaste						
12	Sibalom	2,313	10.69	2,990	5,303	7,156	74.10
10	Tibiao						
16	Tobias Fornier						
2	Valderrama	1,661	7.67	1,671	3,332	3,332	100
Total		21,636	100	24,031	45,667	69,972	65.26

In the same context as proposed by the six provinces, project components with scope of work and financial viability were studied. However, Level I rural water supply component was excluded in this study, since on-going ADB assisted project will cover the requirements for medium-term development target. While. Some sanitation components beyond the scope of the said ADB assisted project were studied for limited classes of the municipality to meet the established provincial target in 2005.

The DILG is assumed to be Executing Agency and the province Implementing Agency in the meantime. The project may be merged together with those of the 3rd batch provinces in preparation of the PW4SP. The implementation of a packaged project may be realized in the near future.

Table 11.4.3 Municipal Investment Need Ranking

Name of Municipality	Weighted Score by Sub-sector					Synthetic
	Urban Water Supply	Rural Water Supply	Urban Sanitation	Rural Sanitation	Total Weighted Score	Municipal Investment Need Ranking
Anini-y	0.19	0.10	0.10	0.05	0.44	10
Barbaza	0.20	0.10	0.10	0.10	0.50	7
Belison	0.12	0.05	0.10	0.05	0.32	16
Bugasong	0.10	0.10	0.20	0.15	0.55	3
Caluya	0.10	0.10	0.20	0.15	0.55	3
Culasi	0.09	0.10	0.10	0.15	0.44	9
Hamtic	0.24	0.10	0.10	0.10	0.54	5
Laua-an	0.12	0.25	0.25	0.05	0.67	1
Libertad	0.17	0.10	0.10	0.10	0.47	8
Pandan	0.07	0.05	0.15	0.05	0.32	16
Patnongon	0.16	0.10	0.10	0.05	0.41	12
San Jose de Buenavista (Capital)	0.12	0.05	0.10	0.05	0.32	16
San Remigio	0.12	0.05	0.20	0.15	0.52	6
Sebaste	0.10	0.10	0.10	0.05	0.35	15
Sibalom	0.11	0.10	0.10	0.05	0.36	14
Tibiao	0.12	0.05	0.10	0.10	0.37	13
Tobias Fornier	0.09	0.10	0.20	0.05	0.44	10
Valderrama	0.21	0.15	0.15	0.10	0.61	2

11.5.1 Project Components

(1) Sanitation Component

There are eighteen (18) eligible municipalities to meet the condition for GOP-assisted projects (limited to 3rd to 6th municipalities) in sanitation sub-sector. The sanitation component comprises 22 public toilets and 193 school toilets to the rural communities. With the integration of sanitation in the water supply projects, equal emphasis shall be given to sanitation component to ensure a greater health impact in the rural communities. Distribution of toilet bowl (pour flush only) is one of the components of sanitation sub-sector in medium-term development plan, however, it shall be excluded from GOP-assisted projects due to the current practice of NEDA. School toilet will be constructed for public school in the rural areas (50%: toilet facility/classroom and 50%: standard toilet building), while public toilets will be constructed at public markets and bus terminals in urban areas. Health consciousness among the rural people will also be bolstered with the provision of health education training and IEC materials.

(2) Equipment/Commodity Assistance

The works for Level I facilities and the supporting vehicle/equipment will be managed through ADB-assisted project. Thus, such items shall be excluded from the proposed project.

(3) Consultancy Services

Considering the magnitude and complexity of the project, consulting services and technical assistance may be availed to strengthen the executing and implementing agencies' capabilities in undertaking the project. The services will cover technical and institutional/community development aspects of the project.

During the detailed design stage, the services will cover finalization of construction sites based on site selection criteria to be developed, and preparation of bidding documents. Guidelines and training program for strengthening the capability of implementing agencies and NGOs will be prepared and carried out. The construction stage will include assistance to LGUs in the supervision of construction works, community organizing and training works.

(4) Institutional Development

The project entails community development with people's active participation to assure the responsibility for O&M of the facilities and strengthening of existing institution/organization and/or formation of new ones. Thus, various activities will be undertaken from national to beneficiary levels. A sufficient cost for the purpose will be taken into account.

11.5.2 Project Requirements

The province will manifest its willingness to participate in the project entailing timely arrangements to meet NEDA requirements. These requirements are (1) RDC Endorsement, (2) ECC clearance and (3) Letter of Commitment. Water right permit from the National Water Resources Board will be fulfilled after site selection and preparatory works have been undertaken. In addition, Memorandum of Agreement (MOA) on the cost-sharing and other arrangements required for the project will be exchanged between the province and concerned municipalities.

11.5.3 Funding Requirements

(1) New cost Sharing Policy

The project finance was studied in accordance with the 50%-50% cost sharing arrangement (50% is an average municipality's share among concerned municipalities) between the GOP and the LGUs. Financial sharing among the province, municipality and barangay shall then be clarified based on the estimated cost requirements through MOA.

The new policy of the national government grants for devolved activities stated that "this scheme shall be applied to all new ODA-assisted projects that are currently being packaged in support of LGUs". With regard to this, 50% national government share will be applied for Level I water supply and even 70% of NG share for 5th and 6th classes of municipalities for sanitation component (refer to Table 11.5.1).

Table 11.5.1 New Cost-Sharing Arrangement between NG and LGUs

Sector/Activity	LGU Income	Devised NG	Remarks
Water Supply: Level I only	1st to 4th	0	No GOP grants for Level II & III water supply
	5th to 6th	50	
Sanitary Support Facility for Public Markets and Slaughter houses	1st to 2nd	0	
	3rd and 4th	50	
	5th and 6th	70	

(2) Financial Viability

1) Conditions and Assumptions for Financial Study

- The cost-sharing between the GOP and LGUs is 50% : 50% of the overall project cost. While, it is assumed that the 50% share of LGU is further allocated to the LGUs and beneficiaries with 47% and 3% to the overall cost, respectively.
- The financial sources of the national government are the loan from foreign donor and GOP counterpart budget, and LGUs from the budget of the province and municipalities. The cost-sharing part by beneficiaries is equity contribution including land, material purchase cost, right of way, labor, etc.
- The O&M cost is managed by the beneficiaries.

2) Project Cost

The cost estimate was made based on 1998 price level in Chapter 10. Then, physical and price contingencies as well as value-added tax were added. The project cost for the concerned municipalities in line with above conditions/assumptions is shown in Table

11.5.2. Overall aggregate cost for the implementation period of 2001 - 2005 arrived at about ₱96.1 million (₱69.6 million in 1998 price level) referring to the implementation schedule of the project.

3) Financial Arrangement

The two alternatives for the financial arrangements are studied to prepare required cost to be shared among concerned parties: i) Utilization of IRA only and ii) Utilization of IRA and MDF.

Case 1: Utilization of IRA fund only

Currently, there is no projection on drastic increase of LGUs' budget through the future. Under such a condition, the following are considered.

- Potential fund is the IRA annually allotted from the GOP to municipalities and from province to municipalities. Municipal tax is negligible small in the allocation to the sector. The total municipal budget available was projected by sub-sector in Section 11.3.
- Arrangements by the municipalities with MDF and banks are disregarded considering current financial capability of the municipalities.
- 5-year development program (from 2001 to 2005) is applied to increase project fund using available IRA

Applying the cost-sharing arrangement, the IRA available was estimated for the eligible municipalities in provision of national government grant fund based on the following conditions.

a) The available fund of sub-sectors is a sum of municipal and provincial allotments of IRA

b) For water supply sub-sector, IRA to municipalities with income classification of 5th and 6th classes is counted. The IRA allotted to the province is divided into two groups; classes 1st to 4th and 5th & 6th in proportion to the construction cost required. The provincial IRA for the eligible municipalities is considered for this project.

c) For sanitation sub-sector, IRA to the eligible municipalities is regarded as available fund. The manner of allocation of provincial IRA to the eligible municipalities (3rd to 6th) is same as that in water supply sub-sector.

Table 11.5.2 GOP-Assisted Level I Water Supply and Sanitation Project Cost

(Unit: Peso)

Category	Qty.	Unit Cost	Amount	GOP		LGU
				Foreign Loan	GOP/CP	
A. Const. & Civil Works						
Water Supply						
1. Deep Well (40m)	0	360,000	0			
2. Deep Well (80m)	0	535,000	0			
3. Deep Well (120m)	0	702,000	0			
4. Shallow Well	0	84,300	0			
5. Spring Development	0	737,600	0			
Sub-total a			0	0		0
Sanitation						
1. School Toilets	193	233,500	45,065,500			
2. Public Toilets	22	361,600	7,955,200			
Sub-total b			53,020,700	21,394,212		31,626,489
Land acquisition						
Land acquisition & Right of Way			0			0
Sub-total A			53,020,700	21,394,212		31,626,489
B. Equip./Logistic Support						
1. Support Vehicle	0	590,000	0	0		
2. Well Rehab. Eqt.	0	280,000	0	0		
3. Maintenance Tools	0	10,000	0	0		
4. Water Quality Test Kits	0	15,300	0	0		
Sub-total B			0	0		
C. Consultancy Services						
1. Hydrogeological Survey			0	0		
2. D/D and Const. Sv.			5,832,277	5,832,277		
Sub-total C			5,832,277	5,832,277		
D. Instiutional Devt.						
1. Capacity Enhanc. Prog.	L.S.		3,200,000	2,650,000	550,000	
2. Commu. Manag. Prog.	0	10,770	0	0	0	
3. Health & Hygiene Educ.	0	1,800	0		0	
4. Water Quality Surveil.	0	700	0		0	
5. NGO Assistance	0	1,200	0		0	
6. Administrative Support	L.S.		1,200,000		1,200,000	
Sub-total D			4,400,000	2,650,000	1,750,000	
E. Physical Contingency			6,325,298	2,987,649	175,000	3,162,649
Total (A+B+C+D+E)			69,578,275	32,864,137	1,925,000	34,789,137
GOP Total					34,789,137	
LGUs						32,701,789
Equity						2,087,348
LGUs + Equity						34,789,137
F. Others						
1. Price Contingency			23,834,784	13,300,933	704,466	9,829,386
2. Value Added Tax (VAT)			2,722,649		2,722,649	
Sub-total F			26,557,433	13,300,933	3,427,114	9,829,386
Grand Total			96,135,708	46,165,070	5,352,114	44,618,524

Note: (1) Equity of users includes land cost, right of way, labor, etc., equivalent to 3% of direct cost (excluding item F).

(2) N.A.: Not applicable

(3) Assumption/Conditions for Cost estimate

1) Direct cost: based on 1998 price level.

2) Pysical contengency: 10% of materials procured.

3) Price contingency: Forex 3%; local 7%; compounded annually, base year 1998

4) Value added tax: 10% materials produced.

The total IRA of the province available for the eligible municipalities in the subject sector was estimated at ₱71,344,000 as a total of 5-year development program, consisting of urban and rural sanitation (details are included in Table 11.5.1, 11.5.2 and 11.5.3, Supporting Report). The estimated IRA available is shown below.

Sub-sector	Provincial IRA	Municipal IRA	Total
Rural Sanitation:	16,544,000	30,469,000	47,013,000
Urban Sanitation:	9,054,000	15,277,000	24,331,000
Total:	25,598,000	45,746,000	71,344,000

Table 11.5.3 shows the cost sharing (1998 price level) for the project among the GOP, LGUs and beneficiaries (BWSAs).

The GOP shall shoulder 50% of the overall project cost, utilizing the foreign assisted loan of 47.2% or ₱32.9 million and 2.8% or ₱1.9 million of the government counterpart fund. The remaining 50% of the overall cost shall be shared between the LGUs by 47% or ₱32.7 million and BWSAs (beneficiaries) by 3% or ₱2.1 million.

Table 11.5.3 Cost-Sharing for the Project (Case 1): 1998 price level

Financial Source	x 1,000 Peso	Percentage		Remarks
GOP	1,925	2.8	50	GOP counterpart
	32,864	47.2		Foreign Loan
LGUs	32,702	47	50	IRA
	2,087	3		BWSA equity
Total	69,578	100		

The cost comparison was made between the estimated project cost to be shared by the LGUs and available IRA of LGUs in the implementation period. Considering contingencies and VAT, the IRA to be used by LGUs will increase to ₱41.9 million from ₱32.7 million (1998 price level). The required cost is estimated at about 60% of available IRA (₱71.3 million).

Case 2 Utilization of IRA and MDF

The utilization of the MDF is considered in case that the LGUs will fail to furnish IRA for the cost to be shared (even if estimated IRA available meets the required cost to be shared by the LGUs). The foreign loan may be availed of at the maximum financing limit of 75% of the overall project cost.

Thus, the GOP shall possibly support the LGUs through the MDF in case that manageable IRA will not be able to fill up the cost requirement of the project. Table 11.5.4 shows cost sharing scheme for the project (1998 price level) between the GOP and the LGUs.

GOP is possibly to finance up to ₱52.2 million or 75% of the total project cost in the portion of loan. Out of GOP finance through the loan, ₱32.9 million or 47.2% of the total project cost shall be granted to the LGUs, aside from 2.8% GOP counterpart fund.

The remaining ₱19.3 million or 27.8% of the total project cost shall be utilized for financing the LGUs to secure their budgetary capacity through MDF.

Table 11.5.4 Cost Sharing for the Project (Case 2): 1998 price level

Financial Source	x 1,000 Peso	Percentage			Remarks
GOP	1,925	2.8	4		GOP counterpart
	32,864	47.2	75	50	Foreign Loan
	(19,320)	(27.8)			Foreign Loan for MDF
LGUs	13,382	19.2	47		IRA
	19,320	27.8		50	MDF through Foreign Loan
	2,087	3	3		BWSA Equity
Total	69,578	100			

Under this case, the IRA to be used by the LGU will increase to ₱16.0 million from ₱13.4 million (1998 price level), considering price contingency, which is 22% of available IRA estimated in the previous study (₱71.3 million).

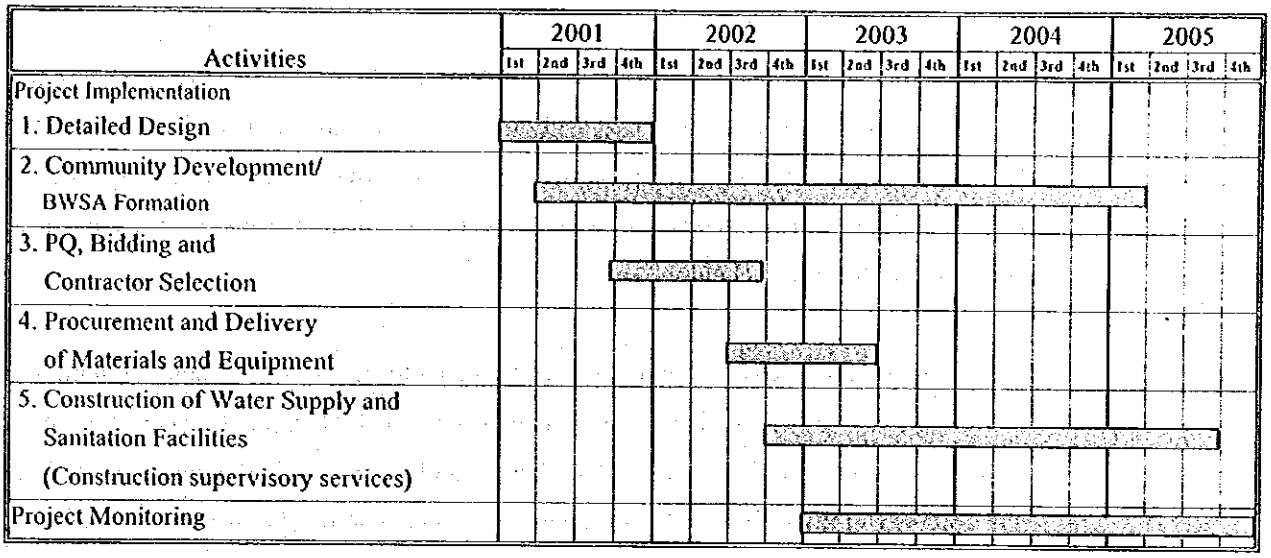
4) Project Implementation Schedule

The proposed implementation of the project is scheduled for five years after hiring the consultants. Figure 11.5.1 presents the proposed schedule.

11.6 Cost Recovery

Cost recovery and cost sharing are essential to attain the planned targets. The PW4SP advocates the imposition of tariffs for the recovery of capital and operating cost based on the principle that adequate water, sewerage and sanitation facilities should be paid for.

Figure 11.5.1 Proposed Project Implementation Schedule



(1) Level I water supply systems

For Level I systems, cost sharing between the LGUs and beneficiaries is required for the capital costs, even the portion of the beneficiaries is limited according to the current national policy. Currently, the percentage shared by the beneficiaries seems to be 3 to 5% of total requirements based on the experience.

Beneficiaries are also responsible for all recurrent costs. Monthly recurrent cost is estimated at about 8 Pesos per household in the base year price level (refer to recurrent cost in Chapter 10). The figure will be increased up to about 12.9 Pesos per household in the year 2005, assuming an annual inflation rate of 7%. This monthly fee seems to be affordable to the users considering the current income level (refer to affordability in Chapter 6), but willingness to pay shall be promoted.

Depending on the users' income level, water charges shall be determined and agreed upon among the water users. The estimated water charge for O&M cost is ₱8 per household per month, which is less than 1% of the median monthly household income of ₱3,400 in 1998. However, the users will have to pay water charge of up to 2% of their monthly income or ₱68/household/month to manage not only for repair of hand-pump, but also rehabilitation and reconstruction of deep well, assuming that well life is 20 years.

(2) Level II water supply systems

Full cost recovery is required for all capital costs for Level II systems. The average capital cost to be paid is estimated at ₱11,500 per household (refer to Chapter 10 Main Report and Supporting Report). Applying the capital recovery factor to the capital costs with conditions of 7% interest rate and 20 years repayment period, monthly payment amounts to ₱90 per household.

The annual recurrent cost per household is estimated to be ₱180 (₱15/household/month) in the base year (refer to Chapter 10). It will reach to ₱24.10 in the year 2005 at an annual inflation rate of 7%. Thus, the total amount of repayment and recurrent cost in the year 2005 is ₱114, which is 2.0% of the family income as shown below.

(a) Estimated water rate (flat rate; Pesos)	:	114
(b) Percentage of (a) to monthly median household income in 2005 [1]	:	2.0%

Notes:
1) Provincial average monthly median income in 2005 (₱5,459 per household) is derived from 1994 Family Income and Expenditure Survey considering annual inflation rate of 7%. The monthly median income in 1998 is ₱3,400.

(3) Level III water supply systems

A full recovery of capital and operation & maintenance cost is required for Level III systems. To test the affordability, a comparative study was made between estimated water rate (based on standard monthly consumption; 15m³ per household) and projected income in year 2005. Total capital cost of Level III water supply system is ₱47.98 million for 2,191 households to be served. Assuming an annual inflation rate of 7% and 20 years repayment period, the annual capital cost to be paid is ₱2,067 per household. The monthly capital cost to be paid by each household is ₱172.

The monthly recurrent cost per household is estimated to be ₱60.25 (₱723/ year; refer to recurrent cost in Chapter 10 where operating cost is ₱10.05 million in base year for 13,896 households). Using an annual inflation rate of 7%, this recurrent cost is projected to be ₱96.75 per household in the year 2005.

The combined amount of capital repayment and recurrent cost in the year 2005 is ₱269/ household/month. The cost shall be recovered as a monthly water charge to be paid by users. The percentage of the water rate against income with more or less 5% is

commonly affordable. In this regard, monthly water rate (4.93% of the household income) seems to be affordable.

(a) Estimated water rate for 15 m^3 (Pesos)	:	269
(b) Percentage of (a) to monthly median household income in 2005	:	4.93%

Notes:
1) Monthly median household income is ₱5,459 in the year of 2005.

(4) Sanitation

The provision of sanitary toilet facilities for public markets and schools is under LGUs in coordination with parent-teacher association. However, recurrent cost for the public markets shall be collected from the users including stakeholders of the market.

Household toilet shall be managed by individual household. However, the facility is costly with reference to the current income level, especially in the rural area (flush-type toilet; ₱23,000 and pour-flush toilet; ₱14,100). Governmental support is also limited to the provision of toilet bowl for pour-flush toilets as an incentive to increase the distribution of water-sealed toilets. Thus, cost recovery in application of loan shall be considered.

Applying the capital recovery factor to the construction cost with assumptions of 7% interest rate and 5 years repayment period, monthly repayment amounts to ₱468 for a flush type and ₱287 for a pour-flush type, respectively (details of unit cost are referred to in Chapter 10, Supporting Report). The percentages of repayment to household income in the year 2005 are calculated in the same manner as the study for Level III water systems and are shown below.

(a) Repayment for Flush Type (Pesos)	:	468
(b) Repayment for Pour Flush Type (Pesos)	:	287
(c) Percentage of (a) to monthly median household income in 2005 [1)]	:	8.57%

Note:
1) Monthly median household income is ₱5,459 in the year 2005

To expedite the sanitation sector improvement, introduction of specific loans that are revolving in character with low interest rates and longer repayment period may be an effective solution. For urban sanitation, the linkage with existing housing loan shall be established to cover construction of sanitary toilets.

Chapter 12

MONITORING FOR MEDIUM-TERM DEVELOPMENT PLAN

12. MONITORING FOR MEDIUM-TERM DEVELOPMENT PLAN

12.1 General

Many of the systems constructed earlier have operated in a limited way because of insufficient monitoring and post-construction technical support, aside from the problems in promotion of self-reliance and local community management. This Chapter seeks to recommend a focused, practical, viable, creative approach to strengthen sector and project monitoring. The development of a coordinated monitoring system is one of the key components of an effective management system.

12.2 Sector Monitoring

Sector monitoring refers to the overall water and sanitation situation in the province. One may readily use a demand-supply model for sector monitoring. Demand would be indicated by such indicators as gaps in coverage, health conditions, and standards for water consumption. Supply would be indicated by the water resources situation, actual coverage of existing facilities, output volume, types and condition of facilities, by the available funding, and by water/sanitation associations organized to undertake sector activities.

(1) The monitoring system must support a well-defined and accepted sector development process-model. There are four general aspects of sector monitoring which will be addressed:

1) Establishing the database: This involves identifying the types, level, and form of the information to be extracted regarding the performance of the sector's service development, service delivery, and service maintenance systems.

2) Data collection and transmittal system: This defines the methods and assigns responsibilities for the recording and relaying of the data from source to the concerned recipients, from raw data to consolidations and reports at the various levels of the hierarchy of sector management.

3) Data analysis: This prescribes how and by whom the data will be processed, and the purpose of the outputs of the various analysis and reports. The purpose or uses of the data will determine when or how frequently a report will be generated, as well as the parties who should receive the report.

4) Response system: This defines the responsibility, authority and discretion of the recipients of the data flow to take actions, make decisions, alter plans, or take such measures as are appropriate given the performances indicated by the data. This system feeds into and is essential to the management and regulatory structures of the sector.

(2) Sector performance deficiencies demand that serious thought be given to innovations to reduce costs in achieving the provincial sector plan. With the monitoring system, the sector should be able to take an objective view of the way to meet current strategies. For example, does community management of systems really work? Do low-cost technologies make sense? Under what conditions and how? How can the target be achieved for low-income communities? A sector monitoring system should be flexible to support planning and research studies on such specific policy and operational issues.

(3) In putting together a relevant sector monitoring system, the following should be seriously looked into:

1) It should reinforce the linkage between water, sanitation and health. This implies that coverage should be measured for availability of both water and sanitation for a household. Thus, a household can be categorized as having both water and sanitation, water only, sanitation only or none of either. At later stages, health practices can be included in the monitoring.

2) It should be reliable and involve the beneficiaries. This mechanism could provide the data quality control, which is missing in existing systems. Distortion of information may occur when implementors are the monitors. The barangay will be the basic data capture level.

3) Monitoring will succeed only with interagency support, particularly in the initial stages. It should be accepted by all sector agencies. A unified set of figures and indicators will greatly help in planning.

4) It should be practical and implementable. It should start with the current monitoring capacity situation and move up with a clear vision of what the monitoring system should be. This implies phasing and gradual expansion and strengthening of the system and training of staff.

5) The system should be followed through with effective feedback. It should develop creative ways of providing feedback to the field. The current way in which data is processed is by consolidation. The field sources' only feedback is, for example, national coverage figures. In the course of consolidation, opportunities for specific feedback useful to project implementors on performance are lost.

It would be useful to have a series of workshops among the different levels of the sector's management structure, to achieve the following:

1) Training on project monitoring and data use in the water sector.
2) Development of initial database (identification of the type of data and reports that the participant-managers need in their respective areas of concern.)
   After the database is established, a team will draft the Management Information System (MIS), which will be an input to the next series for workshops.
3) Review of MIS draft, revisions, and commitments to test.
4) Sharing/reviewing of experiences with MIS draft system. Recommendation on adjustments to MIS for 2nd field testing period.
5) Sharing/review of experiences.
   Final recommendations to be incorporated into Final Draft of MIS system by the MIS Team.
6) Review of Final Draft System to be presented by MIS Team of adoption.

(4) Regarding sector development indicators, some important indicators will be more difficult to collect than the others because the sector is not ready to gather them. The LGUs will group indicators into phases based on availability of data and/or ease with which such information can be collected with improved systems. A review of the objectives set for the sector almost exclusively shows a focus on coverage. It is important to get sector objectives stated beyond coverage terms in order to encourage use of additional indicators. Based on past experience, requiring too much information leads to start-up difficulties. A three-phase build-up meeting sector requirements is outlined in the following sections:

1) Phase 1 Indicators
   - Access to both adequate water and sanitation
   - Water and sanitation associations duly organized to undertake sector activities
   - Water and sanitation facilities in schools
   - Capital development costs

- Sources of capital development funds
- Incidence of diarrhea
- Water availability and water quality maps
- Unit cost (per capita or per facility)

2) Phase 2 Indicators
   - Household hygiene habits and practices
   - Water stored in house covered? food covered? grounds free of faeces, garbage, wastewater cesspools? animals in the house? mother's and children's hands clean?
   - Existence of barangay spot maps and facilities ledger cards
   - Existence of O&M arrangements
   - Current costs to households and willingness to pay for improved service

3) Phase 3 Indicators
   - O&M Costs
   - Financial efficiency and stability indicators
   - Institutional development indicators
   - Low-income groups benefiting from improvements

(5) NEDA has issued a Board Resolution in 1995 providing a practical definition of terms for planning and monitoring. The definitions were arrived at after exhaustive discussions and consensus with the implementing agencies.

(6) Recommended institutional responsibilities for sector monitoring: Monitoring is best left to parties not directly involved in delivery of the services. The best monitors are the community members themselves since accurate monitoring reports is in their best interest. At the data capture level, the PHO structure, with its midwives and BHW volunteers, is in the best position to take the lead in data gathering.

1) Provincial Level: The PPDOs, through its Research and Evaluation Division, will play the lead role in organizing the field data collection effort in coordination with the field offices of national agencies, NGOs and the water districts. The Monitoring Specialist, with the PST/PWSU, will assist the PPDO.

2) Municipal Level: The Municipal Development Coordinator has the mandate of monitoring all development activities in the municipality. The municipal sector

liaison will therefore coordinate the preparation of the reports with the MPDO, supported by PHO and NGOs, as needed.

3) Barangay Level: There are several institutional options for leading the monitoring at the barangay level, such as the barangay health stations, the barangay council, etc. The municipal liaison will take the lead in establishing the barangay monitoring responsibilities.

(7) Computerization of the system can come at later stages. This should be gradually phased in as the sector agencies strengthen their monitoring mode. This will also discourage a ground swell of requests for computer hardware. Computer facilities are available at the provincial level.

(8) A new sector database program was designed and is currently under review. A Sector Database Center was established within the DILG-PMO. The system was successfully piloted in three provinces and replication in other priority provinces will begin shortly. (Note: This database does not go down to the project level. It was primarily set up to determine supply/demand and financial capabilities of LGUs to absorb costs.)

12.3 Project Monitoring

Sector monitoring refers to the overall water and sanitation situation in the province, on the other hand, project monitoring looks at progress of specific activities or projects. Indicators would thus include; disbursements, percent completion, cost overruns/underruns, etc.

(1) At the provincial level, project monitoring shall include projects classified under any of the following:

- foreign and nationally-funded projects which are implemented or located in two or several municipalities in the province or implemented or located in the province;
- other projects implemented and managed at the provincial level with funding generated from provincial sources.

(2) Project Monitoring Committees (PMCs) at the provincial and municipal levels are to be tasked with the monitoring of local government projects funded from national and local government funds, and composed of representatives from different organizations, from NGOs, the administration, the ruling party and the opposition. From these representatives, the Provincial Governor selects the chairman and the others as members.

The PPDO can be delegated to serve as the secretariat and the PMC manages with the assistance of the non-government organizations in the monitoring and validation of project implementation.

(3) The specific roles and responsibilities of the various units in the implementation of the monitoring system are as follows:

The Project Monitoring Committee:

- Provides the list and schedule of all projects to be monitored to the NGOs involved in monitoring;
- Collects and processes reports of implementors; NGOs monitor the status of project implementation for the information of the development council and next higher level project monitoring committee;
- Pinpoints problems and verifies information to be submitted for analysis and action of the development council;
- Provides feedback on the remedial actions of the development council and follows-up their implementation;
- Prepares and disseminates periodic project monitoring report on the status of project implementation; and
- Elevates to higher level bodies problems/issues which are not resolved at their level.

The PMC Secretariat:

- Prepares the monitoring program to be undertaken by the PMC during any given fiscal year, which will include, among others, the lists of projects and schedule of implementation based on submission of implementing agencies;
- Provides chief executives with information on the projects to be monitored by the local PMC's;
- Facilitates inter-agency, inter-governmental and field headquarters coordination whenever necessary.

The Project Implementors:

- Submit periodic reports to the monitoring committee on the status of project implementation base on suggested reporting forms;
- Provide authorized monitors assistance in getting access to more detailed information on project implementation (e.g. detailed work program);
- Submit to next higher level office of line agency reports on status of implementation;

- Implement/institute remedial measures on problems/issues identified as suggested by the development council.

(4) The following is the process flow of project monitoring.

1) The PMC secretariat provides the NGOs with the monitoring plan, containing information on projects to be implemented at the provincial level;
2) PMC prepares its monitoring program for the calendar year;
3) Project implementors undertake projects, prepare and submit status reports on project implementation to the PMC;
4) NGOs submit project exception reports to the PMC, with copy furnished the project implementors;
5) PMC assesses reports of implementors and NGOs and conducts project visits of projects identified in the monitoring work program;
6) PMC processes reports of various implementors and provides the provincial development council with a consolidated report on status of project implementation in the province;
7) PMC evaluates problems, recommends solutions during its regular or special meetings, and refers same to the Provincial Development Council for appropriate action;
8) PDC assesses reports and takes proper action (problem solving, referral to appropriate agencies/council);
9) Implementors take remedial action on problems/issues encountered in project implementation. (If after a reasonable period of time, no remedial measures/ appropriate action have been taken on the problems referred to the concerned agency/local development council, the PMC forward the issue to that RDC.);
10) PMC provides feedback to concerned implementors, LGUs, NGOs, and other concerned agencies and follow-up implementation of remedial measures; and
11) PMC forwards consolidated status report on project implementation in the province to the Regional Project Monitoring Committee (RPMC).

(5) The PMC determines the schedules for the submission of reports. Reports are submitted to the PMC who will forward the consolidated reports to the Provincial Development Council (PDC). Submission of the consolidated report from the provincial PMC to the regional PMC is usually undertaken on a quarterly basis. The PMC furnishes the Provincial Governor with a copy of the reports for his reference and action.

12.4 Evaluation of Plan Implementation and Updating the PW4SP

(1) This PW4SP should be updated at least every five years. This will be the responsibility of the PWSU in close coordination with the PPDO. Based on the sector monitoring reports, the PWSC will review the progress of the sector compared with objectives and the efficiency with which these objectives were achieved. This will be followed by a reformulation of objectives, strategies, new policies and policy revisions and an updated sector investment program.

(2) To initiate the implementation of this sector monitoring system, the Phase I indicators (See 12.2) shall be used. Formats have been drafted for this purpose (See Table 12.4.1, Supporting Report). Specifically, the information to be collected are as follows:

1) Access to both adequate water and sanitation as a measure of demand: This indicator can be taken from the Field Health Service Information System (FHSIS) Annual Environmental Sanitation Survey reports, which are prepared by the PHO midwives. These annual surveys are summarized by municipality by the sanitary inspectors. NSO population projections will be utilized.

2) Water and sanitation associations (RWSAs/BWSAs/other community-based associations) organized: This indicator can be collected from the Cooperative Development Authority (Municipal or Provincial Chapters) in as much as all water cooperatives and/or associations are required to register with the CDA.

3) Water and sanitation facilities in schools: This indicator can be collected from the various school district offices; consolidated at the division (provincial level). Although a system is in place for regular inventory of facilities by DECS, actual inventories are seldom implemented and the LGUs may have to institute a supporting data gathering activity.

4) Capital development costs: The LGUs may have to gather information from the local DEO of DPWH, the various municipalities and the water districts.

5) Sources of capital development funds: Data sources are the same as those of item 4).

6) Incidence of diarrhea: This information can be taken from Form M-2 of the FHSIS. (Collection and processing of the data form is similar to that of item 1).

7) Water availability and water quality maps: These maps should be continually updated based on field reports on water quality and quantity as they are received from operations reports studies. Areas where, for example, salinity is increasing should be indicated. Areas suitable for shallow wells, for deep wells and for possible spring sources can be indicated.

8) At the conclusion of every project, the monitoring specialist prepares a report on actual unit costs incurred. This would include, for example, the cost of drilling for shallow or deep wells per meter depth; the cost of pipeline per linear meter, etc.

(3) Municipal level consolidation: For every reporting period, the municipal sector liaison gathers all the barangay level data including those reports of the municipal health officer (and sanitary inspectors), the DECS division offices. A municipal sector report will be thus prepared. Further refinements of this report may be needed in view of future development initiated at the national level.

The municipal sector report is reviewed by the Mayor and then submitted to the Governor for further consolidation. Salient sections of this report would be furnished to DILG, which is tasked with coordinating a national sector performance report for NEDA and for the President.

(4) Feedback: Based on these reports, the PST/PWSU will draft a consolidated report on the performance of the sector during the period including the opportunities and constraints met and a set of recommendations for policy revision. Municipalities which have made outstanding progress and associations, which have introduced creative innovations in their operations would be cited.

Annual reviews shall be organized to analyze not only the attainment on the physical project targets, but more significantly, whether the vision is being attained. These reviews could also provide the opportunity to sharpen or revise the vision and the mission statement and distill lessons learned from the implementation experiences.