3.4 Population

3.4.1 Previous Population Development

A fluctuating provincial population growth rate had been experienced since the last six (6) census years (1960-1995) as indicated in Figure 3.4.1. From a very low average annual growth rate of 0.36% during the period 1960 to 1970, it increased to 2.68% (1970-1975), decreased again to 0.58% (1980-1990) and increased once more to 2.20% (1990-1995). A summary of the average annual growth rates of the province is as follows:

Year	Population	Ave. Annual Growth Rate (%)	Period
1970	90,498	0.36	1960 - 1970
1975	103,270	2.68	1970 - 1975
1980	111,421	1.53	1975 - 1980
1990	118,012	0.58	1980 - 1990
1995	132,209	2.20	1990 - 1995

A consideration on how the population growth behaved in the past and how it is likely to behave in the future is important because of the issue of resource allocation including the water supply and sanitation sector requirements.

The 1998 population was estimated to provide the planning base for this Master Plan (refer to Section 8.3.1 Population Projection, Main Report). Table 3.4.1 shows a breakdown of the past population development by municipality from 1948 to 1995.

Figure 3.4.1 Previous Population Development of the Province

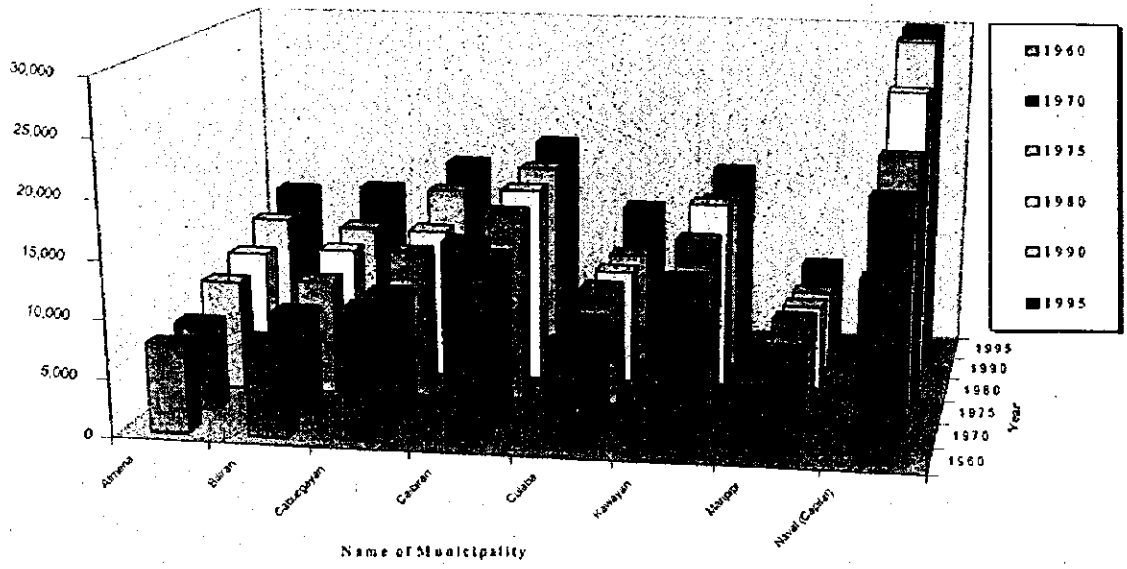


Table 3.4.1 Previous Population Development by Municipality

Municipality	Previous Population						
	1948	1960	1970	1975	1980	1990	1995
Almeria	6,007	7,553	7,525	9,468	10,409	12,013	13,420
Biliran	11,469	8,138	8,841	9,801	10,989	11,531	13,775
Cabucgayan		11,234	10,847	12,682	13,034	15,240	16,498
Caibiran	21,511	16,963	14,221	16,400	17,004	17,596	18,582
Culaba		8,866	8,930	10,133	9,924	9,822	12,703
Kawayan	9,618	12,252	12,870	14,568	16,183	15,056	16,424
Maripipi	6,550	7,155	6,978	7,949	7,379	6,943	7,853
Naval (Capital)	12,506	15,124	20,286	22,269	26,499	29,811	32,954
Provincial Total	67,661	87,285	90,498	103,270	111,421	118,012	132,209

3.4.2 Classification of Urban and Rural Areas

NSO classifies a barangay as urban when it satisfies any of the following conditions on the economic and social functions.

(1) In their entirety, all cities and municipal jurisdictions having a population density of at least 500 persons per square kilometer.

(2) Poblaciones or central districts of municipalities and cities, which have a population density of at least 500 persons per square kilometer.

(3) Poblaciones or central districts (not included in nos. 1 and 2) regardless of population size, which have the following:
   1) Street pattern, i.e., network of streets either at parallel or in right angle orientation;
   2) At least six establishments (commercial, manufacturing, recreational and/or personal services); and
   3) At least three of the following:
      a) a town hall, church or chapel with religious services at least once a month;
      b) a public plaza, park or cemetery;
      c) a market place or building where trading activities are carried on at least once a week; and
      d) a public building like school, hospital, health center or library.

(4) Barangays having at least 1,000 inhabitants, that meet the condition set forth in no. 3 above, and in which the occupation of the inhabitants is predominantly non-farming/fishing.

All areas not falling under the urban classification are defined as rural area. Considering the 1995 NSO classification of urban and rural barangays, there are 20 urban barangays and 112 rural barangays for a total of 132 barangays in 1998. Distribution of the classified areas is shown in Figure 3.4.1, Supporting Report.

3.4.3 Present Population Distribution

From the 1995 NSO census, the 1998 urban-rural population was estimated. Rural population accounts for 70% of the provincial total, while 30% is urban as reflected in Figure 3.4.2. Table 3.4.2 presents the breakdown of the number of urban and rural barangays by municipality and its corresponding present population distribution.

There are 26,503 households with 18,772 residing in rural areas and 7,731 households in urban areas. The average provincial household size is 5.16 persons/household. Table 3.4.3 presents a breakdown per municipality on the number of households and household sizes by urban and rural area.

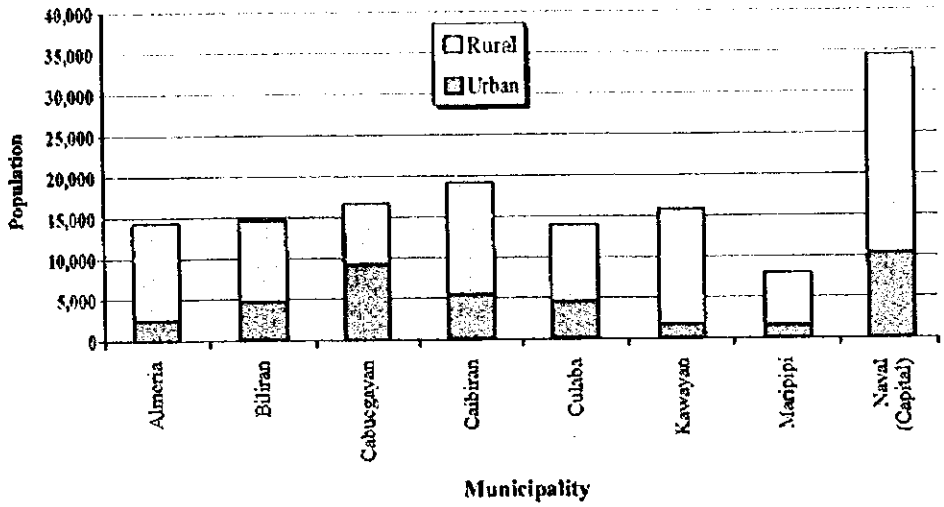
Table 3.4.2 Outline of Urban and Rural Areas in the Province

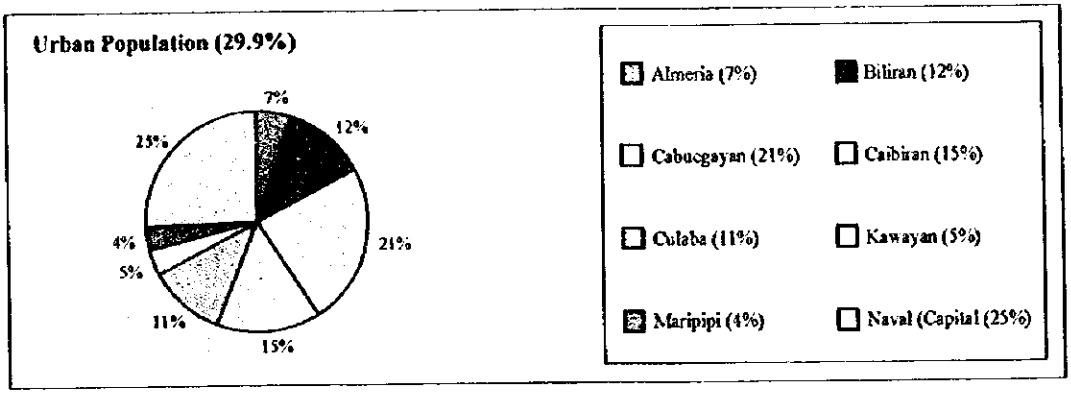
Municipality	Number of Barangay			Population (1998)		
	Urban	Rural	Total	Urban	Rural	Total
Almeria	1	12	13	2,857	11,023	13,880
Biliran	2	9	11	4,799	9,710	14,509
Cabucgayan	4	9	13	8,972	7,937	16,909
Caibiran	3	14	17	6,053	12,851	18,904
Culaba	3	14	17	4,447	9,198	13,645
Kawayan	2	18	20	1,844	15,027	16,871
Maripipi	2	13	15	1,434	6,717	8,151
Naval (Capital)	3	23	26	10,559	23,423	33,982
Provincial Total	20	112	132	40,965	95,886	136,851

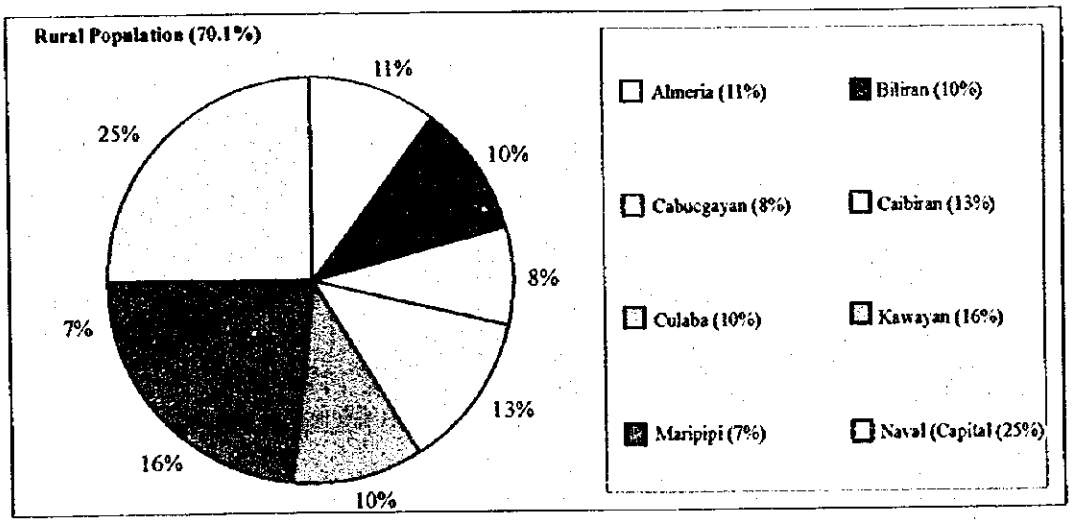
Table 3.4.3 Household Numbers and Household Size

Municipality	Number of Households (1995)			Number of Households (1998)			1995 Household Size (person/household)		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Almeria	492	2,135	2,627	547	2,170	2,717	5.22	5.08	5.11
Biliran	805	1,646	2,451	858	1,722	2,580	5.59	5.64	5.62
Cabucgayan	1,290	1,857	3,147	1,649	1,556	3,205	5.44	5.10	5.24
Caibiran	1,081	2,399	3,480	1,127	2,411	3,538	5.37	5.33	5.34
Culaba	663	1,456	2,119	731	1,546	2,277	6.08	5.95	5.99
Kawayan	386	3,016	3,402	388	3,105	3,493	4.75	4.84	4.83
Maripipi	294	1,260	1,554	294	1,320	1,614	4.88	5.09	5.05
Naval (Capital)	1,926	4,940	6,866	2,137	4,942	7,079	4.94	4.74	4.80
Provincial Total	6,937	18,709	25,646	7,731	18,772	26,503	5.29	5.10	5.16

Figure 3.4.2 Present Population Distribution







3.5 Health Status

3.5.1 Morbidity, Mortality and Infant Mortality

The number one cause of morbidity in Biliran was acute respiratory infection, followed by influenza, pneumonia and diarrhea, a water-borne and water-washed disease. Skin disease, another water related disease, ranked fifth. Regarding mortality, the number one cause was pneumonia, followed by Other accidents. Vascular diseases and malignant neoplasms ranked third and fourth, respectively. Congenital anomalies, respiratory condition of fetus/newborn and pneumonia were the 3 leading causes of infant mortality in the province (refer to Table 3.5.1, Data Report).

The general health status of the populace of the province in 1998 was relatively poor compared with the national condition. The incidence of diseases was higher in Biliran than the country as a whole. Table 3.5.1 presents a comparative statistics on the ten leading causes of morbidity, mortality and infant mortality of the province as well as of the Philippines.

Water-related diseases in the 10 leading causes of morbidity include diarrhea (rank 4th), skin disease (5th), intestinal parasitism (7th) and gastro-enteritis (8th). Diarrhea also ranked 9th as the leading causes of mortality and ranked 5th as the leading causes of infant mortality.

3.5.2 Water Related Diseases

An indicator of health problems related to water supply and sanitation is the incidence of water-related diseases. The World Health Organization (WHO) has classified diseases related to water into four (4) categories: 1) water-borne diseases e.g., cholera, typhoid, hepatitis A, diarrhea and dysentery; 2) water-based diseases e.g., schistosomiasis; 3) water-washed diseases e.g., diarrhea, intestinal parasitism, scabies, conjunctivitis (sore eyes), and skin diseases; and 4) water-vector related diseases e.g., malaria, filariasis and dengue or H-fever. As with malaria, the control of filariasis is beyond this Master Plan. A safe water supply, sanitary toilet and proper hygiene practices are conditions necessary for the control and prevention of these diseases.

Water-related diseases reported in the province in 1998 were diarrhea, intestinal parasitism, viral hepatitis, and skin disease. Table 3.5.2 presents the reported cases and deaths of notifiable water-related diseases in the province.

Table 3.5.1 Number and Rates of Ten Leading Causes of Morbidity, Mortality and Infant Mortality

Rate: 1/100,000

	Causes	Biliran		Philippines		
		Number	Rate	Number	Rate	Ranking
Morbidity	1. ARI	62,998	47,650			
	2. Influenza	19,449	14,711	609,471	910	3
	3. Pneumonia	19,219	14,537	470,574	702	4
	4. Diarrhea	14,399	10,891	1,337,449	1,997	1
	5. Skin Diseases	13,961	10,560			
	6. Bronchitis	7,408	5,603	903,508	1,349	2
	7. Intestinal Parasites	5,422	4,101			
	8. Gastroent. Colitis	4,040	3,056			
	9. Vascular Diseases	3,042	2,301			
	10. Heart Diseases	2,361	1,786	111,874	167	7
Mortality	1. Pneumonia	818	619	35,582	53	3
	2. Other Accidents	620	469			
	3. Vascular Diseases	398	301	37,358	56	2
	4. Malignant Neoplasms	385	291	25,399	38	4
	5. Senility	370	280			
	6. Heart Diseases	292	221	48,582	14	1
	7. Tuberculosis	214	162	24,580	37	5
	8. Kidney/ Nephritis	178	135	5,510	8	10
	9. Diarrhea	156	118	5,759	9	9
	10. ARI	137	104	11,154	17	7
Infant Mortality	1. Congenital Anomalies	32	24	2,366	1.4	3
	2. Resp. Cond. of Fetus/Newborn	26	20	5,651	3.4	2
	3. Pneumonia	25	19	7,631	4.5	1
	4. Other Prenatal Causes	17	13			
	5. Diarrhea	12	9	1,661	1	4
	6. Septicemia	11	8	1,252	0.7	5
	7. ARI	11	8			
	8. Anemias	9	7	925	0.6	6
	9. Mental Disorder	9	7			
	10. Prematurity	8	6			

Table 3.5.2 Reported Cases and Deaths of Notifiable Water Related Diseases

Rate: 1/100,000

Diseases	Morbidity		Mortality		Infant Mortality	
	Number	Rate	Number	Rate	Number	Rate
Water-borne						
1. Diarrhea	14,399	10,891	156	118	12	9
2. Viral hepatitis			39	30		
3. Gastro-enteritis/colitis	4,040	3,056	81	61	7	5
Water-washed						
1. Intestinal parasitism	4,101	5,422	25	19		
2. Skin disease	13,961	10,560				

3.5.3 Health Facilities and Practitioners

Present facilities serving the health care of the populace are 1 hospital, 8 rural health units and 36 barangay health stations. The ratios of the population to these facilities and to the health practitioners are relatively good as compared to the national average figures (refer to Table 3.5.1 number and ratio of population to health facilities and/or medical practitioners, Supporting Report).

3.6 Environmental Conditions

3.6.1 General

Environmental issues and problems directly affecting the sector and/or how the sector affects these environmental concerns are dealt with in this sub-section. Specifically, the problems of water pollution and solid waste disposal spawned by rapid population growth and increasing industrial and economic activities are discussed. These problems put a strain on the provincial water resources and hinder their optimum utilization.

3.6.2 Water Pollution

There are no existing sanitary sewerage systems in the province. Majority of the drainage facilities in all municipalities is open canals or ditches. The rivers and streams function as the drainage system. These rivers receive the domestic wastewater and storm water collected by the segmented drainage facilities in urban centers or poblacions (refer to the types of drainage facilities in Table 3.6.1, Supporting Report).

A major water pollution source in urban areas is domestic wastewater. Graywater generated by households is simply allowed to discharge into nearby channels. Effluent from septic tanks or cesspools is also flowing into the streams. The other major pollutant is dumped refuse that finds its way to the river systems during rain or is thrown indiscriminately into the rivers. In rural areas, natural assimilation of the river may be expected to purify organic substances. However, pollution or contamination is anticipated caused by agricultural activities especially with reference to fertilizers and pesticides.

Food processing establishments are identified as potential pollution sources in the province if no control measures are in place. The rivers must be protected and conserved for their intended or beneficial use. However, as of now, the rivers in the province have not been classified as to their usage by the Department of Environment and Natural Resources (refer to gen-

eral information in Table 3.6.2 DENR Water Quality Criteria/Water Usage and Classification, Supporting Report).

3.6.3 Solid Waste Disposal

Of the 8 municipalities, 2 have municipal refuse collection and disposal services as of 1998 (details are referred to Table 3.6.1, Data Report). These municipalities have 1 to 2 units of open dump truck. In the province, 11% of the households is served, while the majority (89%) is unserved. Table 3.6.1 reflects the manner of solid waste collection and disposal, and service coverage by municipality in 1998.

Open dumping is commonly practiced by the LGUs as disposal of solid wastes. The dumped refuse is usually burned or left unattended. Some significant negative effects associated with this unsanitary method are surface and groundwater pollution, air pollution, scattered solid waste, breeding grounds for insects, rodents and other disease vectors and fire hazard. At the household level, unserved households by the LGUs primarily depend on individual waste disposal such as dumping in vacant lots or body of water, burying and composting.

Table 3.6.1 Municipal Solid Waste Collection and Disposal, and Service Coverage, 1998

Name of Municipality	Number of Households 1998	With Service						Without Service				Percentage of Households Served	Percentage of Households Unserved
		Number of Collection Trucks			Disposal			Manner of Disposal (Number of Household)					
		Open Dump Trucks	Closed Type Trucks	Total Units	Number of Households Served by Open Dump Site	Number of Households Served by Sanitary Landfill	Total Households Served	Dumping (Land and Water)	Burying	Composting	Total Households Unserved		
Almeria	2,717	1		1	492		492	1,332		896	2,225	18	82
Biliran	2,580							2,400	116	64	2,580		100
Cabucgayan	3,205							3,054	32	119	3,205		100
Caibiran	3,538							3,273	169	99	3,538		100
Culaba	2,277							940	683	654	2,277		100
Kawayan	3,493							2,708	420	365	3,493		100
Maripipi	1,614							1,054	360	200	1,614		100
Naval (Capital)	7,079	2		2	2,420		2,420	2,331	1,164	1,164	4,659	34	66
Provincial Total	26,503	3		3	2,912		2,912	17,086	2,944	3,561	23,591	11	89

Chapter 4

EXISTING FACILITIES AND SERVICE COVERAGE

4. EXISTING FACILITIES AND SERVICE COVERAGE

4.1 Water Supply

4.1.1 General

Existing water supply facilities and conditions were surveyed by municipality under the category of urban and rural areas (as of June 1999 and regarded as a figure in 1998). Facilities are classified into three service levels, of which Level I facilities are further classified into safe and unsafe for drinking purpose.

The percentages of service coverage by different service level were estimated covering urban and rural areas by municipality. The served population is defined as "population served adequately with access to safe water sources/facilities." The rest of the population with unsafe sources/facilities and without access to water supply facilities was then defined as "underserved population" and "unserved population," respectively. The service coverage was figured out using estimated population in 1998.

Service profile and operating conditions of existing facilities are summarized by service level to come up with problem areas and need of rehabilitation to reflect in the development plan.

As a provincial total, approximately 74% of the present population (of which 30% in urban area and 70% in rural area) is considered as adequately served (refer to 4.1, Supporting Report for the detailed study). Under the area classification, 76% of urban population and 73% of rural population have access to safe water sources/facilities, while the rest is underserved or unserved. About 38,200 persons or 38% of the served population depend on Level I facilities, while about 62,900 persons or 62% are served by Level III and/or Level II systems.

4.1.2 Types of Facilities and Definition of Service Level Standard

(1) Composition of water supply system/facility

The NSMP defines service level and system components of the water supply systems/facilities as shown in Table 4.1.1. NEDA Board Resolution No. 12 (s. 1995) also provides the approved definition of terms relative to water supply including levels of service (refer to 4.1.2 Data Report). These terms are to be adopted by all government agencies including LGUs.

Table 4.1.1 Composition of Water Supply System/Facility by Service Level

Description	Level I (Point Source Facility)	Level II (Communal Faucet System)	Level III (Individual House Connection)
1. Water Source	Drilled/driven shallow well Drilled/driven deep well Dug well Spring Rain collector	Drilled shallow/deep well Spring Infiltration gallery	Drilled deep well Spring Infiltration gallery Surface water intake
2. Water Treatment	Generally none. Disinfection of wells is conducted periodically by local health authorities. Iron removal facilities are provided in problem areas.	Generally none	Disinfection is provided. Systems with surface water source have series of water treatment facilities.
3. Distribution	None	Piped system provided with reservoir/s	Piped system provided with reservoir/s and pumping facilities.
4. Delivery & Service Level	At point (within 250m radius)	Communal faucet (within 25m radius)	Individual house connection/household tap
5. Consumption Rate (Adequately Served)	At least 20 lpcd	At least 60 lpcd	At least 100 lpcd

(2) Safe and unsafe classification of water sources

DOH has classified Level I water source facilities as safe (reliable water source) and unsafe sources/facilities based on the National Standard for Drinking Water (NSDW).

Safe source: Protected deep well, protected shallow well, improved/covered dug well and developed spring

Unsafe source: Unprotected deep well, unprotected shallow well, open dug well, undeveloped/unprotected spring and rainwater collector

Water sources other than the above, such as untreated surface water of rivers, lakes and ponds are also considered unsafe sources. On the other hand, Levels II and III water supply systems are regarded to have safe/reliable sources with provision of adequate treatment.

(3) Service level standard

The NSMP and NEDA Resolution No. 12 define "adequate service level" by different water supply system. Improvement in the number of households per water source/facility may be expected for Level I service in the future. On the contrary, the number of households served by a unit of private/public source is sometimes beyond the standard on a current basis.

Level III: 1 household/connection

Level II: 5 (4 to 6) households/communal faucet

Level I: 15 households/point source
1 household/private well

4.1.3 Level III Systems

Level III (individual house connection) systems at municipal level are usually established and operated by WD under the technical and financial assistance of LWUA. Some LGUs also implement and operate Level III systems commonly at municipal/barangay level.

There are 28 Level III systems in the province operated under Water District or municipal/barangay level as shown in Table 4.1.2 together with their service coverage in 1998 (details are referred to in Table 4.1.1, Supporting Report).

There are:

- One Water District in the municipality of Naval;
- 2 municipal waterworks in the municipalities of Almeria and Biliran;
- 25 barangay waterworks in the municipalities of Cabucgayan, Caibiran (2 systems), Culaba (4 systems) and Kawayan (18 systems).

The Naval Water District is the largest system in the province, covering 3 urban and 8 rural barangays with served population of about 13,500. Presently, the WD covers 91% of the urban population and 16% of rural population in Naval. Water source of the WD is a spring located at Barangay Bongot with a discharge rate of about 3,600m^3/d. The WD practices water supply rationing due to insufficient capacity of pipeline. Water leakage from distribution pipes is also a current problem. Augmentation of transmission pipe together with water source is a requisite. As per development of another spring source along with system expansion, LWUA conducted F/S in the early 1990s.

Following Naval WD is the Almeria WWS being managed by the municipal government. It is the second largest system covering 1 urban and 6 rural barangays in Almeria with a served population of 9,100.

In the municipality of Biliran, there is a waterworks managed by the municipal government covering 2 urban barangays using a spring source. The WWS adopts a combined system with communal faucets servicing about 2,300 people.

In the municipality of Cubucgayan, there is a waterworks (Sitio Naga WWS) managed by association covering 3 urban and 2 rural barangays in provision of spring source. The WWS adopts combined system with communal faucets with total population served of about 3,900.

Table 4.1.2 Information on Existing Level III System

Name of Municipality	Name of Operating Body	Water Consumption			Service Coverage								
		Type of Water Source	Water Consumption (cu.m/day)	Domestic Supply (%)	No. of Brgys. Served			No. of Household Served			No. of Population Served		
					Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Almeria	Almeria WWS	SP	35	43	1	6	7	492	1,195	1,687	2,562	6,573	9,140
Biliran	LGU-Biliran	SP	361	100	2		2	320		320	1,920		1,920
Cabucgayan	Sitio Naga WWS				3	2	5	200	400	600	1,600	2,000	3,600
Caibiran	Caibiran WWS	SP			1		1	147		147	1,032		1,032
	Caibiran WWS	SP			2	1	3	464	54	518	2,784	324	3,108
	Municipal Total				3	1	4	611	54	665	3,816	324	4,140
Culaba	Bool RWSA	SP	1,375	100		4	4		273	273		1,638	1,638
	Culaba Central	SP			3		3	304		304	2,128		2,128
	Kalipayan	SP	864	100		1	1		16	16		96	96
	Panamihagan	SP				1	1		20	20		140	140
	Municipal Total		2,239	100	3	6	9	304	309	613	2,128	1,874	4,002
Kawayan	Baganito	SP				1	1		20	20		100	100
	Balite WW	SP			1		1	90		90	428		428
	Bilwang WW	SP				1	1		6	6		30	30
	Bulalacao WW	SP				1	1		5	5		25	25
	Burabod WW	SP				1	1		35	35		175	175
	Inasuyan	SP				1	1		50	50		250	250
	Kansanoc WW	SP				1	1		20	20		100	100
	Madao WW	SP				1	1		50	50		250	250
	Mapayo WW	SP				1	1		63	63		378	378
	Masagaosao WW	SP				1	1		25	25		125	125
	Masagongsong	SP				1	1		55	55		275	275
	Poblacion WW	SP			1		1	121		121	605		605
	San Lorenzo WWS	SP				1	1		15	15		75	75
	Tabunan-North	SP				1	1		15	15		75	75
	Tubig Guinoo WW	SP				1	1		30	30		150	150
	Tucdao WW	SP				1	1		108	108		540	540
	Ungale WW	SP				1	1		80	80		400	400
	V. Cornejo WW	SP				1	1		15	15		75	75
	Municipal Total	SP			2	16	18	211	592	803	1,033	3,023	4,056
Naval (Capital)	Naval WD	SP			3	8	11	1,926	770	2,696	9,630	3,850	13,480
Provincial Total			2,635	99	17	39	56	4,064	3,320	7,384	22,694	17,614	40,335

Note: 1. Type of Water Source: *SP* - Spring
2. * - Estimated at 100 lpcd.

In the municipality of Cabiran, there are two systems covering 3 urban and 1 rural barangays. The operating bodies of these systems are the barangays themselves. Both systems adopt a combined system with communal faucets to serve a population of 1,060 and 3,300. Water sources are both springs.

In the municipality of Culaba, there are 4 small Level III systems using spring water as water source. They are managed by associations or barangays. Most of them a adopt combined system with communal faucets. Population served of the waterworks range from 180 to 2,100 covering total of 3 urban and 4 rural barangays at present.

In the municipality of Kawayan, there are 18 small Level III systems using spring water as water source. These waterworks are managed by associations or Barangay Councils and cover one barangay each. Most of them were originally designed as Level II systems and

modified with individual connections as Level III systems. Population served range from 100 to 1,200 at present. The remaining municipality of Maripipi has no Level III system both in urban and rural areas at present.

Table 4.1.3 Information on Water District

Name of Water District	Number of Connections						Production (cu. m/mon)	Accounted for Water (cu. m/mon)
	Domestic	Institutional	Commercial	Industrial	Total	Metered		
Naval WD	2,696	62	364		3,122	3,122	82,944	

4.1.4 Level II Systems

Level II (communal faucet) systems are designed to cater for barangay level water supply with limited service coverage and supply capacity. These systems were implemented by different agencies (DPWH, DILG, LGUs) and encouraged the use of spring sources. Mostly, the Barangay Councils or the associations operate these systems.

There are 67 Level II systems located in all municipalities of the province. Majority of these systems (57 systems) is utilizing spring sources while the remaining 10 systems found in Maripipi either use shallow, deep and dug wells (details are referred to in Table 4.1.2, Supporting Report). The municipality of Cabucgayan has the largest number, 13 systems or 20% of the total as shown in Table 4.1.4 together with the service coverage in 1998.

Most of the systems which replied to the questionnaire (47 systems out of the total 67 systems) regarding current water supply status indicated supply of water that is on a 24-hour basis with good water quality. In the island municipality of Maripipi however, the systems using well sources have water quality problem such as dirty water due to busted pipe and metallic taste arising from ground water sources.

Problem areas, both in managerial and in technical aspects, that were identified on existing Level II systems and the necessary countermeasures for the improvements are discussed hereunder.

(1) Management practice

About 20% of the waterworks imposed flat rate water charge ranging from 2 to 10 Pesos/HH/month, while the rest supplied water free of charge. Regarding repair works, most of them resorted to assistance of the MEO/CEO, PEO or DEO, as needed.

Table 4.1.4 Information on Existing Level II System

Name of Municipality	Name of Operating Body	Service Coverage								
		No. of Brgys. Served			No. of Household Served			No. of Population Served		
		Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Almeria	Lyosan BWS		1	1		74	74		445	445
	Janorawon BWS		1	1		50	50		300	300
	Pulang Bato BWS		1	1		64	64		382	382
	Salangi BWS		1	1		61	61		366	366
	Sampao BWS		1	1		42	42		251	251
	Tabunan BWS		1	1		45	45		267	267
	Municipal Total		6	6		336	336		2,011	2,011
Biliran	Bato		1	1		10	10		50	50
	Burabod		1	1		200	200		1,000	1,000
	Busali		1	1		270	270		1,350	1,350
	Canila		1	1		15	15		75	75
	Hugpa		1	1		25	25		125	125
	Julita		1	1		25	25		125	125
	Pinangumhan		1	1		15	15		75	75
	Sanggalang		1	1		30	30		150	150
	Villa Enage (Baras)		1	1		102	102		551	551
	Municipal Total		9	9		692	692		3,501	3,501
Cabucgayan	Balaquid BWSA		1	1		20	20		100	100
	Baso BWSA		1	1		10	10		50	50
	Bunga BWSA	1		1	75		75	375		375
	Caanibongan BWSA		1	1		10	10		50	50
	Casiawan BWSA		1	1		35	35		175	175
	Esperanza BWSA	1		1	35		35	210		210
	Langgao BWSA		1	1		30	30		150	150
	Libertad BWSA	1		1	25		25	125		125
	Looc BWSA		1	1		10	10		50	50
	Magbangon BWSA	1		1	10		10	60		60
	Pawikan BWSA		1	1		40	40		200	200
	Salawad BWSA		1	1		25	25		125	125
	Talibong BWSA		1	1		30	30		150	150
	Municipal Total	4	9	13	145	210	355	770	1,050	1,820
Caibiran	Asug		1	1		20	20		120	120
	Bari-is		1	1		25	25		150	150
	Binobangan		1	1		25	25		150	150
	Cabibihan		1	1		30	30		180	180
	Looc, Caibiran		1	1		23	23		79	79
	Manlabang		1	1		20	20		120	120
	Maurang		1	1		25	25		150	150
	Tomalistis		1	1		20	20		120	120
	Union		1	1		25	25		150	150
	Uson		1	1		50	50		200	200
	Municipal Total		10	10		263	263		1,419	1,419
Culaba	Acaban & Salvacion WS		2	2		72	72		430	430
	Habuhab WS		1	1		30	30		180	180
	Looc - BWSA		1	1		65	65		389	389
	Patag		1	1		60	60		360	360
	San Roque BWS		1	1		26	26		156	156
	Sitio Patag WS					18	18		108	108
	Municipal Total		6	6		271	271		1,623	1,623
Kawayan	Balacson WW		1	1		65	65		325	325
	Buyo WW		1	1		50	50		250	250
	Municipal Total		2	2		115	115		575	575
Maripipi	Agutay SWA		1	1		25	25		127	127
	Banlas SWA		1	1		35	35		178	178
	Bato SWA		1	1		35	35		178	178
	Binalayan East SWA		1	1		35	35		178	178
	Binongto-an SWA	1		1	25		25	122		122
	Burabod SWA		1	1		35	35		178	178
	Calbani SWA		1	1		20	20		102	102
	Canduhao SWA		1	1		25	25		127	127
	Danao SWA		1	1		35	35		178	178
	Ermita SWA	1		1	50		50	244		244
	Trabugan SWA		1	1		25	25		127	127
	Viga SWA		1	1		40	40		204	204
	Municipal Total	2	10	12	75	310	385	366	1,578	1,944
Naval (Capital)	Anislagan		1	1		20	20		95	95
	Cabungaan		1	1		15	15		71	71
	Capiñahan		1	1		25	25		119	119

Table 4.1.4 Information on Existing Level II System (Cont'd)

Name of Municipality	Name of Operating Body	Service Coverage								
		No. of Brgys. Served			No. of Household Served			No. of Population Served		
		Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
	Imelda		1	1		40	40		190	190
	Libtong		1	1		70	70		332	332
	Lucsoon		1	1		25	25		119	119
	Talustusan		1	1		150	150		711	711
	Villa Caneja		1	1		30	30		142	142
	Villa Consuelo		1	1		10	10		47	47
	Municipal Total		9	9		385	385		1,825	1,825
Provincial Total		6	61	67	220	2,582	2,802	1,136	13,582	14,718

This fact shows that the current management practices will lead to any one of these systems to become non-operational sooner or later. This is because the financial savings to cope with future repair and depreciation of existing facilities are not duly considered under the current management practice, while cost recovery by the operating bodies is a prerequisite in sector management.

To attain financial and managerial sustainability, reinforcement of association other operating body shall be promoted with reference to institutional development.

(2) Technical skill for O&M of facilities

Utilization of spring source usually leads to less attention to the daily O&M practice, owing to gravity flow of water to the service area. However, inappropriate care of spring box and pipeline results to various problems, e.g. turbid water, less water flow by clogging at spring box and pipeline, etc. Physical damage may also happen to the transmission line exposed on the ground in the mountainous area due to landslide, etc. associated with heavy rainfall, when proper protection of pipeline is not taken up.

Expansion of distribution line and installation of additional public faucets are usually undertaken without appropriate technical study on the capacities of water sources and distribution facilities, resulting to decrease of supply pressure and quantity.

It is also common that water quality examination is not adequately conducted.

To attain technical sustainability of existing facilities, an appropriate technical guidance and skills training for operating bodies shall be arranged by concerned agencies/LGUs.

4.1.5 Level I Facilities

Level I facilities (point source) are common in rural barangays. Major facilities are the different types of wells equipped with hand-pumps or developed spring with transmission line and one communal faucet.

Level I facilities are classified in terms of safe and unsafe sources referring to the definition of DOH and the data from PHO as presented in Table 4.1.5 (details are referred to in Supporting Report). Served population in 1998 is also estimated as shown in the same table.

Of the 356 operational Level I facilities, 47% are shallow wells. According to the study on safe/unsafe percentage for shallow well, as the provincial average, 50% of the shallow wells are assumed to be unsafe (detailed are referred to in Supporting Report 4.1.5). All deep wells, covered/improved dug wells and developed springs are regarded as safe water sources. By applying the unsafe percentage to shallow wells for each municipality, 147 Level I facilities are classified as safe sources, while 68 facilities are under unsafe sources.

Percentage shares between public and private Level I facilities for rural water supply is 55% and 45%, respectively. The share of developed springs in public facilities is 33% (details are referred to Supporting Report).

The problem areas observed on Level I facilities and the necessary countermeasures for the improvements re summarized in terms of potability and functionality.

(1) Unsafe water sources

Most of the cases declared as unsafe sources are driven shallow wells which are unprotected against seepage of surface water and are usually located in nearby potential pollution sources, such as septic tank and piggery. (The Code on Sanitation requires a minimum distance of 25m between water source and pollution sources.)

These shallow wells must be provided with concrete apron on the ground surface and proper drainage facility at the surrounding area. Relocation of wells or pollution sources may be another countermeasure. For new construction of shallow wells, proper site selection and appropriate construction method shall be applied together with periodic monitoring of water quality.

(2) Non-functioning/abandoned wells

There are many non-functioning public wells in the province as shown in Table 4.1.6. Most of the beneficiaries are not aware of the manner for O&M of the facilities. A considerable number of public wells are abandoned/non-functional due to lack of O&M, dried-up of wells and other reasons. In most cases, the operating bodies for the facilities are not organized or non-functioning. Unauthorized private tapping to transmission line (spring water source) are also found at some Level I facilities, which caused insufficient water supply/water pressure.

Table 4.1.5 Information on Existing Level I Facilities

Name of Municipality	Number of Safe Water Sources					Number of Unsafe Water Sources					Served by Safe Source					
											Number of Household			Number of Population		
	Deep Well	Shallow Well	Covered/ Improved Dug Well	Developed Spring	Total	Shallow Well	Open Dug Well	Undeveloped Spring	Rain Water Collector	Total	Urban	Rural	Total	Urban	Rural	Total
Almeria	1	7		4	12	3				3		68	68		344	344
Biliran				11	11						444	957	1,401	2,483	5,395	7,878
Cabucgayan		51		19	70	22	49			71	571	195	766	3,107	996	4,103
Caibiran				4	4							1,247	1,247		6,647	6,647
Culaba		1			1	1				1		407	407		2,422	2,422
Kawayan		5	10		15	2				2		878	878		4,251	4,251
Maripipi	31	41	8	2	82	17	2		12	31	160	638	797	779	3,246	4,025
Naval (Capital)		13	10	11	34	6	4	8	1	19		1,798	1,798		8,523	8,523
Provincial Total	32	118	28	51	229	51	55	8	13	127	1,175	6,388	7,363	6,369	31,825	38,195

Table 4.1.6 Operating Status of Existing Wells in the Province

Operating Status	Unit	Public Facility		Private Facility		Total
		Deep Well	Shallow Well	Deep Well	Shallow Well	
Functioning	No.	32	40		129	201
	Percent	84%	93%	-	95%	93%
Non-Functioning	No.	6	3		7	16
	Percent	16%	7%	-	5%	7%
Total Number		38	43		136	217

Note: Number of non-functioning wells includes abandoned wells, but details in number and reasons are not available.

Beneficiaries still rely on LGUs even for a simple replacement of parts such as gasket. As for existing public Level-I, the Barangay Council (BC) takes care of the O&M using the IRA allotted to the barangay. In cases where major repair is required, e.g., replacement of hand pump unit/major parts, the BC submits a barangay resolution requesting for repair to the municipal government. The municipal government assists them when financial sources are secured. Meanwhile, the beneficiaries contribute free labor.

Considering the current situation of beneficiaries, LGUs shall lead them to recognize the need of formation of association and participation for sound O&M of the facilities. Information dissemination to beneficiaries is a requisite.

Among others, deep wells usually necessitate repair/replacement of mechanical parts and redevelopment of the well itself. Apart from the same problems as deep wells, shallow wells have primary disadvantages such as the use of shallow aquifer which is easily affected by surrounding environmental conditions and the simple construction method applied (driving well point) that makes rehabilitation works difficult.

To prolong the service life of public deep wells, periodic check-up entailing preventive maintenance and redevelopment of wells are to be performed. Proper site selection and protection of well sources are requisites for shallow wells.

4.1.6 Water Supply Service Coverage

According to the definition of DOH in terms of safe and unsafe sources, service coverage was studied under "served", "underserved" and "unserved" categories.

The present population of the municipalities as of 1998, base year for planning purpose, was estimated referring to the NSO population census results (1903 to 1995, conducted 10 times), the 1995 Census-based National and Regional Population projection prepared by NSO and the Regional and Provincial Population projection prepared by NEDA Region VIII. In addi-

tion, the population distribution in 1995 census by urban and rural barangay prepared by the NSO was adjusted to meet actual conditions in the classification of barangays. Details are referred to Section 8.3.1 Population Projection.

Water supply service coverage by service level is estimated for urban and rural areas covering all municipalities under the following conditions and assumptions:

- Service percentage/population by Level III and Level II systems was estimated based on the questionnaire survey results.
- Unserved population was estimated using the percentages of unserved households to the total number of households by urban and rural area based on the questionnaire survey results and the 1990 population census data; "Households by Main Source of Drinking Water and City/Municipality".
- The rest of the population was considered served by Level I facilities assuming that 50% of the private facilities was shared by neighbors to supplement insufficiency of public facilities.

The average number of households sharing at each Level I public/private facility was calculated at an average of 36 households/facility under the above assumptions (details are referred to in Supporting Report).

Table 4.1.7 presents the profile of the service coverage in terms of served, underserved and unserved. As a provincial total, 74% of the population is adequately served (76% of urban population and 73% of rural population).

The percentage of underserved population is estimated at 8% of the total population (8% of urban population and 8% of rural population) who are depending on unsafe sources/facilities.

The provincial service coverage at present is exhibited in Figure 4.1.1 (details are referred to Supporting Report).

Among different service levels, Level III water supply systems have dominant service coverage in the urban areas of 5 municipalities (Almeria, Caibiran, Culaba, Kawayan and Naval).

Likewise, Level II systems play a certain role in most of the municipalities.

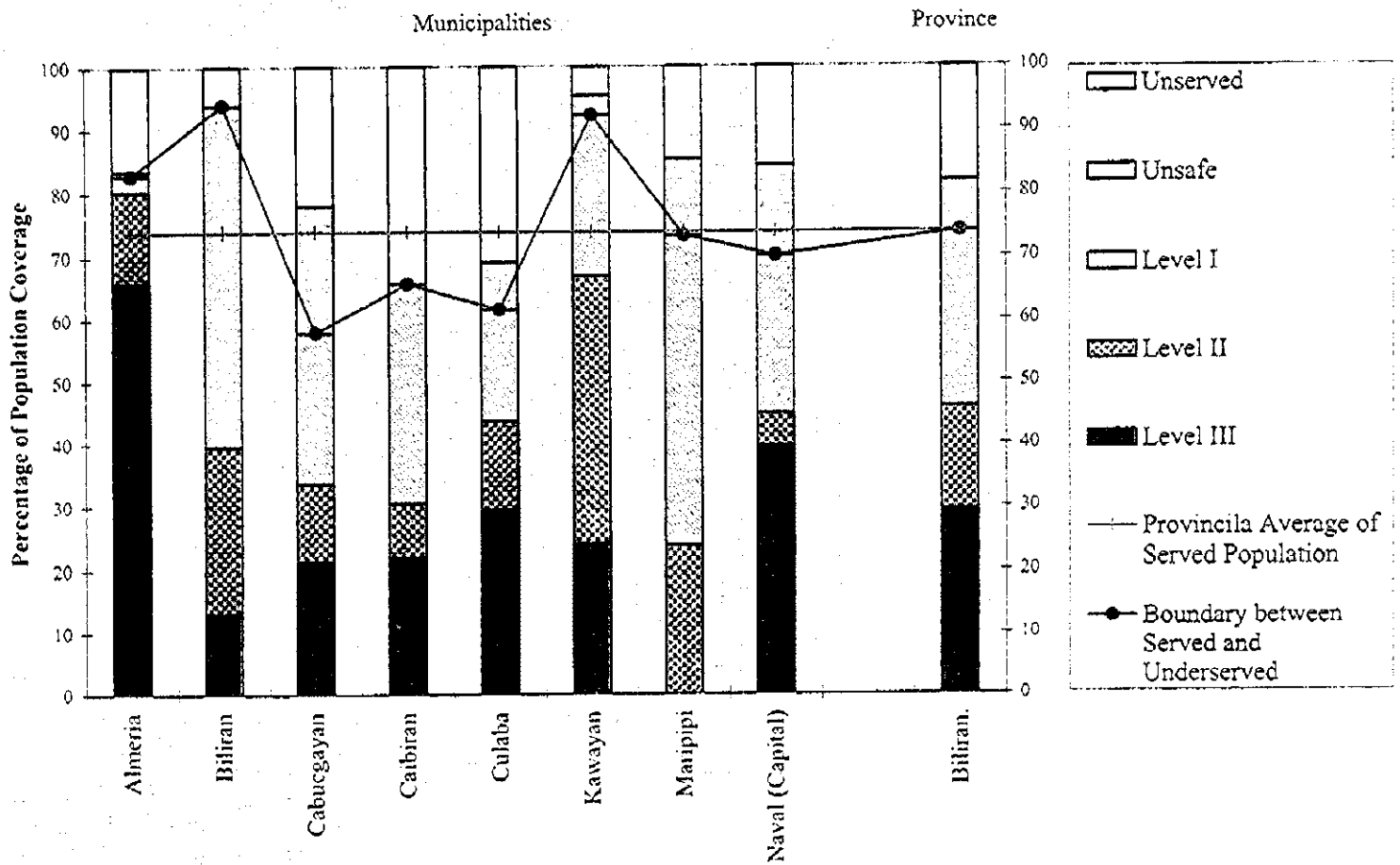
While, Level I facilities take a major role especially in the municipalities of Biliran (both in urban and rural areas), Caibiran (in rural area), and Maripipi (both in urban and rural areas).

Table 4.1.7 Water Supply Service Coverage by Municipality

Name of Municipality	Area	Population (1998)	Population Coverage							Percentage of Population Coverage						
			Served by Safe Source				Underseved/Unserved			Served by Safe Source				Underseved/Unserved		
			Level III	Level II	Level I	Total	Unsafe Source	Unserved	Total	Level III	Level II	Level I	Total	Unsafe Source	Unserved	Total
Almeria	Urban	2,857	2,567			2,567		290	290	90			90		10	10
	Rural	11,023	6,573	2,011	344	8,928	86	2,008	2,095	60	18	3	81	1	18	19
	Total	13,880	9,140	2,011	344	11,495	86	2,298	2,385	66	14	2	83	1	17	17
Biliran	Urban	4,799	1,920	330	2,483	4,733		66	66	40	7	52	99		1	1
	Rural	9,710		3,501	5,395	8,896		814	814		36	56	92		8	8
	Total	14,509	1,920	3,831	7,878	13,629		880	880	13	26	54	94		6	6
Cabuegayan	Urban	8,972	1,600	770	3,107	5,477	3,057	438	3,495	18	9	35	61	34	5	39
	Rural	7,937	2,000	1,320	996	4,316	338	3,283	3,621	25	17	13	54	4	41	46
	Total	16,909	3,600	2,090	4,103	9,793	3,395	3,721	7,116	21	12	24	58	20	22	42
Caibiran	Urban	6,053	3,816	30		3,846		2,207	2,207	63	0		64		36	36
	Rural	12,851	324	1,611	6,647	8,582		4,269	4,269	3	13	52	67		33	33
	Total	18,904	4,140	1,641	6,647	12,428		6,476	6,476	22	9	35	66		34	34
Culaba	Urban	4,447	2,128			2,128		2,319	2,319	48			48		52	52
	Rural	9,198	1,874	1,981	2,422	6,277	1,038	1,883	2,921	20	22	26	68	11	20	32
	Total	13,645	4,002	1,981	2,422	8,405	1,038	4,202	5,240	29	15	18	62	8	31	38
Kawayan	Urban	1,844	1,033	725		1,758		87	87	56	39		95		5	5
	Rural	15,027	3,023	6,525	4,251	13,799	535	693	1,228	20	43	28	92	4	5	8
	Total	16,871	4,056	7,250	4,251	15,557	535	779	1,314	24	43	25	92	3	5	8
Maripipi	Urban	1,434		366	779	1,145	206	83	289		26	54	80	14	6	20
	Rural	6,717		1,578	3,246	4,824	779	1,114	1,893		23	48	72	12	17	28
	Total	8,151		1,944	4,025	5,969	985	1,197	2,182		24	49	73	12	15	27
Naval (Capital)	Urban	10,559	9,630			9,630		929	929	91			91		9	9
	Rural	23,423	3,850	1,825	8,523	14,198	4,810	4,414	9,225	16	8	36	61	21	19	39
	Total	33,982	13,480	1,825	8,523	23,828	4,810	5,343	10,154	40	5	25	70	14	16	30
Provincial Total	Urban	40,965	22,694	2,221	6,369	31,284	3,263	6,418	9,681	55	5	16	76	8	16	24
	Rural	95,886	17,644	20,352	31,825	69,821	7,587	18,478	26,065	18	21	33	73	8	19	27
	Total	136,851	40,338	22,573	38,195	101,105	10,850	24,896	35,746	29	16	28	74	8	18	26

Note: Zero (0) percentage means that the value is less than one (1).

Figure 4.1.1 Water Supply Coverage of the Province



Percentage shares of population coverage by Level I public and private facilities in rural water supply are estimated at 97% and 3%, respectively (details are referred to in Supporting Report).

Taking into account the municipal service coverage of the 8 municipalities of the province, 3 are above the average provincial service coverage of 74% in terms of served population. The highest coverage is seen in Biliran at 94% (99% for urban and 92% for rural area), followed by Kawayan (92%) and Almeria (83%)

In contrast to the above, 4 municipalities are below the provincial average. The lowest is Cabucgayan at 58% and followed by Culaba (62%). The low coverage of these municipalities is due to a considerable number of non-reported/unidentified private wells.

4.2 Sanitation and Sewerage

4.2.1 General

The national strategy for sanitation and sewerage is demand-oriented. It aims to stimulate sustainable improvements in sanitation service coverage, public health, and environmental pollution abatement. To achieve this goal, the Government has made investment choices based on demand and the extent to which choices contribute to efficiency and cost-effectiveness.

This sub-sector focuses on household toilets, school toilets and public toilets (public markets, bus/jeepney terminals and parks/playgrounds). The latest data from the PHO on household and public toilets as well as from DECS on school toilets were gathered by municipality. In case of household toilets, data were consolidated by urban and rural area. These facilities were classified into sanitary and unsanitary in terms of structure rather than the surrounding conditions.

The Code on Sanitation of the Philippines provides the minimum standards for services dealing with public health. Specifically, Chapter XVII on Sewage Collection and Disposal, Excreta Disposal and Drainage (Implementing Rules and Regulations, 1995) defines alternatives for on-site sanitation and sewage collection and disposal. At present, the development of sewerage systems, even in the urban centers of the province is not given priority because of the huge investment cost it entails.

In the NEDA Board Resolution No. 12 (series of 1995), definitions of approved types of sanitary toilets were outlined (refer to 4.1.2, Data Report). There were 4 approved types of sanitary toilets including the sanitary pit privy where water is not used but provided with

cover to minimize the emission of foul odor and also to keep away flies and rodents. These definitions were applied in this Master Plan.

4.2.2 Types of Facilities and Definition of Service Level Standard

As set forth in the above-mentioned Resolution, the types of household toilet facilities commonly used are categorized into: 1) sanitary toilets - approved types of toilet facilities include water-sealed pour flush or flush-type toilets either with receiving pit or septic tanks/vaults, and ventilated improved pit latrines and sanitary pit privy (dry type) considering its low construction cost especially in rural areas and in areas where water is scarce; and 2) unsanitary facilities - include the types of facilities used for receiving and disposing human waste which do not fall under the category of approved types of toilet facilities such as open pit privy and over-hung latrines (refer to Figure 4.2.1 DOH standard structure of a household toilet that meets the minimum requirements of a sanitary facility, Supporting Report).

In terms of service level, households are classified into: 1) served households - households with at least one (1) sanitary toilet; 2) underserved households - households with unsanitary toilets; and 3) unserved households - households without toilet. Coverage of adequately served households (with sanitary toilets) was estimated by urban and rural area of municipalities. The remaining households were considered as underserved or unserved. The service coverage was determined using the estimated number of households in 1998.

Service level standard for both elementary and secondary school toilets is translated in terms of: 1) served students - students who are adequately covered by the DECS standard ratio of one (1) unit per 40 students with access to sanitary toilets (number of sanitary toilet units multiplied by 40); and (2) underserved or unserved students - those with unsanitary and without toilet facilities, and students unserved (based on the standard ratio) even though they have access to sanitary toilets. Service coverage of adequately served students was estimated both for public and private schools by municipality. Figure 4.2.2, Supporting Report shows a standard structure of a school toilet facility adopted by the DOH through the JICA-DPWH and DOH Rural Environmental Sanitation Project.

For public toilets, the service level is classified into: 1) served - utilities that have at least one (1) sanitary toilet, and 2) underserved or unserved - utilities that have unsanitary or without toilet facilities. Service coverage of public utilities was estimated as a percentage of sanitary facilities to the total number of utilities. Figure 4.2.3, Supporting Report shows a standard structure of a public toilet facility adopted by the DOH

4.2.3 Sanitation Facilities and Service Coverage

(1) Household Toilets

The service coverage of sanitary toilets in the province is 59% of the total number of households. The rest is underserved or unserved. Of this, a high 76% is without toilet facilities (refer to Table 4.2.1, Supporting Report and 4.2.3 Sanitation Facilities and Service Coverage, Data Report).

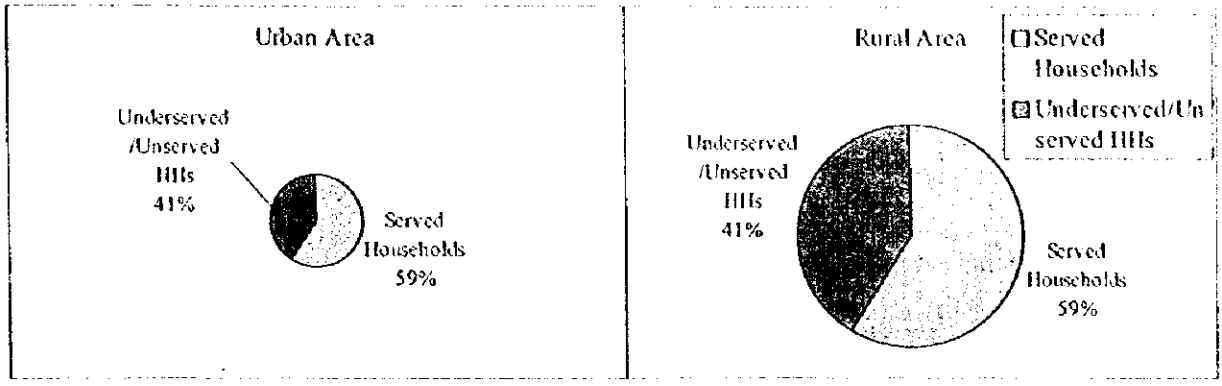
Municipalities that have higher service coverage than the provincial average of 59% are Almeria (83%), Kawayan (74%) and Naval (66%). On the other hand, the municipalities that registered service coverage below the provincial average are Biliran (52%), Cabucgayan (52%), Maripipi (49%), Caibiran (42%) and Culaba (32%). It was observed that in municipalities that have high water supply service coverage (Almeria, Kawayan), high sanitation coverage occurs and correspondingly, in low water supply service coverage (Culaba, Cabucgayan), low sanitation coverage also occurs. This can be attributed by the fact that the development of water supply almost always follows the upgrading of the household sanitation facilities because of access to water.

In both urban and rural areas, about 59% of the total households are served. Table 4.2.1 shows the municipal breakdown in the number of urban and rural household toilets by category and service coverage. Figure 4.2.1 reflects the provincial service coverage of household toilet facilities for urban and rural areas.

Table 4.2.1 Sanitation Facilities and Service Coverage of Household Toilets, Urban and Rural, 1998

Municipality	Households, 1998			Household Toilets Facilities and Service Coverage											
				Urban				Rural				Municipal Total			
	Urban	Rural	Total	HHs Served by Sanitary Toilets		Underserved/ Unserved HHs		HHs Served by Sanitary Toilets		Underserved/ Unserved HHs		HHs Served by Sanitary Toilets		Underserved/ Unserved HHs	
				Number	% of HHs	Number	% of HHs	Number	% of HHs	Number	% of HHs	Number	% of HHs	Number	% of HHs
Almeria	547	2,170	2,717	382	70	165	30	1,886	87	284	13	2,268	83	449	17
Biliran	858	1,722	2,580	559	65	299	35	794	46	928	54	1,353	52	1,227	48
Cabucgayan	1,649	1,556	3,205	889	54	760	46	782	50	774	50	1,671	52	1,534	48
Caibiran	1,127	2,411	3,538	362	32	765	68	1,107	46	1,304	54	1,469	42	2,069	58
Culaba	731	1,546	2,277	80	11	651	89	649	42	897	58	729	32	1,548	68
Kawayan	388	3,105	3,493	369	95	19	5	2,226	72	879	28	2,595	74	898	26
Maripipi	294	1,320	1,614	101	34	193	66	671	51	649	49	772	48	842	52
Naval (Capital)	2,137	4,942	7,079	1,820	85	317	15	2,879	58	2,063	42	4,699	66	2,380	34
Provincial Total	7,731	18,772	26,503	4,562	59	3,169	41	10,994	59	7,778	41	15,556	59	10,947	41

Figure 4.2.1 Provincial Service Coverage of Household Toilet Facilities, 1998



Even if high percentages of sanitary toilets are revealed in the urban areas, problems arise from the unsatisfactory disposal of the effluent from the septic tanks or the direct discharge of wastewater to the local drains. Generally, there is little concern about the unsatisfactory disposal of wastes once it is outside their dwelling units. Practically, almost all the households dispose their wastes in the manner that poses risks to public health. Sullage waste management is unheard of.

(2) School and Public Toilets

Toilet facilities in elementary and secondary schools for both public and private schools were investigated. The province has a total of 284 toilet units found in 136 schools. Sanitary toilets adequately serve only 35% of the students. The rest, 65% is underserved or unserved. Meanwhile, sanitary toilets adequately serve about 35% of the public school students. Table 4.2.2 provides the number and service coverage of school toilet facilities.

The number of sanitary school toilets is very low to meet the service level standard of 40 students per sanitary facility. At present, the average ratio is 113 students per sanitary toilet, almost triple the standard level. For public school, the ratio is even higher at 115 students per sanitary facility. A number of school toilets are not being used due to lack of water supply, destroyed plumbing fixtures and water tank seepage. Proper operation and maintenance are not usually done. In some areas, this problem is compounded when access to the sanitary facility is limited to only the teachers and guests.

DECS is currently promoting the practice of having one toilet within the classroom. This practice should be thoroughly reviewed with respect to maintaining sanitary condition,

provision of water faucet/supply in every toilet/unit, proper design of depository to avoid groundwater pollution, and provision of regular sludge collection and disposal.

There are 12 public toilets found in public markets, bus/jeepney terminals and parks/playgrounds in the province. Of these, 10 are considered as sanitary toilets resulting to 83%. Table 4.2.3 shows the number and service coverage of public utilities.

Public toilets at markets, bus/jeepney terminals and parks/playgrounds, although culturally acceptable, are improperly used and maintained resulting to unsanitary conditions. In most cases, no specific arrangements are made for the operation and maintenance and for the collection of fees to cover such costs. Although considered as sanitary because of the structure, most of the facilities have unsanitary conditions due to inadequate/lack of water supply and destroyed appurtenances because of vandalism.

Table 4.2.2 School Toilet Service Coverage by Municipality

Municipality		Number of School	Total No. of Student	Number of Toilet		Service Coverage			
				Sanitary	Unsanitary	Served	%	Unserved	%
Almeria	Public	17	3,583	26		1,040	29	2,543	71
	Private								
	Total	17	3,583	26		1,040	29	2,543	71
Biliran	Public	12	2,932	27		1,080	37	1,852	63
	Private								
	Total	12	2,932	27		1,080	37	1,852	63
Cabucgayan	Public	13	3,632	20		800	22	2,832	78
	Private								
	Total	13	3,632	20		800	22	2,832	78
Caibiran	Public	18	5,370	25		1,000	19	4,370	81
	Private								
	Total	18	5,370	25		1,000	19	4,370	81
Culaba	Public	12	3,088	32		1,280	41	1,808	59
	Private								
	Total	12	3,088	32		1,280	41	1,808	59
Kawayan	Public	20	4,411	66		2,640	60	1,771	40
	Private								
	Total	20	4,411	66		2,640	60	1,771	40
Maripipi	Public	12	1,950	18		720	37	1,230	63
	Private								
	Total	12	1,950	18		720	37	1,230	63
Naval (Capital)	Public	30	6,650	60		2,400	36	4,250	64
	Private	2	376	10		376	100		
	Total	32	7,026	70		2,776	40	4,250	60
Provincial Total	Public	134	31,616	274		10,960	35	20,656	65
	Private	2	376	10		376	100		
	Total	136	31,992	284		11,336	35	20,656	65

Table 4.2.3 Public Toilets Facilities and Service Coverage in 1998

Municipality	Number of Sanitary Toilets			Number of Unsanitary Toilets			Total Number of PU Toilets	Served		Underserved	
	Public Markets	Bus/Jeepney Terminals	Parks/ Playground	Public Markets	Bus/Jeepney Terminals	Parks/ Playground		Number of Sanitary Toilets	%	Number of Unsanitary Toilets	%
Almeria	1						1	1	100		
Biliran	1	1					2	2	100		
Cabucgayan			1	1			2	1	50	1	50
Caibiran					1		1			1	100
Culaba	1						1	1	100		
Kawayan			1				1	1	100		
Maripipi											
Naval (Capital)	2	2					4	4	100		
Provincial Total	5	3	2	1	1		12	10	83	2	17

4.2.4 Sewerage Facilities

There are no existing sewerage facilities in the province. Most of the wastewater from the dwelling units with acceptable facilities finds its way to open drains and eventually to water-courses. These deficiencies are the major contributing factors to the poor condition of the water environment in some areas of the province.

Chapter 5

EXISTING SECTOR ARRANGEMENT AND INSTITUTIONAL CAPACITY

5 EXISTING SECTOR ARRANGEMENT AND INSTITUTIONAL CAPACITY

5.1 General

Much has happened in the sector since 1987 when the national master plan for the sector was initially prepared. Its development targets to be attained for the medium term was renewed in 1996 through the Updated Medium Term Development Plan. The water supply, sewerage and sanitation sector today is still in a transition stage. As a recent development, a national level comprehensive plan, "The Philippine National Development Plan: Directions to the 21st Century," was published in 1998 by the NEDA.

As for the institutional aspect, the Local Government Code (1991) has essentially re-defined the role, relationship and linkages of central, provincial, municipal and barangay institutions in the provision of social basic services, including water and sanitation. Before the issuance of the Code, the responsibilities for water supply and sanitation functions were lodged with various national agencies. The new direction mandates the Local Government Units (LGUs) to play a larger role in planning and implementing water supply and sanitation projects; however this has raised serious institutional capacity and resource reallocation issues.

Chapter Five provides an overview of existing sector policies and arrangements as a basis for formulating modifications and improvements. It identifies current capacity building issues that need to be addressed in the early stages of master plan implementation. More importantly, it assesses the impact of the present devolved delivery system at the local levels.

5.2 Sector Reforms

The GOP has set the future agenda for sector reform. These initiatives followed the completion of the Water Supply Sector Reform Study and the National Urban Sewerage and Sanitation Strategy Study. The GOP has endorsed the major recommendations of these studies through the following NEDA resolutions. Further, these resolutions are reflected in the above mentioned National Development Plan.

(1) NEDA Resolution No.4 (series of 1994)

In the context of the LGC and related decentralization efforts, LGUs now play a lead role in basic service delivery. NEDA Resolution No. 4 allows LGUs to implement all levels of water supply projects and redefines the roles of other sector agencies.

With the purpose of ensuring common interpretation of clause (g) of NEDA Board Resolution No.4 (series of 1994), the Implementing Rules and Regulations or IRR was prepared by the DILG and was approved by the NEDA in 1998. It delineates the responsibilities of government agencies involved in the sector and defines the role of LGUs in the provision of water supply and sanitation services, including O&M of the facilities. The new direction mandates the LGUs to play a larger role with an emphasis on institutional strengthening which is needed to adequately perform their devolved functions.

(2) NEDA Resolution No. 5 (series of 1994)

This resolution reaffirms the principle of provision of urban sewerage and sanitation services. It designates LGUs as primary implementors of the sanitation/sewerage programs, and also mandates the creation of a Central Project Support Office (CPSO) at LWUA to assist LGUs in the formulation, preparation and implementation of sewerage/sanitation projects.

(3) NEDA Resolution No. 6 (series of 1996)

Providing the national government assistance to LGUs in the implementation of devolved infrastructure activities/facilities under the LGC in support of national priority programs in order to ensure efficiency, effectivity and more focused implementation. It affirms DILGs' responsibilities for overseeing and administrating the NG assistance to LGUs in the implementation of devolved infrastructure programs/projects, and institutional, capacity and capability building of the LGUs (refer to 5.2, Data Report for the full text of NEDA Resolution No. 4, 5 and 6).

5.3 Sector Institutions

(1) Existing Institutional Arrangements

Although the LGC mandates major changes on sector structure and performance within LGUs, the sector is still in transition. The new sector role and respective responsibilities of the LGUs and national agencies are defined in the IRR.

At the national government level, there are three line agencies (DPWH, DILG and DOH) and two government-owned and controlled corporations (MWSS and LWUA) which are responsible for sector project implementation (refer to Figure 5.3.1). A regulatory board, the National Water Resource Board (NWRB) coordinates the overall policy framework for water resources development and management. In addition, there are other government agencies involved but these are mainly concerned with macro planning, natural resources allocation decisions and environmental protection and management.

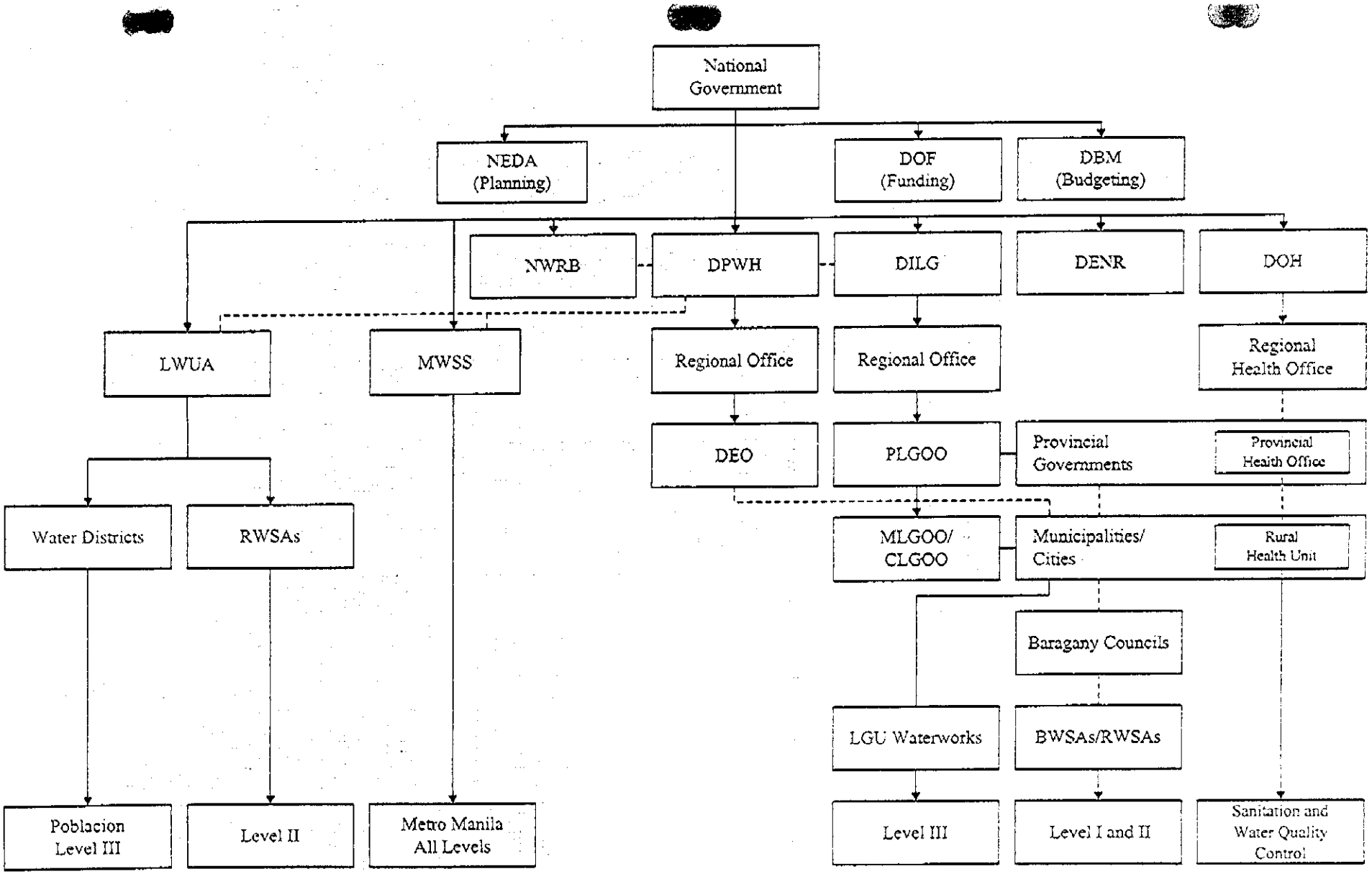


Figure 5.3.1 Functional Relationships

At the local level, field offices of national government agencies are present to guide and assist LGUs. The water districts and BWSAs deal with the actual delivery of water in different service levels. Also, some LGUs operate provincial and municipal water supply systems by themselves. The private sector, non-government organizations and community-based organizations also undertake water supply and sanitation activities in the rural communities.

With the government decentralization and issuance of the NEDA Board Resolution No. 4, drastic changes took place among the DPWH, DILG, DOH and LGUs. The transition functions of these agencies are presented in Table 5.3.1. As shown, the function of implementing water supply projects (which DPWH used to undertake) has now been transferred to the LGUs. The functions of PHO under the DOH have likewise been devolved to the LGUs. The overall coordination function for the implementation of the WATSAN projects is now the responsibility of DILG.

Table 5.3.1 Transition Functions of the DPWH, DILG and DOH

Activities	Previous Involvement (Before NEDA Board Resolution No.4 in 1994)	Present Involvement (After NEDA Board Resolution No.4, s. of 1994)
Identify projects	DPWH	DILG
Design/Construct Level I	DPWH	LGU (PEO/MEO)
Repair/Rehabilitate Level I	DPWH	LGU (PEO/MEO)
Formulate/Evaluate maintenance. Program	DPWH	LGU (PEO/MEO)
Organize BWSA	DPWH	LGUs w/ DILG assistance
Train BWSAs on O&M	DPWH	LGUs w/ DILG assistance
Procure/supply materials/spare parts	DPWH	LGU (PEO/MEO)
Sector/Project monitoring and data-management	DPWH	LGUs w/ DILG assistance.
Overall coordination for project implementation (project identification, training of BWSAs on O&M, and monitoring and data management). These functions were transferred from DPWH.	DILG	DILG
Assist LGUs to identify water supply systems, Level I, II and III. This function was transferred from DPWH.	DILG	DILG
Develop and implement rural sanitation programs nationwide	DOH	LGU (PHO)
Implement the sanitation component of integrated water supply and sanitation projects	DOH	LGU (PHO)
Monitor, inspect and disinfect water supply systems	DOH	LGU (PHO)
Provide its health workers with training on water quality surveillance, hygiene education, and water purification treatment processes	DOH	LGU (PHO)
Conduct health education campaigns	DOH	LGU (PHO)
Produce information, education and communication (IEC) materials on water supply	DOH	LGU (PHO)

(2) Sector Finance

In financing WATSAN activities, LGUs have fund sources as follows:

LGUs may tap their Internal Revenue Allotments (IRAs) which come from the national government regularly, and/or locally generated revenues. These resources can also be used as a leverage to borrow from government or private financing institutions.

In addition, grant funds from National Government are provided to LGU under its social infrastructure development. However, availing these funds are regulated with condition, e.g., zero to 50 percent of development costs will be subsidized but limited only to Level I systems for 5th and 6th class municipalities. No subsidy will be provided for Level II and III systems.

LGUs can access ODA loans for devolved activities. However, they must pass through the Municipal Development Fund (MDF) and a Government Financial Institution (GFI). The policy-making bodies of MDF and GFI determine the re-lending/on-lending terms passed on to the LGUs. The policy on accessing loans through the MDF is currently under review by the central government to make the terms and conditions more concessional towards the LGUs.

LGUs may either finance the sector projects directly or involve the participation of the private sector through concession-, management- or service-contracts. (Details on the sector finance are provided in Chapter 6.

5.4 Sector Agencies at the National Level

(1) Department of the Interior and Local Government (DILG)

The DILG is responsible, through the promulgation of rules and regulations and by means of technical assistance and training, for facilitating the implementation of the LGC. Accordingly, it is the lead national coordination agency responsible for the supervision and administration of water supply and sanitation projects implemented by LGUs. It is also mandated to strengthen local capacity for delivery of the services.

General administration and institution building support to LGUs entail the following: i) assistance in the formation and training of BWSAs, ii) coordination of master plan preparation, iii) provision of external funds and iv) formulation and installation of sector management systems (including O&M) and BWSA management systems. The DILG also

provides assistance to LGUs in terms of technical support for evaluation of water sources and design of simple water systems (Level I and II).

The Water Supply and Sanitation-Program Management Office (WSS-PMO), a unit within DILG, is primarily responsible for water and sanitation activities in the department. The Provincial Planning and Development Office (PPDO) and the Municipal Planing and Development Office (MPDO) are the immediate links of the DILG at the LGU level. For the purpose of ensuring coordination in implementing projects where there are other agencies involved, DILG facilitates the formation of Task Forces with the PPDO and the MPDO still assuming overall responsibility. Through the PPDO and MPDO, barangays that need improvements in water supply and sanitation are identified. Water supply and sanitation associations are then formed.

Likewise, the DILG is now one of the leading institutions tasked to promote gender-responsive project management. Under the leadership of focal points, gender awareness training seminars have been conducted at the regional and provincial levels.

(2) Department of Public Works and Highways (DPWH)

The Department was responsible for the construction and major repair/rehabilitation of rural water supply systems (Level I) and for the planning and execution of sewerage projects in some cities and larger poblaciones in the country with participation of LGUs. DPWHs' responsibility drastically changed with the implementation of NEDA Board Resolution No. 4. Based on the new mandate, the functions of DPWH are now limited to setting technical standards and assisting LGUs, upon agreement and in coordination with LGUs, in the conduct of surveys, preparation of plans, specifications, and programs of work, construction management and technical researches in WATSAN project.

The DPWH maintains about 92 District Engineering Offices (DEOs) nationwide at the field level. The DEOs have a water engineer and drilling crews and equipment. With the diminishing role, most of the staff members have transferred to the private sector.

(3) Department of Health (DOH)

The DOH is the principal health policy-making and implementing agency. Its main function is to develop and implement sanitation programs nationwide. It also administers health education campaigns aimed at reducing morbidity due to waterborne and sanitation-related illnesses, specifically diarrhea which, is the second leading cause of morbidity in the past years.

Under the current sector arrangement, the DOH shall assume the following responsibilities: i) set and/or update standards on water quality testing, treatment and surveillance and sanitary practices; ii) assist LGUs in the conduct of periodic water quality control and surveillance-related activities; and iii) monitor and evaluate health and hygiene education.

Through the Provincial Health Offices and Rural Health Units, the DOH conducts health and hygiene education campaigns that focus on women and children health improvement in rural communities. The DOH has produced and distributed the Information, Education and Communication (IEC) materials on water supply and hygiene behavior nationwide. Through its field health workers, it gives orientation to BWSAs on protection and disinfection of water sources and construction and maintenance of toilets.

(4) Local Water Utilities Administration (LWUA)

Presidential Decree 198 created the LWUA to act as a specialized lending institution for local Water Districts (WDs) and oversee the development of these water utilities based on the twin concepts of financial viability and self-reliance. In 1987, LWUA responsibilities were expanded to include assistance to Level II Rural Waterworks and Sanitation Associations (RWSAs). The provision of Level II and III services and of wastewater disposal systems in communities outside Metropolitan Manila is largely coordinated by the LWUA. However, NEDA Resolution No.4 directed LWUA to focus on its development-banking role to finance only viable WDs.

Financial services include economic and financial analysis, tariff analysis and fund sourcing. Various types of loans are available to finance the following activities: i) construction of water systems; ii) reactivation of non-operating systems; iii) rehabilitation and expansion of facilities; and iv) training. Special loans finance watershed management projects: construction of administration buildings; purchase of service vehicles, communication and computer facilities; restoration of facilities damaged by calamities; and initial or emergency operational needs. Commodity loans support generation of additional service connections.

LWUA maintains and fields a pool of management advisors, trainers, engineers and other professionals to give WDs and RWSAs proper guidance in their operation and administration. In addition, the Central Sewerage and Sanitation Program Support Office (CPSO) was established at LWUA to coordinate the implementation of sewerage and sanitation projects at the national level and to assist LGUs and WDs plan and manage sewerage and sanitation at the local level.

(5) Other National Agencies

There are other national agencies that provide macro planning, funding support, and regulatory guidelines for the water supply and sanitation sector.

The National Economic and Development Authority (NEDA), the countrys' central planning office, ensures that all agencies' plans and programs are consistent with national priorities in the Medium-Term Public Investment Program and the Priority Sub-Sector Activity Layout. External grants and loan proposals are reviewed and approved at NEDA through the Investment Coordination Committee (ICC). Together with the DILG, NEDA coordinates the establishment of a system for national sector master planning and monitoring system.

The Department of Finance (DOF) is responsible for the generation and management of the financial resources of the government. It reviews and approves all public sector debt, and sets the fiscal deficit of major government corporations (as part of the public sector-borrowing program).

The Department of Budget and Management (DBM) plans the budget allocations for government agencies, including capital and operating expenditures, equity infusion to public corporations, and grants and subsidies. The budget is sent annually to Congress for approval. DBM also ensures that budget releases conform to approved plans and programs.

The National Water Resources Board (NWRB) coordinates the overall policy framework for water resources development and management. NWRB was created by Presidential Decree No.424 in 1974 and is a high level ex-officio body responsible for coordinating and integrating all activities related to water resources development and management. As such, it formulates policies, evaluates and coordinates water resources programs, regulates and controls the utilization, exploration, development, conservation and projection of the country's water resources including the regulation of private and LGU-operated utilities.

The Department of Environment and Natural Resources (DENR) formulates and enforces policies and guidelines for environmental protection and pollution control. It is responsible for watershed protection and water resources management. It also checks compliance of major projects with environmental guidelines. DENR works with all environmental management agencies and special regulatory bodies.

The Department of Education, Culture and Sports (DECS) implements hygiene education programs through schools using the Teacher-Child-Parent (TCP) approach. Health and sanitation messages are integrated in the curricula and special activities are designed to make the parents and other family members practice what they learn. A wide range of learning materials is available and prototypes of safe water sources and water sealed toilets are set up in schools. DECS identifies priority schools for the GOP school toilet project and supports DOHs' integrated health information, education and communication campaign using the formal and non-formal educational system.

5.5 Sector Agencies at the Local Level

(1) Provincial Level

The provincial governor, as the chief executive of the provincial government, exercises such power and performs such duties and functions in pursuing general supervision and control over all programs, projects, services, and activities of the provincial government, including ensuring the delivery of basic services and the provision of adequate facilities.

The Sangguniang Panlalawigan, as a legislative body of the province, enacts ordinances, approves resolutions and appropriates funds for the general welfare of the province and its inhabitants. It approves ordinances that ensure the efficient and effective delivery of basic services and facilities, including the establishment and maintenance of a waterworks system or district waterworks for supplying water to inhabitants of component municipalities and cities.

The offices of the provincial government involved in WATSAN activities are the Provincial Planning and Development Office (PPDO), the Provincial Engineering Office (PEO), the Provincial Health Office (PHO), the Provincial Treasurer's Office (PTO), the Provincial General Services Office (PGSO), the Provincial Budget Office (PBO), and the Provincial Accountant's Office (PAO).

1) Provincial Planning and Development Office (PPDO)

The PPDO is in charge of the formulation of comprehensive development plans and policies for consideration of the Provincial Development Council (PDC). It conducts studies, researches and training programs to support plan formulation and promotes people participation in its planning activities. It likewise integrates and coordinates sectoral plans and studies undertaken by different functional groups or agencies, and monitors and evaluates the implementation of development programs/ projects and

activities. This office is composed of 7 people and is not departmentalized because of its limited manpower complement. The PPDO is headed by the Provincial Planning and Development Coordinator who is assisted by 3 technical staff and another 3 that provide support services. The members of the technical staff are the Planning Officer IV, Planning Officer III, and Planning Officer I, while the operational support is provided by a Planning Assistant, a Computer Operator and a Draftsman (refer to the organization chart, Figure 5.5.1, Supporting Report).

The PPDO coordinates with the PEO in the planning and implementation of water supply and sanitation sector projects. To strengthen the collaboration between the two offices and to enhance their implementing capabilities, a Provincial WATSAN Team was created through a Local Executive Order.

2) Provincial Engineering Office (PEO)

The PEO is responsible for the administration, coordination, supervision and control of the planning, designing, construction, maintenance, and improvement and repair of roads, bridges, public buildings, water works and other engineering and public works projects of the provincial government. It formulates policies and objectives, plans and programs, techniques and procedures/practices in infrastructure development, and provides engineering services such as investigation and surveys, designs, and project management. It also extends technical assistance and advice to the component municipalities as well as the barangays in planning, construction, improvement and repairs of public infrastructure. The office has 5 sections, namely: Records, Planning and Design, Construction & Maintenance, Motorpool, and Repair & Maintenance (refer to the organization chart, Figure 5.5.2, Supporting Report).

- Planning & Design Section - This section is responsible for formulating and integrating infrastructure plans, programs and projects of the provincial government with regard to construction works. It is mainly involved in the conduct of engineering surveys and the preparation of plans/drawings, specifications and estimates for the construction of projects.
- Construction & Maintenance Section – Its function is to provide overall technical supervision of activities related to the construction of roads and bridges, buildings, water supply facilities, and other civil works and also the maintenance of roads and bridges and drainage systems along provincial roads. It is also responsible for the improvement and rehabilitation of critical sections along the provincial road network, intake boxes/reservoirs and pipelines and other horizontal infrastructures.

- Motorpool Section – The motorpool section sees to it that vehicles and heavy equipment of the provincial government are kept in good operational condition. This section has several personnel who perform repair and maintenance work on the motor vehicles of the province. It assists the construction section in the implementation of infrastructure projects.

Though the PEO has experiences in implementing Level I, II and III, and it has 4 civil engineers and 1 chemical engineer that can be assigned for water supply projects, there is no trained water supply engineer. Hence, certain measures for capacity improvement to undertake the projects will be necessary.

3) Provincial Health Office (PHO)

The provision of health services to the people in the province is carried out by the PHO which, is based in the Biliran Provincial Hospital. The organization set up and services accountabilities are divided into two: hospital services, which is under the Provincial Health Officer, and field health services supervised by a medical specialist. The PHO has the responsibility of promoting, protecting, preserving and rehabilitating the health of the people of Biliran through the operation and maintenance of the hospital and its network, and to support the implementation, supervision and monitoring of local and national health programs. It provides technical assistance to rural health units (RHU) and to barangay health stations (BHS). It also assists in the promotion and maintenance of public sanitation, conducts field health information campaigns, and renders health intelligence services. Likewise, it is tasked to conduct quarterly water quality surveillance, but this is being done irregularly (refer to Figure 5.5.3, Supporting Report for the organizational structure).

4) Provincial Treasurer's Office (PTO), Provincial Budget Office (PBO), Provincial Accounting Office (PAO), and Provincial General Services Office (PGSO)

The PTO takes charge of the disbursement of all local government funds. It collects taxes, revenues, fees and other charges that are needed to support the general appropriation ordinance. The office maintains and updates the tax information system in coordination with all treasury offices of component municipalities and exercises local supervision over these offices. It reviews the tax ordinance of the municipalities, conducts periodic tax education information/collection campaigns and trains barangay treasurers and officials on the methods of collecting real property taxes and other fees and charges.

The PBO administers the fiscal budget of the provincial government. It is responsible for budget preparation, execution, control and accountability. The office reviews and consolidates the budget proposals of different offices of the provincial government and likewise assists the Sangguniang Panlalawigan in reviewing the municipal budget. It coordinates budget concerns with the treasurer, the accountant, and the planning and development office coordinator.

The PAO is tasked with the recording and reviewing financial transactions in accordance with government accounting principles, rules and regulations. It summarizes and prepares financial statements for submission to different offices to provide information on the financial condition and operation of the province. The office also reviews financial transactions in accordance with existing auditing rules and regulations and recommends measures to improve the utilization of government funds and properties. It certifies to the availability of budgetary allotment to which expenditures and obligations may be properly charged. It also processes vouchers by reviewing supporting documents to determine completeness of the requirements.

The PGSO provides management support to the provincial government by rendering general services that ensure efficiency, economy and effectiveness in the conduct of its operations. It is responsible for the acquisition/procurement of supplies and materials of the line departments as identified in the over all fiscal plan and makes sure that properties are properly accounted for, managed, and utilized. It collates and disseminates information on prices, shipping and other costs of supplies commonly used by the provincial government, including those needed by the hospitals.

5) Provincial Development Council

Each local unit shall have a comprehensive multi-sectoral development plan to be initiated by its development council and approved by its Sanggunian. For this purpose, the development council at the provincial, municipal, city or barangay level, assist the corresponding Sanggunian in setting the direction of economic and social development, and coordinating development efforts within its territorial jurisdiction.

(2) Municipal and Barangay Level

1) Municipality

The municipal LGU functions primarily as a general purpose government agency that delivers basic, regular, and direct services and provides effective governance of the inhabitants within its territorial jurisdiction. It has a similar organizational structure

and legislative authority as that of the province. For WATSAN projects, the following offices are directly involved.

The Municipal Planning and Development Office (MPDO) is in charge of municipal planning and development. It is mandated to formulate integrated economic, social and physical development plans and corresponding policies for the consideration of the Municipal Development Council (MDC). Its regular activities include preparation of planning documents and monitoring and evaluation of projects.

The Municipal Engineering Office (MEO) is responsible for formulating and integrating infrastructure plans, programs and projects of the municipal government. It regularly performs engineering surveys to acquire data for designs/layout for construction of waterworks systems, sanitation facilities and other infrastructure projects. It also inspects the work of contractors based on approved plans and specifications.

The Municipal Health Office (MHO) provides through Rural Health Units/Barangay Health Stations (RHUs/BHSs) health services to the barangay residents such as family-planning activities, emergency/relief services especially in far-flung barangays, and other similar activities that promote the general well-being and health needs of the people. Midwives and other health workers schedule periodic visits to the RHUs/BHSs. It conducts water quality testing through the Rural Sanitary Inspector who works under the supervision of the Provincial Supervising Sanitary Inspector.

2) Barangay

The LGC has designated barangays as independent units of local government. The Barangay Council (BC) acts as a legislative body of the barangay. The barangays receive their shares in the IRA from the National Government. Apart from this, the BCs can enact tax and revenue ordinances to raise funds for discharge of the responsibilities conferred upon them by law and for the promotion of the general welfare of the inhabitants. They may also solicit funds for the construction of barangay facilities and charge reasonable fees for the use thereof.

(3) Field Offices of Central Sector Agencies

1) DPWH District Engineer's Office (DEO)

The DPWH has a lone engineering district in the province. The DEO is mandated to undertake and evaluate the planning, design and construction, and work supervision functions for all public works within the district. It coordinates with other depart-

ments, agencies, institutions and LGUs within the district in the implementation of infrastructure projects. Currently, the DEO has a water supply section which, is under the Construction Division. The technical staff of this section consists of a water supply engineer, a well driller (but not equipped with drilling rig) and a supervisor.

2) DILG Provincial/Municipal Offices

The Provincial Director and the Municipal Local Government Operation Officer are assigned to the respective province and municipality and are tasked to provide general administration and institution-building support to the local government, especially in the water and sanitation sector, in order to strengthen their capacity to deliver basic services.

3) NEDA Regional Office and Regional Development Council

Various public and private sector organizations coordinate with DILG to establish the system for regional sector master planning and the monitoring system. The NEDA Regional Office acts as a secretariat of the Regional Development Council and ensures that sector plans are consistent with regional and national priorities. The office requires project proposals/plans and programs to be approved and endorsed by the Provincial Development Council, whose task is to incorporate, consolidate, and prioritize municipal plans, programs and projects.

The NEDA Regional Office No.8 has already prepared the Regional (Region VIII) Master Plan (1999-2004). The PPDO was involved in the preparation of the M/P, specifically that concerns the province. NEDA also referred to the Provincial Development Investment Plan (1999 –2004) that was the basis of their annual action plan.

(4) Community Institutions and Waterworks Operating Bodies

1) Barangay Waterworks and Sanitation Association (BWSA)

RA 6716 requires BWSA formation to ensure the provision of adequate, potable, and accessible water supply to its members through the proper operation and maintenance of water supply facilities. Its aim is to improve the health and economic well-being of their members, by providing them with safe and potable water for domestic use at a reasonable charge. It is also responsible for setting up their own financial contributions through collection of monthly dues for O&M of the system. The organizational size depends on the number of facilities, and the need, culture and situation in a particular barangay. Its structure is quite simple as consisting of the Board of Directors (BODs), a bookkeeper, and caretaker/s.

2) Water District (WD)

A Water District is formed pursuant to Presidential Decree No.198 and organized for the purpose of serving the water supply requirements of the residents within its franchise area. Technical and financial assistance (loans) are provided by LWUA to WDs. LWUA also exercises regulatory functions vis-a-vis the districts. To be self-sufficient, a WD is operated in a business-like manner to generate enough revenue from its water services. The income is used to meet operational expenses, debt service, and reasonable reserves for future rehabilitation of facilities and contingencies. Presently, one (1) WD is supplying water to its franchise area.

3) LGU Waterworks

The municipalities of the province established LGU waterworks within their organizations for delivering Level III water supply services to residents and establishments in the areas, which are not covered by the Water Districts. These waterworks are presently undertaking the operation and maintenance of the respective Level III water supply systems by themselves. The fees are being collected from water users for recovering cost of operation and maintenance of facilities.

(5) Private Sector and NGO

Many water and sanitation systems are implemented by the private sector, NGOs, and community-based organizations which often times undertake the operation and maintenance of these systems. NGOs and the private sector for the past decade have been involved in water supply development through investments, technical studies and construction of water supply and sanitation facilities. They have also demonstrated capability to undertake project implementation through strong community participatory approach.

5.6 External Support Agencies Active in the Sector

(1) USAID

The Barangay Water Program (BWP) was a special project being implemented by the then Ministry of Local Government (now DILG) with financial assistance from the USAID. The program envisions to improve the health status of small rural farming and fishing communities by providing safe, adequate and potable water through the establishment of public faucets or individual house connections. The systems for these communities should be owned, operated, maintained and managed by the users themselves through rural waterworks and sanitation associations. The program also intended to enhance the

capabilities of local government units in project planning, programming, designing, implementation, evaluation and monitoring. Phase I of the BWP was implemented in the period 1978 -- 1981; Phase II started in 1982 and was extended until December 1987. Phase II operations officially ended in December 1987, but a one-year winding-up period was agreed upon between the GOP and USAID. USAID extended loans to cover the construction costs and the installation of facilities on a reimbursement basis while the GOP through DILG shouldered the operational, training and personnel costs. Through BWP, waterworks projects were implemented in 50 provinces, 22 cities and 7 municipalities.

(2) World Bank

The World Bank supported the First Water Supply, Sewerage and Sanitation Sector Project or FW4SP. This project provided capital funds (US$58.0M) for rural water supply systems in Luzon provinces and sanitation facilities nationwide based on completed provincial master plans. The project concept called for a community-based approach through BWSAs. It was implemented from 1991 to 1995 with an extension of up to 1997. Subsequently, the Capacity Enhancement Program (CEP), with DILG as implementing agency, was conducted until the end of 1997. In addition, the Bank prepared a new loan for DILG implementation - the Local Government Urban Water Supply & Sanitation Project. This project will assist municipalities of the lower tier income class i.e. 4th, 5th, and 6th (approximately 50 municipalities in 20 provinces nationwide which, are not covered by Water Districts) so as to improve their water supply and sanitation services. Through its various trust fund facilities, the bank has also arranged for various technical assistance grants and other support activities.

(3) UNICEF

The United Nations Childrens' Fund (UNICEF) supports the sector through the Philippines Plan of Action for Children. Apart from hardware support in the priority project site, UNICEF assisted NEDA in updating the national master plan. UNICEF works through the inter-agency committee on environmental health and through the NGOs. With the World Health Organization (WHO), UNICEF has been assisting in the preparation of Information, Education and Communication (IEC) materials and in strengthening the sector monitoring system. As part of these various assistance, UNICEF supported NEDA in 1997 for the assessment of WATSAN Sector of Eastern Visayas (Region VIII) and Southern Mindanao (This was compelled by the sudden and unexpected occurrence of water-borne epidemics that hit Region XI).

(4) ADB

The Asian Development Bank (ADB) supports the Rural Water Supply & Sanitation Sector Project (RW3SP) through sector lending approach for the 20 prospective provinces of the country. The project area covers about 3,000 rural communities with population ranging from 200 to 5,000 persons in provinces located in Luzon, Visayas and Mindanao. RW3SP will: i) provide capacity-building to local government units (LGUs) to enhance the delivery of social services, ii) improve social infrastructure for basic needs such as water supply and sanitation, and iii) reduce poverty incidences. The project also includes i) comprehensive institutional capacity-building, ii) community development program, iii) point source water supply systems, and iv) public and household latrine facilities. This will be implemented from 1995 – 2000.

Other external agencies' activities on WATSAN projects are shown in the Supporting Report. The terms and conditions, priority areas, programs and projects by donor agency are shown in Table 5.6.1, Supporting Report.

5.7 Project Management Arrangement, and Issues and Problems

With reference to project management of the province, current vision and policies and practices in the implementation of WATSAN projects were investigated. The findings are discussed in terms of technical, institutional, financial, and community development aspects. Problems/issues are also discussed by sub-component. Current conditions of the municipalities investigated are referred to. Furthermore, some of the discussion items covered the entire sector management field.

5.7.1 Technical Aspect

(1) Project Identification and Prioritization

1) Project conceptualization and series of procedures to select a project

Annually, the provincial government identifies and prioritizes projects based on perceived needs. The PPDO consolidates WATSAN data extracted from the Barangay and Municipal Development Plans and resolutions. The 3 technical staff of the PPDO conduct fieldwork together with their counterparts at the MPDO to identify and support project needs. This is accomplished through series of meetings with barangay people/ officials. Afterwards, the conduct of the required survey in identified barangays is undertaken.

Barangay Council/s (BC/s) regularly submit barangay resolutions regarding priority projects to the municipality, in addition to their Barangay Development Plan. These project proposal/s are incorporated in the Municipal Development Plan. The Municipal Development Council, through its sectoral committee reviews, gives recommendations for endorsement to the Sangguniang Bayan (SB) for the adoption and approval.

Before incorporating it into the Provincial Development Plan, the PDC through its sectoral committees endorses the municipal development plan for consideration and prioritization.

2) Criteria for selection of the projects

Project selection criteria are based on the indicators prepared by the NEDA Regional Office. These were meant to identify the existence of problems constraining the achievement of certain development objectives and/or to determine the perception of development potentials. However, it is still the Barangay Development Plan prepared by the barangay council and ratified during a barangay assembly, which serves as the benchmark for the realization of the people's aspiration.

To further ensure the sustainability of the project, it is essential to involve the people, starting from demand identification during the basic survey stage. This is especially true for Level I water supply systems. A simplified coordination mechanism showing responsibilities/activities required among concerned parties is necessary. Periodic follow-up by LGUs at the barangays is also important to ensure logistic support and manpower requirements of the LGUs.

After submission of a project request by the barangay, a series of steps including identification, validation and prioritization has to be undertaken by the concerned LGUs. These steps result in considerable time consumed before funding is finalized. A systematic and coherent project identification and prioritization among concerned parties is required.

With reference to the implementation of the medium-term target plan, review and modification of selection/prioritization criteria is done by LGUs taking into consideration the said barangay profile. The LGUs, together with barangay officials, should prepare the requirements (including barangay profile) in an expeditious manner as part of their annual activities.

(2) Feasibility Studies and Detailed Design of Facilities, and Contract Procedures

The provincial government is able to conduct water source development for both spring and groundwater sources. In the case of spring development, technical-related information is collected from the barangay. This involves the location of untapped springs and determining its discharge rate during the dry season. The preliminary topographic survey (elevation and distance) is then conducted to prepare the hydraulic profile of the transmission pipeline. For groundwater development, its technical feasibility is evaluated based on available technical data along with information from the barangay duly supported by field inspection of the existing wells.

The Detailed Design (D/D) of WATSAN facilities is prepared by the Planning & Design Section of the Provincial Engineer's Office. It must be within the available budget. Design of Level II systems is made using existing manuals and references. The hydraulic calculation is limited to a single pipeline, while the design of the spring box/reservoir is a standard design of the RWDC (Rural Waterworks Development Corporation). However, the aforementioned section and other sections of the PEO has no experience in feasibility study as well as in planning and designing large waterworks facilities including pumping stations and water treatment facilities.

Future water supply system/s will require water treatment facilities, particularly those using surface water sources. The PEO will need more knowledge/practice in hydraulic analysis, structural calculation and water treatment technology. Measures to increase the capacity of LGU technical staff in the area of planning and designing have to be considered. This may also involve the utilization of consulting services.

The provincial office has several experiences in contracting out facility construction jobs to the local private sector. Additionally, it has extensive experience in the procurement of materials, such as cement, sand, reinforced bars and fittings.

(3) Procurement of Materials and Equipment, and Facility Construction and Rehabilitation

1) Procurement of materials and equipment

For water supply and sanitation projects, purchase of materials such as pipes, valves, and fittings is done through bidding under the PBACs' control. The province though has not procured yet a drilling rig nor has engaged consultancy services. The construction work is generally undertaken by local contractors, whereas rehabilitation is carried out either by contract or by administration through the PEO personnel. Al-

though the PBAC conducts the bidding, the technical capability to prepare bid documents and to evaluate bids is very minimal.

Because of the large workload required in implementing the Medium-Term Development Plan (which includes the preparation of the required tender documents), there must be a thorough evaluation of pre-qualification documents and contract procedure. Presently, even with the limited volume of work/projects, the procurement procedure already requires a long process which, always results in delays in project implementation. The provincial government should examine the current procurement system so that it could handle/manage forthcoming projects more efficiently.

2) Construction, Supervision and Rehabilitation

Construction of WATSAN facilities is usually done by the LGUs, either by the municipal or the provincial office. The barangay council and the users usually provide the labor. The PEO, together with the MPDO and MEO, manages project implementation by hiring skilled laborers. The PEO personnel supervise the construction work, and the technical personnel of the Project Monitoring Committee regularly monitor the projects. Before, DEO was requested to undertake construction of water supply facilities, but presently, DEOs' involvement in such works is minimal.

In the rehabilitation of Level I facilities, some projects employed skilled labor at the request of the waterworks association or beneficiaries. These projects were not completed on time due to budgetary constraints. It is thus important to clarify implementation mechanisms among the concerned parties.

In spite of the LGUs' efforts, it is apparent that their present implementation capability is limited to a certain number of projects due to insufficiency of manpower resources and the lack of service vehicles and support equipment. Contracting out the construction of projects to the private sector is therefore practical and expedient. It is also necessary to augment the number of experienced water supply engineers who will supervise the construction and rehabilitation of future projects.

(4) Operation and Maintenance (O&M) of Facilities

1) O&M of facilities by service level

For Level I facilities, the BWSAs or beneficiaries are responsible for O&M; however their performance was not sufficient due to lack of sense of ownership. This can be gleaned from the presence of numerous non-functioning/abandoned wells previously

constructed by DPWH. This problem arises due to lack of spare parts, drying up of water source and water quality problems such as murky water, salty water, etc. Sometimes, the BWSA encountered problems related to the water source just a few months after turnover of the facility. Thus, the beneficiaries revert to using their private dug wells.

Presently, the O&M of most Level I, including spare parts procurement, are done by the barangay councils. There were cases however, where the users contributed money to purchase spare parts when pump facilities broke down. It is therefore necessary for the users to consider not only the repair/replacement of mechanical parts but also the re-development of wells and the future upgrading of the service level.

Level II and III systems, which are rather small in size, are managed by RWSAs/ municipal LGUs. The required staff (permanent or casual) is designated to operate and maintain the facilities. There have been some cases, however, where expansion of distribution pipelines and additional service connections were undertaken without considering certain technical aspects, e.g., capacity of water sources and distribution facilities. F/S and D/D should be prepared on a timely basis by the qualified engineer/s to avoid the decrease of supply pressure and quantity. Preventive maintenance of the system cannot be followed due to the shortage of major spare parts because of budgetary constraints.

2) Communication mechanism practiced in case of facility breakdown

It was observed that in cases where major repairs were required (non-functioning of hand pump parts, etc. for Level I), the BWSA or barangay council merely passed a resolution to the municipality/DPWH-DEO requesting for immediate repair. However, most BWSAs have inadequate knowledge of the channel of communication with LGUs or the private sector. The request for repair is therefore improperly addressed. A better communication system has to be prepared and operationalized.

For major repairs of Level II and III (e.g. burst pipe/leakage), the municipal government permanent/casual personnel restore/repair the system. When the budget is insufficient, the BWSAs/RWSAs submit a funding request to the municipal or provincial government. Under the LGC, the LGUs are responsible for developing a system that will ensure sustainable O&M of water systems.

(5) Water Quality Examination

It is not uncommon to find fecal contamination at some water sources in all service levels. Water quality problems usually occur during floods. This is aggravated by poor sanitation conditions in most villages, e.g., inadequate toilet facilities, improper construction of depositories/latrines, lack of sludge/sullage disposal management, and absence of drainage facilities.

The Rural Sanitary Inspectors (RSIs) of the RHUs or the municipal government collect the samples. Sampling and disinfection in communities is done only when there is a need to do so. Collected water samples are analyzed at the provincial laboratory located at the Biliran Provincial Hospital in the capital town of Naval. Those found positive for bacteria content are disinfected by the RSI. A regular program of disinfection for all levels of services should be followed and not done only when the source is found positive of bacteriological contamination.

The analysis of the samples at the provincial laboratory depends upon the availability of chemical reagents, equipment and manpower. It is also possible that improper handling of samples, particularly for samples from areas that are far from the laboratory, results in wrong findings. It is important that the laboratory is adequately supplied with equipment, chemicals and manpower, and that water sample is handled properly.

The water quality examination usually done in the province examines only bacteriological content and the physical characteristics of the water samples; chemical parameters are not studied. Water samples are sent to the DOH Bureau of Research Laboratories for further analysis, specifically the chemical aspect. The provincial laboratory should consider other water quality parameters (physical and chemical) which are necessary to determine the potability of water as indicated in the National Drinking Water Standards.

The provincial government is in the process of setting up water analysis laboratories, in collaboration with the DOH under the sanitation component of the RW3SP, in two (2) strategically located municipalities to cater to the needs of communities that are quite far from the provincial capital.

(6) Private Sector Capability for the Sector Project

For Level I water supply facilities, most of the locally based private contractors have no capability in the construction of deep wells because of the lack of necessary drilling equipment. The LGU must have a list of qualified contractors in the cities of Tacloban

and Ormoc so that they can call them when needed. There are also few constructors who are capable of constructing and rehabilitating Level II and small-size Level III facilities in the province. The same as for Level I, the LGUs also need to have this list.

5.7.2 Institutional Aspect

(1) Implementing Capacity of LGUs

In spite of the LGUs' efforts, it is apparent that their present implementation capability is limited to a certain number of projects due to insufficiency of manpower resources, absence of a clear procedure and shortage of supporting vehicles/equipment. Contracting-out to the private sector may be practical. It is also necessary to increase the number of experienced water supply engineers and establish clear procedure to consider and supervise future projects.

Implementing capacity of municipal government is also limited, though a larger water supply system is managed by WDs with a higher expertise. Sanitation projects are under direct responsibility of municipalities and barangays with a coordination of the province. Commonly, qualified staff members are in short and training for the strengthening capacity building is not sufficient due to budgetary constraint. The assistance from existing WDs to the associations (Level I & II) may be one of the practical arrangements to ensure transfer of technical and management needs.

(2) Linkages among Concerns

The PPDO is a lead provincial office responsible for the implementation of WATSAN projects. It works either directly or indirectly with the national governments' local offices and municipalities as well as other provincial offices. There is, however, no established arrangement and responsibility delineation among the agencies involved in the WATSAN sector implementation in the province wherein interrelationship/linkages are clearly shown. Administrative and functional linkages are not spelled out, although in the area of PBME, the province is adopting the participatory monitoring and feed back mechanism developed through UNDP-assisted project (refer to 5.10.1 Project and Sector Monitoring). Subsequently fragmental planning and implementation of sector projects happens, and a number of agencies and offices have overlapping activities and functions.

For tri-agency program, e.g., DPWH, DILG and DOH implementing water supply projects, weak coordination has been demonstrated. There was difficulty in synchronizing activities that deal on physical construction of facilities (DPWH), as to activities that en-

tail training of provincial/municipal water and sanitation task forces and formation of BWSAs where target facilities will be constructed (DILG), and the installation of latrines and promotion of health and education programs (DOH). This assistance granted by NG agencies needs an integrated approach for an efficient WATSAN project implementation.

(3) Organizational Set-up

LGU is composed of province, municipality and barangay, and these units have respective responsibilities in implementing WATSAN project. However, support the delivery of water and sanitation services, the operating structure at the province, municipality and barangay levels and other identified organizational tasks should be put in place. This will enable smooth implementation of the projects.

Before, organizing the association at the barangay level was undertaken by the PWDTF that was spearheaded by the DPWH. Since locally funded water supply projects had been devolved to the LGUs, DPWH no longer initiated the organization of BWSAs. In the existing organization set up of the province, the implementation of the Provincial Water Program is placed under the PPDO and PEO. However, it was observed that the provincial staff (and also municipal staff) responsible for planning, managing, coordinating, implementing and monitoring the WATSAN projects are unable to devote full time because they are assigned to other works of various sectors.

(4) Operation bodies

In most cases, the operating bodies for the Level I facilities are not organized or non-functioning. A considerable number of public wells are abandoned/non-functional due to lack of O&M, dried-up of wells and other reasons. Most of the beneficiaries are not aware of the manner for O&M of the facilities. Beneficiaries still rely on LGUs even for a simple replacement of parts. Consequently, the barangay council often takes care of O&M. Considering the current situation of beneficiaries' involvement and experiences of abandoned/non-functional facilities, LGUs shall lead them to recognize the need of formation of association and participation for sound O&M of the facilities (information dissemination to beneficiaries is a requisite), and encourage the formation of association responsible for the facility's O&M.

The organization responsible for the O&M of Level II has some complexity comparing with that of Level I facility. Most of the Level II systems (and small Level III) in the province are managed by BCs. The merger or consolidation of these operation bodies can be explored for more effective and efficient system operation as well as system expansion

and new development. This arrangement entails collaboration and agreement among concerned parties and the LGUs shall act as a coordinator and facilitator for the purpose.

The idea for Level II systems can also be adopted for an effective and efficient operation and development of Level III water supply systems.

(4) Health and Hygiene Education with Typical Program

There was a time when PWDTF was active and performed the job of IEC campaign in selected barangays in the province. The current practice is that the PHO undertakes health and hygiene education as part of its regular programs. However, due to lack of financial support to and manpower at the PHO, relevant activities are quite limited at the present time, unless it is a component of a DOH/UNICEF/NGO projects/program. It is recommended to put more attention to the needs of LGUs to ensure sustainable implementation for the development of the sector.

(5) Training programs

The central government agencies provide technical training for the LGUs' staff on a project basis. The DILG-PMO conducted recently the "Trainers Training and Community Organizing Training/Workshop" for the WATSAN sector where some of the topics discussed dealt on gender and development (GAD). Since LGUs have employed the cascade type assistance in implementing WATSAN projects, strengthening LGUs' staff capability in technical and institutional training for effective and efficient project implementation is important and periodic trainers training program would be necessary.

The provincial government provides technical assistance to the municipalities and barangays on a project basis or when the training is requested. The PPDO, PEO and other departments and national government agencies who are members of the Provincial WATSAN Team usually conduct the training, which are aimed at strengthening the capability of O&M personnel at the municipal and barangay levels. The 3-day training course is to be participated in by BWSA officials. It covers technical and management matters of a Level I facility before its turnover. Effective training program/s should be continued by the LGUs to ensure demand-responsiveness in community development.

(6) Database management

The main problems concerning data-base management are the inadequacy of the network coverage, outdated monitoring equipment, scattered data collection responsibilities, lack of continuous data records and lack of an integrated water resources database. Most data

collection efforts are project related and are usually discontinued once the project is terminated. Good database will contribute toward the effective and efficient sector planning and project implementation. It is necessary to establish the database management system, at both national and local levels, which defines what, when, by whom the data/ information shall to be collected and where, how, how long it shall be kept.

5.7.3 Financial Aspect

(1) Budgetary Allocation to the Sector

The province pays for its capital expenditures using the 20% Development Fund (DF) of the IRA. An LGU may allocate more than 20% of its total IRA to capital projects on condition that the income of the LGU from all sources (including IRA) must first be applied to its contractual and statutory obligations. The Provincial Development Council (PDC) determines the sectoral allocation of the DF in the province.

Due to the limited resources of the province, it has to prioritize projects that require capital allocation in the budget. The GOP recently issued an administrative order directing all government agencies, government corporations, and units (including LGUs) to implement austerity measures, i.e. to limit government spending and to cut capital outlays in order to mitigate the negative effect of the peso devaluation. In view of the high social impact of the WATSAN sector however, the province gives the sector funding priority.

The budget allotment for the sector is included in the reported 20%DF and in other budget items unless the waterworks system is considered an economic enterprise of the LGU. In evaluating the financial performance of the province, it was observed that there is no historical database on budgetary allocations. This can be remedied by computerizing the system so that such information can be readily accessed.

(2) Access to External Funds

In view of NEDA-ICCs' financing policy where no subsidy from the national government will be provided for Level II and III systems and zero to 50% will be subsidized by the national government but limited only to Level I systems for 5th and 6th class municipalities, it has been observed that most of the LGUs are dependent on grants assistance provided by the national government or other funding institutions.

The Provincial Government would like to access funds, preferably grant aids and soft loans, from sources other than its IRA, local taxes, and economic enterprises. It also

wants to explore ways to tap the private sector particularly for financing, and one of the suggestions being considered to encourage more private sector involvement is to minimize bureaucratic red tape by simplifying procedural requirements.

(3) Cost Recovery Practices by LGUs and by Users

During the period when the DPWH was still constructing Level I water supply facilities, the DPWH itself formed many BWSAs. A few of the BWSAs are still active and are collecting monthly fees. However, most are no longer functioning and therefore no longer collecting water fees. As a consequence, the users have to ask the government (usually barangay or municipal) to solve the problem. In some cases, the users still approach the DPWH for assistance. Although the DPWH has no budget for operations and maintenance, it extends assistance in the form of materials (such as gaskets or joint pipes) from their supplies, if these are available.

Recovery of the capital cost in the sector is dependent on how the community or the clientele perceives its role in the sector. If the beneficiaries have a sense of ownership of the facilities, they will contribute to the sustainability of the facilities. For financing capital expenditures, a sense of ownership of the facilities can be achieved by asking the beneficiaries to contribute in terms of supplying labor when building the facility. This will translate to a sense of responsibility for the sustainability of the system.

Similarly, for O&M expenditures, the monthly contributions of beneficiaries for the sustainability of the water supply facilities establish a sense of ownership and responsibility towards the system. The government should initiate community empowerment programs and encourage active participation of the beneficiaries even before the start of the construction period.

5.7.4 Institutional Arrangements/Capability of the Municipal Government

(1) General scheme in WATSAN project implementation

The municipalities are responsible for the construction of infrastructure facilities to service the needs of the residents of the municipality. For bigger projects, the LGU taps the PEO. For WATSAN projects, if the barangay is not able to finance the project from its own funds, the BDC endorses the project to the municipality. If the municipality has available funds, it finances the said project. This is in addition to providing technical and material support. If the municipality has no funds, the request is elevated to the provincial government.

The municipality, through the MPDO, prepares municipal development plans and formulates an integrated economic, social and physical development plan. It identifies and prioritizes water projects and secures the necessary funding. The MEO provides technical services such as investigation and survey, engineering design, feasibility studies, and project management.

The DPWH used to conduct training for BWSAs in coordination with the municipalities and barangays but has stopped doing so with the devolution of this function to the LGUs. Recently, with the implementation of WATSAN projects under PAF-2, it was the DILG that initiated the organization of BWSAs but no training was conducted because there was no fund for the purpose.

(2) Experiences in project implementation

The PEO (through the Planning & Design and the Construction Sections) handles the development of Level II water supply projects when the municipalities consider such to be beyond their funding capability. O&M are the responsibility of the barangay government. The municipal government extends assistance only upon request of the barangay officials.

The barangay through the Barangay Council is generally responsible for the O&M of water projects within its territory. This is particularly true for Level I and II systems. With the expansion of some water systems to Level III, the management is taken over by the municipal LGU. The provision of Level III system is considered part of the municipal governments' basic services and not necessarily as an economic enterprise.

The municipality has to manage the waterworks because of the low-income generation especially at the initial stage of the operation. Some municipalities have hired a few personnel such as plumber/collector(s) and utility men to render services related to the O & M of the waterworks. Bookkeeping and accounting functions are also integrated in the regular municipal accounting function.

In the municipality of Cabuegayan there is a Level III system that services 280 households. Although individual meters are already installed, they are not yet being used because these have to be calibrated first. In the meantime, monthly water charges pegged at ₱20.00 per household are being collected. Those residing within the service area that can afford to pay the charges are encouraged to have their own household connection.

In 1998, actual disbursements for the system amounted to P200,000.00. The money used to pay for the expenses was taken from the 20% Development Fund. All expenditures related to the system were not segregated in the accounting books, specifically under the economic enterprises but were considered as part of the LGU's regular operating expenses. For 1999, the budget allocated for O&M of the system is P300,000.00.

The municipality plans to construct Level II water systems for unserved/underserved areas and is looking for an appropriate funding source. Should the plan materialize, the following requisite activities shall be undertaken: 1) formation of the association in the beneficiary barangays; 2) execution of a MOA between the municipal government and the association; and 3) negotiation for the collection of water charges which shall be collected by the association.

5.8 Community Development

5.8.1 General

This section presents the current status or the existing condition for community development (CD) in the Province of Biliran for the WATSAN sector from the side of the government, on one hand; and the point of view of the people and the communities served, on the other. Thus, it traces the development of CD through policy measures promulgated and/or enacted on the national level and shows how CD has filtered down to the local level.

The discussions are focused on the experience of the LGUs in performing CD work with reference to the typical manner through which the participation of the community is secured for the sector, whether these be Level I, Level II or Level III projects. The experience reveals the degree of readiness of the LGUs in doing CD work by examining the structures and linkages in place in the province that may either enhance or be an obstacle to the successful execution of sector projects. It also provides the true state of information, education and communication (IEC) processes in the province in so far as these relate to the supporting sector projects.

The valuable information were taken from the following: i) The interviews undertaken with LGU officials during the study period; ii) The answers to the CD/GAD Questionnaire distributed to select provincial and municipal officials involved in sector development; iii) The Result of the Barangay Key Informant Survey, a survey administered to the officials of the select local communities (details are referred to the Supporting Report); and iv) Other documents researched on and provided by the national, regional, provincial, municipal and barangay level offices.

The other major part of this section presents the different levels of community participation in sector projects as determined by the people or the beneficiaries themselves. As such, it reveals the type and degree of involvement of the people in past sector projects and whether or not this involvement was adequate. It also illustrates the manner through which the beneficiaries want to actively participate in future sector projects, thereby demonstrating the predisposition and willingness of the community to commit themselves to new development projects.

The responses of the beneficiaries to the information desired are gender sensitive and were derived from the following: i) The Result of the Group Interview Survey (details are referred to the Supporting Report; ii) The Result of the Barangay Key Informant Survey; and iii) The results of studies conducted on CD by the national/regional/provincial agencies.

Due to time limitation, only two barangays were made to participate in the group interviews and three barangays in the key informant survey. But the results of these group interviews and surveys are highly indicative of the situation prevailing in the entire province in so far as participatory community development is concerned on both the government's point of view and the side of the community. The current CD status is not without it share of problems; but this is exactly the purpose of the study, that is, to improve the WATSAN sector's performance by plugging all leaks that may get in the way of the successful implementation of sector projects, CD included.

5.8.2 Provincial CD Structure and Linkages for WATSAN Sector Projects

The 1987 Philippine Constitution recognizes and mandates the participation of every Filipino in attaining overall national development. Thus, community development is utilized as a national strategy and has been adopted in the Medium Term Philippine Development Plan-1993-1998 (MTPDP) and the Updated MTPDP (1996-1998) to address the country's problems of poverty and unemployment. As a general policy, the Plan gives the greater masses of the people a voice in charting and implementing programs in the country while encouraging the collaboration of the private sector, non-government organizations and all other sectors of society in the formulation and implementation of plans, policies and programs supportive of the development goals of the country.

The Philippine National Development Plan: Directions for the 21st Century which was released early 1998 gives more focus to building the capacities of communities for self-reliance. By recognizing the people's self-dignity and inherent capacity to improve their own lives,

community-based approaches will be utilized when delivering basic services to the people. Towards this end, a development planning system that institutionalizes the bottom-up planning process was adopted.

In the 1980s up to mid 1990s, sector projects under the Barangay Water Program (BWP) and those funded out of OECF, WB and ADB were required some level of community participation but this was limited to the provision of free labor by few beneficiaries during the construction of Level I facilities. The actual implementation of these projects was a collaboration of several agencies such as the DILG, PEO, PHO, DPWH and non-government organizations.

Water supply and sanitation are seen as one component in the over-all planning system or process undertaken by the Province of Samar.

5.8.3 Assignment of CD Specialist to Sector Projects

Presently, the Provincial Planning and Development Office (PPDO) does not have any unit or even a staff whose main focus is to undertake, implement or conduct CD work. As explained by the PPDO, WATSAN is just one of the concerns and an added function of the Office.

The Provincial Health Office (PHO), on the other hand, maintains a unit that implements or conducts community development (CD) work. A staff member is assigned to undertake CD works although said person is not focused on WATSAN projects alone because of the lack of a plantilla position.

The municipal planning and development offices (MPDO) generally do not maintain a CD unit. The same is true with the municipal health offices (MHO). Thus, WATSAN sector development work is attended to only when said programs are identified, prioritized and/or funded for implementation.

While both the PPDO and the PHO may have the structure to undertake, conduct or implement CD, this is done only as part of or as a component of other projects. This apparent lack of identified major responsible players on CD in the LGUs creates a serious gap to the critical linkage and support of sector projects, from the provincial to the municipal and as far down as the barangay levels. Firstly, there is no CD framework in place and no permanent structure within the LGUs that serve as guideposts in doing CD work, except for the manner/experience done in the past BWP projects.

This leads to the second situation. CD work, to be successful, is a continuous and consistent undertaking. Without a CD framework, a permanent structure or identified responsible people for the undertaking, then any CD work started cannot prosper to its successful completion.

The third condition is really a question of whether the provincial and municipal officials are cognizant of and committed to the true importance of CD as a foundation activity for sustainable sector projects. This awareness on the importance of CD must be translated to giving full support -- financial, human and material – to sector projects in their entirety. Although there is no existing position for a community development specialist in the province, or in the municipalities, the LGU officials are in agreement that there should be better community participation in future WATSAN activities and projects for the facilities to be sustained. However, there is a need to reorient staff who would be involved in sector-related projects in order for them to learn some up-to-date techniques and strategies that are otherwise not present in previous CD process.

5.8.4 Training on CD

The only training attended by PPDO staff members on CD was conducted in 1997. This was the trainors' training on community organizing and organizational development sponsored by the UNICEF. As for the PHO, the few staff members who have been trained on CD work are no longer with the Office due to a reorganization that took place. As gleaned from these responses, CD training has either not been duplicated or has been phased out.

At present, the tasks generally performed by PPDO are those related to its major mandate which includes development planning, project development, monitoring and evaluation, data banking and implementation of infrastructure projects. It is also involved in the implementation of WATSAN facilities such as the spring construction and rehabilitation, the construction of water tank collectors and toilet facilities.

Even with the apparent lack of recent training for their staff, the LGUs showed willingness to facilitate CD training programs that are relevant to the achievement of the sector plan under preparation as borne out by the discussions with these officials and the Results of the Barangay Key Informant Survey.

Water district personnel also attended various training and seminars conducted by the Local Water Utilities Administration (LWUA) and other private training institutions that focused on administrative, financial and technical aspects of Level III water supply systems. The varied

skills that WD staff learned can also be applicable to small systems and therefore can be replicated or transferred to BWSA/RWSA personnel.

5.8.5 Utilization of NGOs

The provincial government considers non-government organizations or NGOs and CBOs as partners in development in Biliran. There are only a few organizations presently working actively for the promotion of WATSAN-related projects. Those reported to be actively involved are Miss Clarita Natoles, Daisy dela Cruz, and Marcelo Maceda, whose expertise lies in community development. They assisted in such projects as reservoir repair and toilet construction.

The links with the NGOs currently working in the province show that they have experience in dealing with the grassroots levels; they have knowledge of strategies on how to enter a community and blend with the local people. The provincial officials believe that tapping the assistance of the NGOs will not be difficult in the WATSAN sector. The list of NGOs that have a track record of doing work in the province is updated on a yearly basis (details are referred to in the Supporting Report, List of NGOs and CBOs for Biliran).

5.8.6 Existing Community Development Processes

(1) Manner of Participation in Sector Development

The practice of the LGUs in encouraging community participation for sector projects was generally confined to the organization of a BWSA for Level I systems, a RWSA for Level II systems and a water district or LGU waterworks for a Level III system or combination of a Level II and Level III systems. Once formed, the organized BWSA, RWSA, LGU-WS and WD became responsible for soliciting the participation and involvement of the users-beneficiaries in ensuring the sustainability of the WATSAN organization and its various projects and activities.

For the BWSA/RWSA, the users' participation was usually in the provision of free labor and in the donation of cash during the construction phase of the sector project. Left to the central and local government planners was the responsibility for the other stages of project development such as planning and design, monitoring and evaluation which included activities as project identification, site selection, water rate setting, and operation and maintenance. As a result, only a few BWSA/RWSA are presently in operation because

WATSAN facilities have not been properly maintained and very few users continue to pay their water fees.

As suggested in the results of the group interviews conducted for this sector study, the people's participation in sector projects has been limited to project implementation, that is, in the provision of labor and in the donation of sites for the construction of facilities. Participation in site selection, the determination of level of service, or water fees still leaves much to be desired. The same interviews, however, show that both the male and female beneficiaries are now more receptive to playing a more dynamic role in sector projects. They professed willingness to form themselves into water associations, and the readiness to contribute cash, materials, as well as sites for the construction of WATSAN facilities. In addition, they want to assume higher responsibilities in managing, operating and maintaining the WATSAN facilities. This includes being trained and doing repair of facilities where beneficiaries themselves contribute time and resources to maintain the proper operation and undertake repair and/or expansion of the facilities.

Water supply, as a major component of sanitation, is in the forefront of the provincial sector development programs. Recently, the shift has been for allowing the beneficiary communities the freedom and optimum opportunity in presenting their own ideas on what they feel is in the best interest of the WATSAN sector.

Water Districts (WDs), on the other hand, generally practice participatory community development. Users-beneficiaries are consulted on practically all phases of project development, that is, from the start of the water district's operation, before loans to be contracted, and before water rates are set and/or adjusted. Maintenance of the WATSAN facilities before the water meter, however, remains the responsibility of the water district.

(2) Typical CD Work

The typical CD work is a carry over from the manner it was done in past sector programs. This includes the formation of the water supply and sanitation association that follow the general guidelines set forth by the government such as project orientation at the barangay level and the conduct of training participated in by members of the beneficiary community. So far, around 84 Level I BWSAs have been organized through the DILG and the MLGOO; but follow-up is needed to operationalize most of those formed.

More often than not, the agreement to organize the BWSA/RWSA was reached after one general assembly or organizational meeting called for the purpose. The BWSA/RWSA

was tasked to operate and maintain the water supply and sanitation facilities. Their members are given different types of training, such as pre-organizational teach-ins, pre-operational and post completion training and operation and maintenance seminars.

In the Result of the Barangay Key Informant Survey among the barangay officials and other community heads, it was found out that the barangay councils are willing to pay for the training of volunteers on the operation and maintenance of constructed facilities. The same survey showed the willingness of local residents to contribute cash while others will provide free labor for the repair and maintenance works as a manifestation of their active involvement with the BWSA.

In forming the water districts, LWUA, in coordination with the LGUs concerned, conducts a series of sectoral consultation with the community. Since water districts are formed at the option of the LGU, LWUA first consults the people, through a series of public hearings, to arrive a consensus on whether or not to form the water district. LWUA also encourages the community to participate in the selection of the WDs' five-man board of directors, who are nominated from various sectors. Once formed and operating, the water district conducts regular dialogues with its concessionaires on various issues such as water rates formulation/adjustment, expansion program and other matters that may affect the people-WD relationship.

5.8.7 Information, Education and Communication (IEC) as Foundation Activities for Community Development

The province does not have an integrated IEC program on sector plans and programs. As such, CD, as the effective tool for getting the full support and cooperation of the people toward the sustainability of WATSAN sector projects, is loosely established. The lack of an integrated provincial IEC program creates a gap in linking the municipalities and the barangays, important entities that could help generate the complete flow of community participation on sector projects. The provincial officials have attributed this non-full implementation of IEC projects to financial difficulties. They also complained of the lack of full understanding and, therefore, support of some LGUs for this activity.

On the other hand, the water districts (WDs) in general implement a systematic and comprehensive IEC program. Most WDs produce printed information materials such as newsletters, leaflets and posters that are disseminated to the concessionaires. Regular press releases on WD development issues are submitted to local newspapers. There are some WDs that spon-

sor radio programs while others conduct regular dialogues with the community. Those that do not possess enough expertise are assisted by bigger WDs within the province/region (the concept of Godfather Water District) or by the Public Affairs Office of LWUA. A region-wide Water Information Network has been established with all WDs as members. This network undertakes regular public information drive and helps smaller WDs to disseminate information.

5.8.8 Health and Hygiene Education

Health and sanitation education is within the responsibility of the PHO and the MHO. These offices have their own health and sanitation education programs collaborated in by the LGUs concerned, the NGOs, DSWD, DECS, DILG, PIA and the DA. Other units that assist in health and hygiene education up to the barangay level are the Rural Health Units (RHU), the nutrition scholars, food handlers and the barangay health workers.

The provincial and municipal health staff and NGOs jointly conduct house-to-house and school visits and community assemblies to discuss health-related matters.

The key informant survey and barangay group interviews revealed that the people recognize the importance of good health and hygiene practices. Most of them learned about health and sanitation matters mostly from health workers and inspectors, the schools and from the radio.

5.9 Gender

5.9.1 General

This section presents the current status or the existing condition for gender and development in the Province of Biliran for the WATSAN sector from the side of the government, on one hand; and the point of view of the people and the communities served, on the other. As such, it elucidates on the evolvement of gender policies on the national level and shows how these have filtered down to the local level where gender responsive planning has become a requirement for all development efforts on the WATSAN sector. It also reveals the extent of the awareness that the people and/or beneficiary communities have on gender matters as seen through their participation in past sector projects as well as their perceived participation in future projects.

Gender-related information were taken from the following: i) The interviews undertaken with LGU officials during the study period; ii) The answers to the CD/GAD Questionnaire distrib-

uted to select provincial and municipal officials involved in sector development; iii) The Result of the Barangay Key Informant Survey for Biliran administered to the officials of the select local communities; iv) The Result of the Group Interviews for Biliran conducted at the barangay level; and v) Other documents researched on and provided by the national, regional, provincial, municipal and barangay level offices.

5.9.2 The Evolution of Gender and Development

The 1987 Philippine Constitution recognizes and ensures the fundamental equality of women and men before the law and cites their respective roles in nation building. The National Commission on the Role of Filipino Women (NCRFW), established in 1975, ensures the integration of gender concerns in all aspects of the project development. In 1991, Republic Act 7192, better known as "Women in Development and Nation Building" was enacted to strengthen the mandate of the NCRFW. The Act called for the allocation of a substantial portion of the official development assistance funds from foreign governments and multilateral agencies to support programs and activities for women.

The adoption of the Philippine Plan for Gender Responsive Development (1995-2025) paved the way for full participation of women and men in planning and implementation of technology for infrastructure projects, including those in the water supply and sanitation sector. In 1995, the Office of the President issued Memorandum Order No. 282 directing government training institutions to incorporate "Gender and Development (GAD) Concerns and Programs" in their curricula in order to further institutionalize gender and development programs. The General Appropriations Act of 1997 mandated all departments, offices and agencies to set aside a minimum amount of 5% out of their 1997 appropriations to be used for projects designed to address gender issues. The Local Government Code includes a provision giving political empowerment to women by creating sectoral seat for women to be elected in every local legislative assembly all over the country. To facilitate the whole process, a gender conscious system of data gathering, processing and generation has been established.

The significance of RA 7192 has started to gradually filter down to the LGU levels. The DILG gives Gender Awareness Orientation and Training to its officials and employees, from the central down to the municipal level. The purpose for this is not only to establish a common awareness on gender, but also to recognize that they are catalysts of growth and development for LGUs. In compliance with the policies enunciated in RA 7192, all government departments and agencies were directed to revise, review all their regulations, circulars, issuance and procedures to remove any gender bias. Thus, recent projects that national govern-

ment agencies have incorporated gender concepts including the projects from the water and sanitation sector.

The DILG implements gender responsive WATSAN projects. The DPWH implemented in 1991 the First Rural Water Supply and Sanitation Project which adopted the "Women in Development" (WID) approach aimed to create support mechanisms to enable women to surmount problems regarding water and sanitation thereby increasing their productivity efforts and giving them greater participation in decision-making. Most of the water and sanitation projects of the DOH are directed towards the improvement of women's health and physical condition as well as their social status in the community. As such, the implementation of many health and sanitation projects, including water supply, utilizes the women's sector in the community.

5.9.3 The LGUs and Gender

For some time now, the province of Biliran has been implementing gender sensitive projects. The inclusion or utilization of gender sensitive approach to planning of WATSAN projects has been limited, however, on health, sanitation and hygiene projects. So far, the PPDC recently participated in the orientation seminar for gender and development; thus, the dissemination of relevant gender concerns to the municipalities and barangays will soon start.

5.9.4 Gender in WATSAN Sector Projects

(1) Gender Participation in Sector Development Projects

One of the objectives of the province-wide group interviews undertaken in this study was to assess gender sensitivity of the intended sector beneficiaries in the roles and modes of participation that they, as men and women, perceive for themselves in WATSAN projects. Another important objective was to identify potential service population and service level desired by the community, to assess the degree of involvement of both men and women in planning, managing, operating and maintaining WATSAN projects, and the willingness and capacity to pay of potential users.

The respondents in the group interviews were composed of 41 females and 36 males, the majority of whom belong to the 26-45-age bracket. The majority of the interviewees received elementary education, where the females outnumbered the male in this level. Some of the respondents graduated from high school, again with more females graduating as compared to the male. Only three were able to complete college, all of which were

male. The occupation of a big majority of the male and the female respondents is farming/fishing.

In the two barangays surveyed for the group interviews, the total number of barangay council members is 16. Of this number, only one is a female. All barangay captains are male.

On the formation/composition of the BWSA/RWSA and WD Board:

The key informants in three barangays indicated there was a BWSA/RWSA in their respective barangays.

There are five sectors represented in the water district's Board of Directors, one of which is the women's sector. More often than not, the educational sector almost always nominates/appoints a female educator.

On participation in WATSAN training:

Only 45% of the respondents (24 females and 11 males) were able to attend training programs for the year 1998. As for sector-related training, all the female respondents said they were not aware of or did they attend any training for the same period; while only seven of the male respondents were aware of the repair/O&M trainings. All the female respondents were interested to attend training programs for the WATSAN sector compared to only 34 of the 36 male respondents. The male and female respondents were equally split between a one-day training and a three-day training schedule.

On participation in health and hygiene:

While all those interviewed recognized the importance of good health and hygiene education, only two out of 34 males and 11 out of 30 females attended any training on said topic. On water-related illnesses, it was found out that the men were more afflicted than women with diseases such as kidney trouble and skin diseases.

On participation in operation and maintenance:

All the female respondents indicated their willingness to participate in the future activities of BWSA including operation and maintenance. Only half of the male respondents showed willingness to participate in O&M. All the respondents said they preferred to contribute labor for future facilities. All the respondents, whether male or female, were not sure as to whom was responsible for minor repairs on their WATSAN facilities.

(2) Gender in Water Supply and Sanitation Practices

The same survey also indicated gender sensitivity in water supply and sanitation practices, as presented in the following findings:

Responsibility in Fetching Water

Of the female respondents, 31 indicated that the wife was responsible for hauling water for family use and 10 said that the male children also fetched water. Of the male interviewees, 18 said that the male children fetched water, 13 said that the husbands did it, while only 5 said the wives were up to the task.

5.10 Existing Project and Sector Monitoring

(1) Sector Monitoring

The primary sources of sector data are the field office and staff of DPWH, DOH, LWUA, DILG and NSO. Other agencies, including NEDA and LGUs, use data from these agencies. Each of these agencies runs its own project and/or activity-monitoring system largely based on required reports of its field offices. Only the NSO gathers and assesses information nationwide on a regular basis as part of its Census on Population and Housing (CPH).

Periodical WATSAN sector monitoring shall be conducted aside from project monitoring to study and evaluate: existing sector development conditions, against national and provincial sector targets for making necessary arrangements at the sector level. The sector monitoring activities needs an appropriate budgetary allocation annually. Participatory monitoring with associations/barangays and municipalities would be practical and cost saving method. Formulating sector development strategies and planning the development projects can not practiced without sector monitoring, so that establishment of sector monitoring and reporting mechanism with responsibilities for all concerned parties is an urgent requirement.

(2) Project Monitoring

Project monitoring has been conducted by different government levels depending on the characteristics of the project i.e., local funded or foreign assisted projects. However, only projects handled by the local offices of central government agencies are monitored, mainly focusing on physical accomplishments and capital expenditures of projects, by respective central government line agencies.

Monitoring activities under the Regional Development Council cover four components: Macro, Economic, Social welfare and Infrastructure. Monitoring report on the foreign assisted infrastructure projects, including water supply project is submitted from PPDO to the national government agencies. Agencies to which the reports are submitted and reporting schedule are defined in the Implementing Guidelines of the projects. The monitoring report submitted to agencies concerned is also sent to the NEDA Central Office. The central government agencies also report to the foreign assistance agencies such as ADB, WB, etc.

It was field confirmed at the NEDA Regional Office that there are some foreign assisted projects directly provided to the regional office, such as grass root assistance with a limited amount. The NEDA is not involved in the occasion of signing with the foreign donor for such projects. However, the reporting on the project is usually made from regional office to the central office of NEDA. In this connection, the central office of NEDA sometimes overlooks the projects.

There are no significant differences in the current project monitoring systems at the LGU level. The monitoring for WATSAN related projects are conducted under the Regional Monitoring and Evaluation System. The PPDO/MPDO concerned conducts monitoring from the start until completion of the project. Projects that are getting negative feedback and require validation and verification are closely monitored. The report covers status of implementation, finance, percentage of accomplishment and slippage/problems as well as evaluation and countermeasures. Figure 5.10.1 shows an example of UNDP assisted project illustrating the linkages among concerned agencies.

In both sector and project monitoring, the exchange of information between concerned agencies seems to be insufficient/not systematic, though there are opportunities to do so, like during the RDC regular meetings. In addition, the absence of a reliable data management system not only adds burden to the monitoring work but also causes wide dissatisfaction among project implementors themselves. The preparation of monitoring reports is seen by some as a nuisance to performing more important tasks, thus the monitoring reports are haphazardly done. When this happens, the reliability of information presented in the reports is compromised. An effective monitoring mechanism and data management system must be in place and put to work by the concerned agencies.

UNDP/PHI/93/010 PROJECT
PARTICIPATORY MONITORING FEEDFORWARD
AND FEEDBACK MANAGEMENT MECHANISM

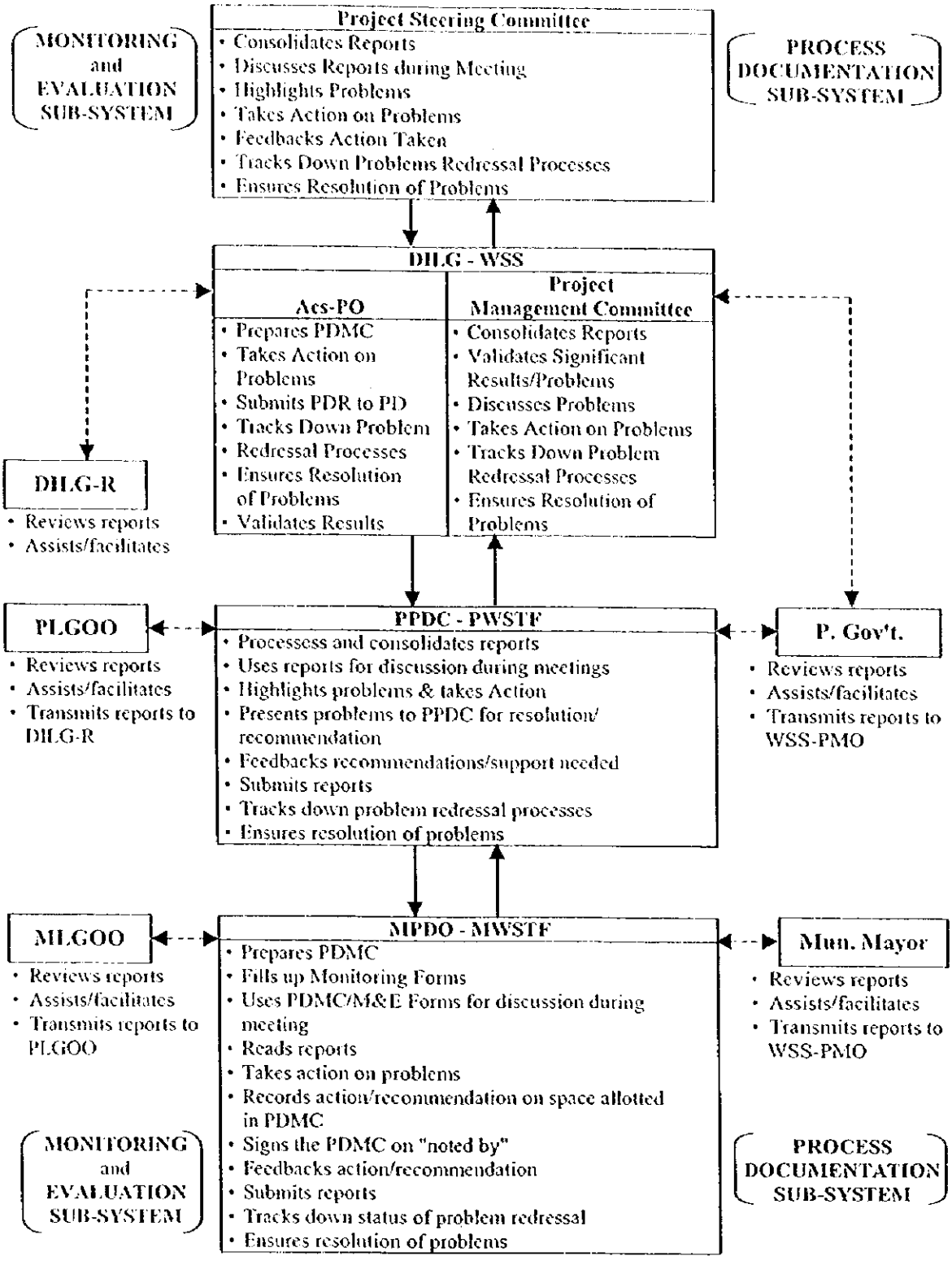


Figure 5.10.1 UNDP Monitoring Mechanism