
Chapter
EXISTING FACILITIES AND
SERVICE COVERAGE

4

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 April 1998 and regarded as a figure in 1997). 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 1997.

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 54% of the present population (of which 31% in urban area and 69% in rural area) is considered as adequately served (details are referred to 4.1, Supporting Report). Under the area classification, 66% of urban population and 48% of rural population have access to safe water sources/facilities, while the rest is underserved or unserved. About 133,000 persons or 58% of the served population depend on Level I facilities, while 95,800 persons or 42% are served by Level III or Level II systems. Lower service coverage in rural area appears to be the result of a considerable number of unsafe shallow wells or no provision of facilities.

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 facility is sometimes provided.	Disinfection is provided. Systems with a surface water source have a 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 250 m radius)	Communal faucet (within 25 m 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 rain collector

Water sources other than the above, such as untreated surface water of rivers, lakes and ponds are among unsafe sources. Levels II and III water supply systems are, on the other hand, 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 barangay level.

There are 20 Level III systems in the province being operated under different kinds of ownership (authority or association) as shown in Table 4.1.2 together with their service coverage in 1997. These are:

- 4 Water Districts in the municipalities of Baganga, Lupon, Mati and San Isidro.
- 2 Municipal waterworks in the municipalities of Caraga and Governor Generoso.
- 1 Provincial waterworks in the municipality of Mati.
- 13 Barangay waterworks in the municipalities of Banaybanay, Caraga (2 systems), Governor Generoso, Lupon, Manay, Mati (6 systems) and San Isidro.

The largest system in the province is Mati WD covering 2 urban barangays with served population of about 7,600 in provision of one deep well source (details are referred to in Table 4.1.1, Supporting Report). Aside from the WD, the municipality of Mati, the provincial capital, has 1 waterworks being operated by the provincial government and 6 other waterworks operated by RWSAs and homeowners association.

Baganga WD and San Isidro WD cover urban barangays, each serving a population of about 2,200. Other waterworks are rather small-scale systems with served population ranging from 100 to 2,000.

4.1.4 Level II Systems

Level II (communal faucet) systems are designed to cater for barangay level water supply with a limited service coverage and supply capacity. These systems have been implemented by different agencies (DPWH, LWUA, DILG, LGUs) encouraging the use of spring sources and are operated by LGUs or RWSAs.

There are 72 Level II systems and all of these, except the 3 waterworks, are utilizing spring sources. Mati has the largest number, 16 systems or 22% of the total as shown in Table 4.1.4 together with service coverage in 1997 (details are referred to in Table 4.1.2, Supporting Report). Some of these systems have encountered supply interruption caused by bursting of

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/d)	Domestic Supply (%)	No. of Brgys. Served			No. of Household Served			No. of Population Served		
					Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Baganga	Baganga WD	SP	171	79	2		2	420		420	2,280		2,280
Banaybanay	Pintatagan	SP	44	91		1	1		242	242		1,324	1,324
Caraga	Poblacion	SP	206	85	1		1	374		374	2,021		2,021
	San Luis	SP	185	97		1	1		210	210		1,109	1,109
	Santiago	SP	208	90		1	1		140	140		740	740
	Municipal Total		599	91	1	2	3	374	350	724	2,021	1,849	3,870
Lupon	Macangao	DW	13	92		1	1		25	25		129	129
	Lupon WD	DW	239	59	1		1	513		513	2,825		2,825
	Municipal Total		252	61	1	1	2	513	25	538	2,825	129	2,954
Manay	Central	SP	208	96	1		1	281		281	1,500		1,500
Mati (Capital)	Macambol	SP	32	94		1	1		562	562		2,872	2,872
	Mati WD	DW	1,235	97	2		2	1,260		1,260	7,560		7,560
	Matiño	DW	235	94	1		1	393		393	1,959		1,959
	NHA, Homeowners Ass.	DW	114	100	1		1	284		284	1,446		1,446
	Capitol Water System	DW	50	80	1		1	100		100	509		509
	Sainz	SP	261	92	1		1	600		600	3,054		3,054
	Sanghay	SP	62	98		1	1		10	10		60	60
	Taguibo	SP	102	98		1	1		25	25		117	117
	Municipal Total		2,091	96	6	3	9	2,637	597	3,234	14,528	3,049	17,577
Governor Generoso	Mun. LGU	DW	68	93	1		1	161		161	805		805
	Tiruasai	SP	62	90	1		1	112		112	672		672
	Municipal Total		130	183	2		2	273		273	1,477		1,477
San Isidro	Bitagan	DW	10	100		1	1		30	30		160	160
	San Isidro WD	DW	345	37	1		1	413		413	2,160		2,160
	Municipal Total		355	39	1	1	2	413	30	443	2,160	160	2,320
Provincial Total			3,850	87	14	8	22	4,911	1,244	6,155	26,791	6,511	33,302

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	Inst.	Comm.	Inds.	Total	Metered		
Baganga WD	401	11	41		453	406	5,400	5,136
Lupon WD	418	12	70		500	500	16,080	7,164
Mati WD	1,260	15	30		1,305	1,305	40,830	37,050
San Isidro	411	8	10		429	429	11,340	10,359

pipes due to inappropriate pipe installation. Almost half of the systems are supplying water for 12 hours or less. Inadequate supply quantity is experienced at these systems.

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

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			Total	Total
		Urban	Rural	Urban	Rural	Total	Urban	Rural	Total		
Baganga	Mikit		1			1		80	80		360
	Binondo		1			1		75	75		450
	Kinablangan		1			1		400	400		2,400
	Mahan-ub		1			1		116	116		672
	Saologue	1			60	60			350		350
	Municipal Total	1	4	5	60	671	350	3,882	4,232		4,232
Banaybanay	Causwagan		1			1		82	82		489
	Maputi		1			1		250	250		1,500
	Punta Linao		1			1		350	350		2,100
	Municipal Total		3	3		682		682	682		4,089
	Caatiban		1			1		85	85		500
	San Jose		1			1		150	150		600
Boston	Sibajay		1			1		161	161		1,030
	Simulao		1			1		150	150		520
	Municipal Total		4	4		8		546	546		2,650
	Canungag		1			1		65	65		370
	Poblacion	1			25	25			130		130
	San Antonio		1			1		60	60		375
Caraga	San Miguel		1			1		85	85		170
	Santa Fe	1				1			82	300	300
	Municipal Total	2	3	5	107	115	210	317	430	915	1,345
	Abiod		1			1		130	130		800
	Aliwagwag		1			1		45	45		230
	Maglahus		1			1		44	44		264
Cateel	Malibago		1			1		54	54		315
	San Antonio		1			1		150	150		900
	Municipal Total		5	5		10		423	423		2,509

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
		Urban	Rural	Total	Urban	Rural	Total		
Governor Generoso	Anitap		1	1		113	113		700
	Chicote		1	1		42	42		200
	Lavigan		1	1		240	240		1,380
	Magdug		1	1		160	160		861
	Monseerrat		1	1		52	52		360
	Oregon		1	1		50	50		380
	Sergio Osmena		1	1		213	213		1,098
	Tamban		1	1		60	60		288
	Tandang Sora		1	1		120	120		665
	Tiblawan		1	1		237	237		1,221
	Upper Tibanban		1	1		186	186		962
	Municipal Total		11	11		1,473	1,473		8,115
Lupon	Calapagan		1	1		80	80		428
	Cocomon		1	1		17	17		90
	Don Mariano		1	1		150	150		787
	Marayag		1	1		70	70		396
	New Visayas		1	1		25	25		127
	Tagboa	1		1	150		150	821	821
	Tagugpo		1	1		130	130		660
	Municipal Total	1	6	7	150	472	622	821	2,488
	Central	1		1	150		150	800	800
	Holy Cross		1	1		30	30		221
Manay	Zarragoza		1	1		20	20		130
	Municipal Total	1	2	3	150	50	200	800	351
	Bobon		1	1		150	150		794
	Buso		1	1		200	200		1,300
Mati (Capital)	Culian		1	1		107	107		592
	Dahican		1	1		100	100		504
	Dawan		1	1		120	120		615
	Municipal Total		3	3		327	327		1,906

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	Urban	Total
Mati (Capital)	Don Salvador		1	1		150		872
	Lanka		1	1		105		614
	Libudon		1	1		560		3,013
	Luban		1	1		80		426
	Macambol		1	1		190		971
	Mamali		1	1		215		1,086
	Mayo		1	1		310		1,551
	Sainz	1		1	20		12	12
	Sanghay		1	1		40		238
	Tamisan		1	1		450		2,289
	Tagabakid		1	1		258		1,269
	Municipal Total	1	15	16	20	3,035	12	16,134
	Batobato	1		1	160		800	800
	La Union		1	1		150		817
San Isidro	Maag		1	1		85		448
	Maniking		1	1		240		1,245
	Maputi, San Isidro		1	1		80		415
	San Miguel, San Isidro		1	1		18		98
	Sudlon		1	1		40		240
	Talisay		1	1		130		728
	Municipal Total	1	7	8	160	743	800	4,791
	Central, Taragona	1		1	250		1,500	1,500
	Jovellar		1	1		70		340
	Limot		1	1		158		872
Tarragona	Lucatan		1	1		273		1,529
	Ompao		1	1		50		264
	Municipal Total	1	4	5	250	551	1,500	3,005
	Provincial Total	8	64	72	897	8,856	4,713	52,842

(1) Management practice

Although most of the Level II systems are presently operational due to some extent of current management practices, the prevailing practice of flat rate water bill at the minimum level 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 the sector management.

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

(2) Technical skill for O&M of facilities

Utilization of spring source usually tends to less attention to the daily O&M practice, owing to the gravity flow of water to the service area. However, inappropriate care of spring box and pipeline leads 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.

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, majority of which are privately-owned. Major facilities are different types of wells equipped with handpumps or developed spring with transmission line and one communal faucet. Rain collectors are also used in some areas.

Level I facilities are classified in terms of safe and unsafe sources referring to the water quality examination results conducted by PHO as presented in Table 4.1.5 (details are referred to in Supporting Report). Served population in 1997 is also estimated as shown in the same table.

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 Safe Water Sources					Number of Unsafe Water Sources					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				
Baganga	17	206	-	14	237	251	45	-	-	296	651	1,056	1,707	3,540	5,514	9,054				
Banaybanay	447	53	-	11	511	36	48	-	6	90	1,764	2,185	3,949	9,456	11,909	21,366				
Boston	11	42	-	21	74	19	26	-	-	45	146	56	202	782	322	1,105				
Caraga	5	42	-	27	74	28	-	-	-	28	-	1,211	1,211	-	6,395	6,395				
Cateel	9	399	-	5	413	266	20	-	-	286	436	1,359	1,794	2,330	7,243	9,573				
Governor Generoso	46	365	-	29	440	103	182	-	-	285	882	1,767	2,649	4,647	9,293	13,941				
Lupon	144	1,525	-	26	1,695	406	79	-	12	497	2,065	4,158	6,222	11,025	21,662	32,687				
Manay	6	34	-	25	65	23	5	-	68	96	-	263	263	-	1,358	1,358				
Mati (Capital)	154	316	7	71	548	228	131	-	-	359	3,254	1,027	4,281	16,627	5,322	21,949				
San Isidro	53	82	-	23	158	55	83	-	-	138	535	1,381	1,916	2,805	7,414	10,219				
Tarragona	4	7	2	27	40	16	13	-	-	29	7	382	389	38	1,996	2,034				
Provincial Total	896	3,072	9	279	4,256	1,430	632	-	86	2,148	9,739	14,844	24,584	51,251	78,429	129,681				

Of the 6,404 operational Level I facilities, about 70% are shallow wells. According to the PHO water quality analysis results, about 40% of Level I facilities, as the provincial average of random samples, is determined to be unsafe. All deep wells were regarded as safe water sources. Applying the unsafe percentage to shallow wells for each municipality, 4,256 Level I facilities are classified as safe sources, while 2,148 facilities are under unsafe category.

Percentage shares between public and private Level I facilities for rural water supplies are 38% and 62%, respectively. The share of developed springs in public facilities is 26% (details are referred to in Supporting Report).

Problem areas observed on Level I facilities and necessary countermeasures for the improvement are summarized in terms of potable condition and functioning status.

(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 usually located in nearby potential pollution sources, such as septic tank and piggery. (The Code on Sanitation of DOH requires a minimum distance of 25 m between water source and pollution sources.)

These shallow wells shall 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 a lot of non-functioning public wells in the province as shown in Table 4.1.6. On the other hand, almost all private wells are functioning.

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.	409	820	487	3,682	5,398
	Percentage	59	71	98	97	88
Non-Functioning	No.	285	337	11	111	744
	Percentage	41	29	2	3	12
Total Number		694	1,157	498	3,793	6,142

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

Among others, deep wells usually necessitate repair/replacement of mechanical parts and redevelopment of the well itself. Aside from the same problems as deep wells, shallow wells have principal 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. Also, wells in some coastal barangays have saltwater intrusion problem.

To prolong the service life of public deep wells, periodic check-up entailing preventive maintenance and redevelopment of wells are to be performed. Meanwhile, 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 1997, base year for planning purpose, was estimated referring to NSO’s projection method. However, population distribution in 1995 census by urban and rural barangay prepared by 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 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 private facilities was shared by neighbors to supplement insufficiency of public facilities.

Average number of households sharing at each Level I public/private facility was calculated with ranges from 2 to 24 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, 54% of the population is adequately served (66% of urban population and 48% of rural population). The low percentage of service coverage in the rural area is affected by a huge number of unsafe shallow/open dug and rainwater collector (211 public and 1,077 private facilities used by about 35,200 persons) or no provision of facilities. Among the unserved population, considerable number of population depending on non-reported undeveloped spring sources would be included. The provincial service coverage at present is exhibited in Figure 4.1.1 (details are referred to Supporting Report).

Among different service levels, Level I facilities have a dominant role in service coverage on 6 municipalities, out of the 11 municipalities in the province. As a whole, 31% of the total population (39% of urban population and 28% of rural population) relies on Level I facilities.

Percentages of population coverage by Level I public and private facilities in rural water supply are estimated at 52% and 48%, respectively (details are referred to in Supporting Report).

The largest population coverage by Level III is 13,700 persons in the municipality of Mati, however, its percentage shows only 18% of the total population of the municipality is covered. As a provincial total, likewise, only 9% of the population are served by Level III systems.

Although Level II systems are present in all municipalities, only 13%, as a provincial total, are served by Level II systems (4% of urban population and 18% of rural population).

Taking into account the municipal service coverage, the municipality of Banaybanay is the highest at 78%, followed by Lupon (74%), and Mati (64%). While, the lowest is Manay (15%) and followed by Caraga (19%), Boston (35%) and Baganga (38%).

4.2 Sanitation and Sewerage

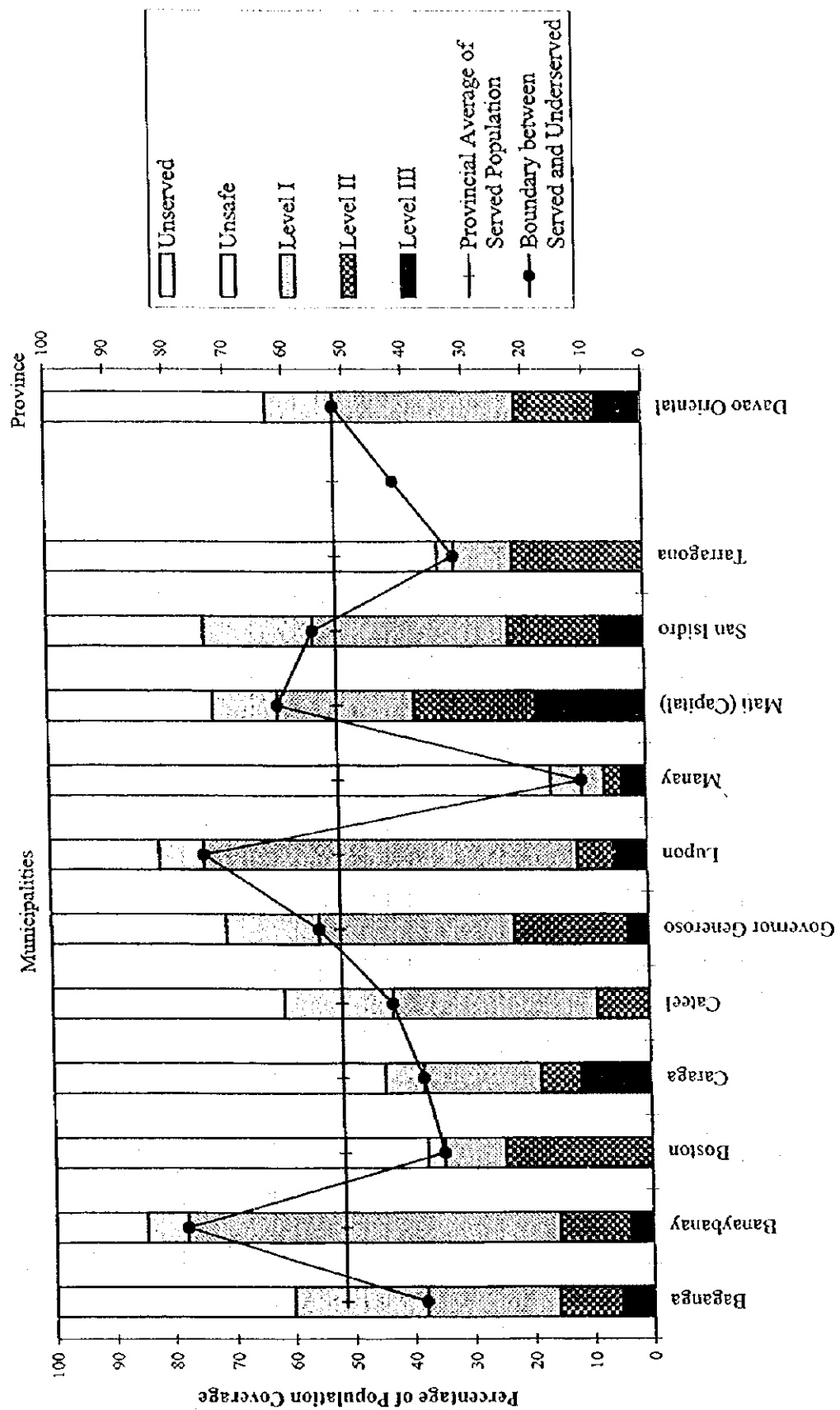
4.2.1 General

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.

Table 4.1.7 Water Supply Service Coverage by Municipality

Name of Municipality	Area	Population (1997)	Population Coverage				Percentage of Population Coverage									
			Served by Safe Source			Undersewed/Unsewed	Served by Safe Source			Undersewed/Unsewed						
			Level III	Level II	Level I		Total	Unsafe Source	Unsewed	Total	Level III	Level II	Level I	Total	Unsafe Source	Unsewed
Baganga	Urban	13,781	2,280	446	3,540	6,266	3,398	4,117	7,515	17	3	26	45	25	30	55
	Rural	27,365	-	3,882	5,514	9,396	5,716	12,253	17,969	-	14	20	34	21	45	66
	Total	41,146	2,280	4,328	9,054	15,662	9,114	16,370	25,484	6	11	22	38	22	40	62
	Urban	11,045	-	-	9,456	9,456	328	1,261	1,589	-	-	86	86	3	11	14
Baraybanay	Rural	23,388	1,324	4,144	11,909	17,377	2,039	3,972	6,011	6	18	51	74	9	17	26
	Total	34,433	1,324	4,144	21,366	26,834	2,367	5,232	7,599	4	12	62	78	7	15	22
	Urban	2,450	-	-	782	782	127	1,541	1,668	-	-	32	32	5	63	68
	Rural	8,335	-	2,650	322	2,972	186	5,177	5,363	-	32	4	36	2	62	64
Boston	Total	10,785	-	2,650	1,105	3,755	312	6,718	7,030	-	25	10	35	3	62	65
	Urban	5,410	2,021	652	-	2,673	-	2,737	2,737	37	12	-	49	51	51	51
	Rural	27,296	1,849	1,540	6,395	9,784	2,112	15,400	17,512	7	6	23	36	8	56	64
	Total	32,706	3,870	2,192	6,395	12,457	2,112	18,137	20,249	12	7	20	38	6	55	62
Caraga	Urban	5,730	-	-	2,330	2,330	731	2,669	3,400	-	-	41	41	13	47	59
	Rural	22,373	-	2,509	7,243	9,752	4,374	8,247	12,621	-	11	32	44	20	37	56
	Total	28,103	-	2,509	9,573	12,082	5,105	10,916	16,021	-	9	34	43	18	39	57
	Urban	9,846	1,477	-	4,647	6,124	686	3,036	3,722	15	-	47	62	7	31	38
Governor Generoso	Rural	32,876	-	8,115	9,293	17,408	6,044	9,424	15,468	-	25	28	53	18	29	47
	Total	42,722	1,477	8,115	13,941	23,533	6,729	12,460	19,189	3	19	33	55	16	29	45
	Urban	18,285	2,825	821	11,025	14,671	593	3,021	3,614	15	4	60	80	3	17	20
	Rural	34,158	129	2,488	21,662	24,279	3,282	6,596	9,879	0	7	63	71	10	19	29
Lupon	Total	52,443	2,954	3,309	32,687	38,950	3,875	9,617	13,493	6	6	62	74	7	18	26
	Urban	8,082	1,500	800	-	2,300	-	5,782	5,782	19	10	-	28	-	72	72
	Rural	28,603	-	351	1,358	1,709	1,872	25,022	26,894	-	1	5	6	7	87	94
	Total	36,685	1,500	1,151	1,358	4,009	1,872	30,804	32,676	4	3	4	11	5	84	89
Mati (Capital)	Urban	43,698	14,528	162	16,627	31,317	7,660	4,721	12,381	33	0	38	72	18	11	28
	Rural	52,620	3,049	19,495	5,322	27,866	2,976	21,778	24,754	6	37	10	53	6	41	47
	Total	96,318	17,577	19,657	21,949	59,183	10,636	26,499	37,135	18	20	23	61	11	28	39
	Urban	9,458	2,160	800	2,805	5,765	1,045	2,648	3,693	23	8	30	61	11	28	39
San Isidro	Rural	21,838	160	3,991	7,414	11,565	4,724	5,549	10,273	1	18	34	53	22	25	47
	Total	31,296	2,320	4,791	10,219	17,330	5,769	8,197	13,966	7	15	33	55	18	26	45
	Urban	4,608	-	1,500	38	1,538	52	3,018	3,070	-	33	1	33	1	65	67
	Rural	15,997	-	3,005	1,996	5,001	509	10,487	10,996	-	19	12	31	3	66	69
Tarragona	Total	20,605	-	4,505	2,034	6,539	560	13,505	14,066	-	22	10	32	3	66	68
	Urban	132,393	26,791	5,181	51,251	83,223	14,620	34,550	49,170	20	4	39	63	11	26	37
	Rural	294,849	6,511	52,170	78,429	137,110	33,833	123,906	157,739	2	18	27	47	11	42	53
	Provincial Total	427,242	33,302	57,351	129,681	220,334	48,453	158,455	206,908	8	13	30	52	11	37	48

Figure 4.1.1 Water Supply Coverage of the Province



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 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 1997.

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.

4.2.3 Sanitation Facilities and Service Coverage

(1) Household Toilets

The service coverage of sanitary toilets in the province is 68% of the total number of households. The rest is underserved or unserved. Of this, a high 19% is without toilet facilities (refer to 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 68% are Caraga (83%), San Isidro (81%), Lupon (75%), Baganga (74%) and Banaybanay, Cateel and Governor Generoso (70%). On the other hand, the first 3 municipalities that registered the lowest service coverage are Mati (52%), Boston (58%) and Manay (66%). It was observed that in municipalities that have high water supply service coverage (Banaybanay, Lupon), high sanitation coverage occurs and correspondingly, in low water supply service coverage (Manay, Boston), 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.

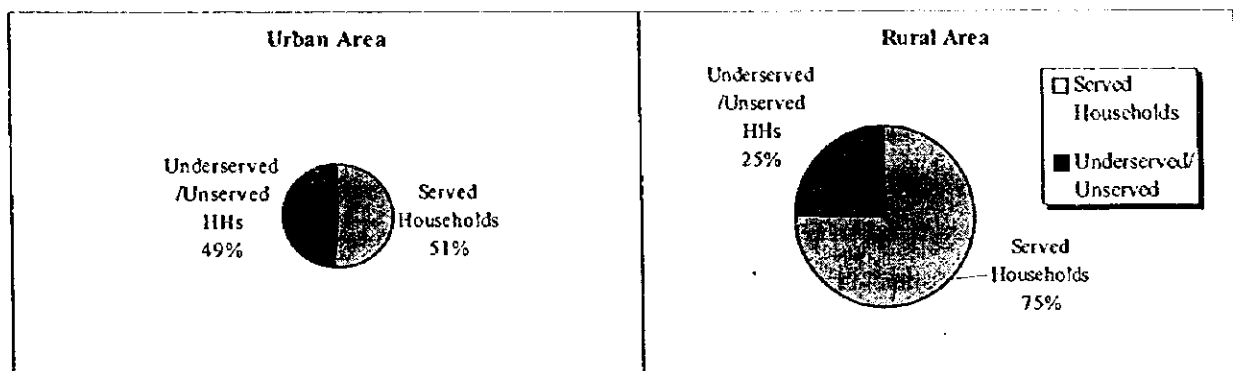
In urban areas, approximately 51% of the total households is served. A much higher served household of 75% exists in rural area. Table 4.2.1 shows the municipal breakdown in the number of urban and rural household toilets by category, and service cover-

age. 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

Name of Municipality	Households, 1997			Household Toilets Facilities and Service Coverage											
	Urban	Rural	Total	Urban				Rural				Municipal Total			
				HHs Served by Sanitary Toilets		Underserved/Unservd HHs		HHs Served by Sanitary Toilets		Underserved/Unservd HHs		HHs Served by Sanitary Toilets		Underserved/Unservd HHs	
				Number	% of HHs	Number	% of HHs	Number	% of HHs	Number	% of HHs	Number	% of HHs	Number	% of HHs
Baganga	2,533	5,242	7,775	1,468	58	1,065	42	4,296	82	946	18	5,764	74	2,011	26
Banaybanay	2,061	4,291	6,352	1,340	65	721	35	3,107	72	1,184	28	4,447	70	1,905	30
Boston	457	1,440	1,897	221	48	236	52	871	60	569	40	1,092	58	805	42
Caraga	1,044	5,170	6,214	462	44	582	56	4,679	91	491	9	5,141	83	1,073	17
Cateel	1,071	4,198	5,269	651	61	420	39	3,016	72	1,182	28	3,667	70	1,602	30
Governor Generoso	1,868	6,250	8,118	1,119	60	749	40	4,567	73	1,683	27	5,686	70	2,432	30
Lupon	3,424	6,556	9,980	1,281	37	2,143	63	6,194	94	362	6	7,475	75	2,505	25
Manay	1,513	5,532	7,045	741	49	772	51	3,925	71	1,607	29	4,666	66	2,379	34
Matí (Capital)	8,551	10,158	18,709	4,408	52	4,143	48	5,319	52	4,839	48	9,727	52	8,982	48
San Isidro	1,805	4,067	5,872	998	55	807	45	3,751	92	316	8	4,749	81	1,123	19
Tarragona	893	3,059	3,952	237	27	656	73	2,382	78	677	22	2,619	66	1,333	34
Provincial Total	25,220	55,963	81,183	12,926	51	12,294	49	42,107	75	13,856	25	55,033	68	26,150	32

Figure 4.2.1 Provincial Service Coverage of Household Toilet Facilities, 1997



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 2,058 toilet units found in 347 schools.

Sanitary toilets adequately serve 66% of the students. The rest, 34% is underserved or unserved. Table 4.2.2 provides the number and service coverage of school toilet facilities.

The number of sanitary school toilets is low to meet the service level standard of 40 students per sanitary facility. At present, the average ratio is 66 students per sanitary toilet, a little over the standard level. A number of school toilets constructed under FW4SP are not being used due to lack of water supply, destroyed plumbing fixtures and water tank seepage. 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 42 public markets, bus/jecpney terminals and parks/playgrounds in the province. About 55% of these public utilities is served, while the rest, 45% is underserved or unserved. Table 4.2.3 shows the number and service coverage of public utilities.

Public toilets at markets, bus/jecpney 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.

(3) On-going Projects

For 1998, a total of 2,255 household toilets had been programmed for distribution through the UNICEF project as follows: 200 toilet bowls per municipality in urban barangays and another 5 VIP latrines per municipality in rural barangays.

The recipient households are providing the superstructure and the depository of the sanitary toilet. With the distribution, the coverage of served households will increase from 68% to 71%.

Table 4.2.2 School Toilet Facilities and Service Coverage

Name of Municipality		Number of School	Number of Student	Number of Toilets			Service Coverage			
				Sanitary	Unsanitary	Total	Sanitary	%	Unsanitary	%
Baganga	Public	29	10,256	82	12	94	3,280	32	6,976	68
	Private	2	665	10		10	400	60	265	40
	Total	31	10,921	92	12	104	3,680	34	7,241	66
Banaybanay	Public	18	7,766	368	26	394	7,766	100		
	Private	1	54	4		4	54	100		
	Total	19	7,820	372	26	398	7,820	100		
Boston	Public	13	3,407	12	8	20	480	14	2,927	86
	Private									
	Total	13	3,407	12	8	20	480	14	2,927	86
Caraga	Public	39	8,990	76	29	105	3,040	34	5,950	66
	Private	2	399	10		10	399	100		
	Total	41	9,389	86	29	115	3,439	37	5,950	63
Cateel	Public	30	7,517	89	46	135	3,560	47	3,957	53
	Private	2	341	6		6	240	70	101	30
	Total	32	7,858	95	46	141	3,800	48	4,058	52
Governor Generoso	Public	27	11,213	91	53	144	3,640	32	7,573	68
	Private	2	147	6		6	147	100		
	Total	29	11,360	97	53	150	3,787	33	7,573	67
Lupon	Public	34	12,856	178	21	199	7,120	55	5,736	45
	Private	2	532	8		8	320	60	212	40
	Total	36	13,388	186	21	207	7,440	56	5,948	44
Manay	Public	37	8,416	101	34	135	4,040	48	4,376	52
	Private	2	354	3		3	120	34	234	66
	Total	39	8,770	104	34	138	4,160	47	4,610	53
Mati (Capital)	Public	56	25,123	408	51	459	16,320	65	8,803	35
	Private	6	4,230	76		76	3,040	72	1,190	28
	Total	62	29,353	484	51	535	19,360	66	9,993	34
San Isidro	Public	23	7,696	146	35	181	5,840	76	1,856	24
	Private	1	153	4		4	153	100		
	Total	24	7,849	150	35	185	5,993	76	1,856	24
Tarragona	Public	21	4,293	53	12	65	2,120	49	2,173	51
	Private									
	Total	21	4,293	53	12	65	2,120	49	2,173	51
Provincial Total	Public	327	107,533	1,604	327	1,931	57,206	53	50,327	47
	Private	20	6,875	127		127	4,873	71	2,002	29
	Total	347	114,408	1,731	327	2,058	62,079	54	52,329	46

Table 4.2.3 Public Toilets Facilities and Service Coverage in 1997

Name of Municipality	Number of Sanitary Toilets			Number of Unsanitary Toilets			Total Number of PU Toilets	Served		Underserved	
	Public Markets	Bus/Jeepney Terminals	Parks/Playgrounds	Public Markets	Bus/Jeepney Terminal	Parks/Playgrounds		Number of Sanitary Toilets	%	Number of Unsanitary Toilets	%
Baganga	1	1	1	1	1	1	6	3	50	3	50
Banaybanay	1	1	1		1		4	3	75	1	25
Boston	1			1	1	1	4	1	25	3	75
Caraga	1			1	1	1	4	1	25	3	75
Cateel			1	1	1	1	4	1	25	3	75
Gov. Generoso			1	1	1		3	1	33	2	67
Lupon	1		1		1		3	2	67	1	33
Manay	1		1		1		3	2	67	1	33
Mati (Capital)	1	1	3	1			6	5	83	1	17
San Isidro	1	1	1		1		4	3	75	1	25
Tarragona	1						1	1	100		
Provincial Total	9	4	10	6	9	4	42	23	55	19	45

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 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, which need to be addressed in the early stages of master plan implementation. Most 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. Furthermore, these resolutions are reflected in the above mentioned National Development Plan.

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

LGUs, in the context of the LGC and related decentralization efforts, now play a lead role in service delivery. The resolution, 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 the Clause (g) of NEDA Board Resolution No.4 (series of 1994), the Implementing Rules and Regulations (IRR) (refer to 5.2, Data Report) for the relevant sector was prepared by the DILG and has been approved by the NEDA in 1998. It delineates the responsibilities of government agencies involved in the sector, and defines the role of local government units 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 needs to adequately perform their devolved functions in the sector.

- (2) NEDA resolution No.5 (s, 1994) reaffirms the principle of provision of sewerage and sanitation services on the basis of willingness-to-pay. The resolution mandates the establishment of a Central Project Support Office (CPSO) at LWUA to assist LGUs in the formulation, preparation and implementation of sewerage/sanitation projects (refer to 5.2, Data Report).

5.3 Sector Institutions

(1) Existing Institutional Arrangements

Although the LGC mandates the LGUs major changes on sector structure and performance, the sector is still in transition. However, 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), responsible for sector project implementation as shown in Figure 5.3.1. A regulatory board, the National Water Resource Board (NWRB) coordinates the overall policy framework for water resources development and management. Other government agencies are concerned with macro-planning, natural resources allocation decisions and environmental protection and management.

At the local level, there are national government agency field offices working for the sector. Water Districts, RWSAs and BWSAs, on the other hand, deal with the actual delivery of water in different service levels. Some LGUs continue to operate provincial and municipal water supply systems. The private sector, non-government organizations and community-based organizations also undertake water supply and sanitation activities in the rural communities.

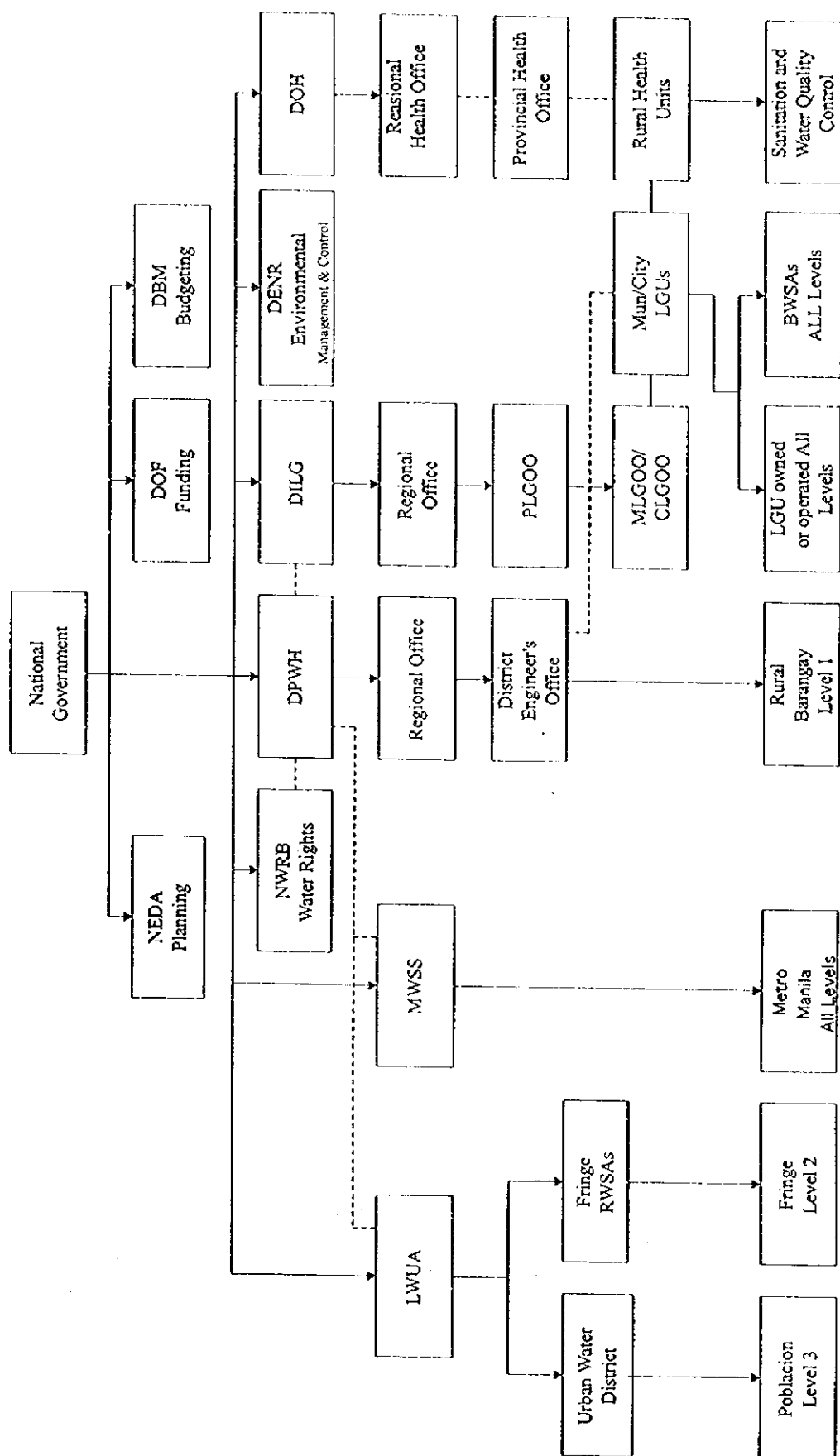


Figure 5.3.1 Functional Relationships

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

Table 5.3.1 Transition Functions of the DPWH, DILG and DOH

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

(2) Sector Finance

1) Cost sharing arrangement

As the recent policy of the central government, programs of central government particularly for those that have social and/or environmental objectives are implemented through a cost-sharing manner between the central government agency and LGUs. National government grant will be provided for the limited municipalities in terms of socio-economic conditions.

2) Financing and management systems

The LGUs may either finance the sector projects directly or involve the participation of the private sector through concession, management or service contracts.

In financing WATSAN activities, the LGUs may tap their Internal Revenue Allotments (IRAs) and/or locally generated revenues or leverage. These are also the resources to borrow from government or private financing institutions.

LGUs can access ODA loans for devolved activities, which are being channeled through conduits. These conduits are the Municipal Development Fund (MDF) and a Government Financial Institution (GFI). Their respective policy-making bodies 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.

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 LDC. Accordingly, it is the leading national coordination agency responsible for the supervision and administration of water supply and sanitation projects implemented by LGUs and is mandated to strengthen local capacity for delivery of the services.

General administration and institution building supports to LGUs entail assistance in the formation and training of BWSAs, coordination of master plan preparation, provision of external funds, formulation and installation of sector management systems (including O&M) and BWSA financial management systems. It 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-Project 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 planning 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 needing improved water supply and households needing sanitation improvements are identified and water supply and sanitation associations are formed.

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

(2) 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 are 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 construction of water systems; reactivation of non-operating systems, rehabilitation and expansion of facilities; and training. Among them, special loans finance watershed management projects: construction of administration buildings; purchase of service vehicles, communication and computer facilities; restoration of facilities damaged by calamities; 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.

(3) 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. However, DPWH's responsibility drastically changed with the implementation of NEDA Board Resolution No.4. Based on the new mandate, the functions of DPWH is limited to setting technical standards and assisting LGUs, upon agreement and in coordination with LGUs, in the conduct of surveys, preparation of plan, specifications, and program 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 were staffed with a water engineer, drilling crews and equipment. However, these days most of staff members have been transferred to the private sector and others.

(4) Department of Health (DOH)

The department is the principal health policy-making and implementing agency. The main function is to develop and implement sanitation programs nationwide and administer health education aimed at reducing morbidity due, among others, to waterborne and sanitation related illness specifically diarrhea diseases which ranked second leading cause of morbidity among the population in the past years.

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

DOH, through PHO, conducts health and hygiene education campaigns that focused on women and children health improvement in rural communities. Centrally- produced information, education and communication (IEC) materials support the program. It has produced and distributed IEC materials on water supply and hygiene behavior nationwide. Through its field health worker, it gives orientation to BWSAs on protection and disinfection of water sources and construction and maintenance of toilets.

(5) Other National Agencies

Other national agencies provide macro planning, funding and support, and regulatory guidelines for the water supply and sanitation sector.

The National Economic and Development Authority (NEDA), as the 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. It also coordinates the establishment of a system for national sector master planning and the monitoring system (with DILG).

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 economic growth, 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 the government agencies, including capital and operating expenditure, equity infusion to public corporations, grants and subsidies for congressional approval. DBM also ensures that budget releases conform with approved plans and programs.

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 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 learn and put them into practice. A wide range of learning material (workbook), while prototypes of safe water sources and water sealed toilets are set up in schools supplements the program. DECS assists in the GOP school toilet building project by identifying priority schools and by supporting DOH's integrated health information, education and communication campaign using the formal and non-formal educational system.

The National Water Resources Board (NWRB) coordinates the overall policy framework for water resources development and management. NWRB was created to guide an orderly and scientific development of all water resources in the Philippines consistent with the principles of optimum utilization, conservation and protection to meet present and future needs. NWRB also deals with water rights issues. The NWRB is tasked to regulate the use of water resources through the issuance of water rights and the tariffs of privately-run water systems.

5.5 Sector Agencies at the Local Level

(1) Provincial Level

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

1) Provincial Planning and Development Office (PPDO)

The PPDO is in charge with the formulation of comprehensive development plans and policies for consideration by the Provincial Development Council. It conducts studies, research 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. The office is composed of the Administrative & Technical Support section, and Plans, Programs and Evaluation division and Research & Project Development division (refer to Organization Chart Figure 5.5.1, Supporting Report).

2) Provincial Engineering Office (PEO)

The PEO has no role in Level I and II water supply works, however, during future implementation of the medium term development, it will undertake construction and O & M. The staffs of its plumbing unit under the motor pool division are charged with maintaining the Capitol Water System (Level III) and the water system for the Provincial Tourism Complex. In terms of water supply projects, there is no established coordination between the PEO and PPDO as both have separate and different scope of work. The PEO is organizationally and functionally divided into two groups,

Administration and Operation, under the respective provincial assistant engineers. The administration has two divisions: Plans, Program, Survey & Investigation, and Admin. & Fiscal Management. The Operation consists of the Quality Control & Monitoring section and three divisions: Construction, Maintenance and Motor pool & Shop. (refer to Organization Chart Figure 5.5.2, Supporting Report).

3) Provincial Health Office (PHO)

The PHO formulates and implements policies, plans, programs and projects to promote the health of the people in the province. It also provides technical supervision and assistance in the RIHUs, institutionally belonging to respective municipalities, and BHISs belonging to barangays. Both groups assist in the promotion and maintenance of public sanitation. However, problems arise if the municipal officials are uncooperative. The office is also tasked of conducting health information campaigns and rendering health intelligence service. The PHO will continue the implementation of DOH projects through inspection of the installation status of toilet facilities (provision of toilet bowl distributed to households) and water quality surveillance. In terms of water supply projects, the established coordination between the PPDO and PHO is in identifying possible areas for Level I. Implementation of projects at the municipal level is coordinated with the Municipal Health Officer to ensure that the location of the projects is free from possible contamination. The task of administrating the four hospitals falls under Administration and three service units of Medical, Nursing and Technical. And under the Technical Service Unit are 8 units, the following 2 of which are directly involved in the delivery of WATSAN activities. (refer to Organization Chart Figure 5.5.3, Supporting Report).

- **Environmental Sanitation (EVS) Unit.** The EVS is responsible in formulating plans of environmental sanitation, and collecting and analyzing data. It also supervises/validates all RSIs in the implementation of environmental sanitation activities and provides technical assistance to any environmental sanitation related problems. The unit is tasked with water quality control and surveillance. Only 2 personnel handle this: a sanitary engineer and a supervising sanitary inspector.
- **Health Education Unit.** The unit is tasked with the conduct of lecture on health education activities and IEC campaign to health providers/community. It coordinates with program managers in launching training and monitoring of health programs; it also monitors the continuance of household teaching classes. It also distributes IEC materials and coordinates with GOs and NGOs. There is only one person in charge of this unit.

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

The PTO is in-charge of the disbursement of all local government funds. It collects taxes, revenues, fees and other charges that would support the general appropriation ordinance. The Office maintains and updates the tax information system of the local supervision over all treasury offices of component municipalities. It also conducts periodic tax education information and collection campaigns and trains barangay treasurers and officials in effective methods of collecting real property taxes, other fees and charges.

The PBO provides fiscal budget administration for 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 LGU. It coordinates with the treasurer, the accountant, and the planning and development coordinator for the preparation of budgets. It also provides prompt and efficient reviews of municipal budgets.

The PAO is tasked with the recording and review of financial transactions in accordance with generally accepted accounting principles, rules and regulations. It summarizes and prepares financial statements for submission to different offices for their 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 necessary to improve the system and the utilization of government funds and properties.

The PGSO provides effective direction and coordination of the various administrative and support services necessary for the operation of the office including the keeping of government records, and the proper and timely dissemination of printed communication and correspondence. It is responsible for the acquisition/procurement of supplies and materials as identified in the overall fiscal plan. It collates and disseminates information on prices, shipping and other costs of supplies and other items commonly used by the LGU.

(2) Municipal and Barangay Level

The municipality serves primarily as a general purpose government for the coordination and delivery of basic, regular and direct services and effective governance of the inhabitants within its territorial jurisdiction. It has much the same organization structure and

legislative authority and with the same relationship to the Province. As for WATSAN project, the following offices are directly involved.

1) **Municipal Planning and Development Office (MPDO)**

The MPDO is in charge of planning and development, and shall formulate integrated economic, social, physical, and development plans and policies for consideration by the Municipal Development Council. The regular activities include: preparation of planning documents, monitoring and evaluation of projects.

2) **Municipal Engineer's Office (MEO)**

MEO regularly performs engineering surveys to acquire data for designs, layout or constitution of waterworks systems, sanitation facilities and other infrastructure projects. It also inspects works of contractors based on presented plans and specifications.

3) **Barangay Councils (BCs)**

The LGC designated Barangays as independent units of local government. The Barangay Council acts as a legislative body of the barangay. Aside from their share in the IRA from the National Government, the Barangay Councils are empowered to enact tax and revenue ordinances as may be necessary to discharge the responsibilities conferred upon them by law and to promote the general welfare of the inhabitants. They are also tasked to provide funds for the construction of barangay facilities, maintain and regulate their use and charge reasonable fees for the use thereof.

4) **Rural Health Units/Barangay Health Stations (RHUs/BHSs)**

The RHUs/BHSs are under the direct supervision of the respective municipality and the MHO extending health services to the barangay residents. They provide assistance in 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 residents. Midwives and other health workers usually schedule periodic visits to these health units/stations.

(3) **Field Offices of Central Sector Agencies**

1) **DPWH District Engineer's Office (DEO)**

The DEO is mandated to undertake and evaluate the planning, design and construction, and work supervision functions of the DPWH for all public works within the district. It coordinates with other departments, agencies, institutions and LGUs within the district in the implementation of infrastructure projects. Currently, previ-

ous water supply section (previously a unit under Construction Division) is maintained at some DEOs. The staff members consist of a water supply engineer, a well driller and a supervisor.

2) DILG Provincial /Municipal Local Government Operations Offices (PLGOO/MLGOO)

The PLGOO/MLGOO is tasked to provide general administration and institution-building support to LGUs to strengthen local capacity for delivery of basic services. Every province has a PLGOO assigned. The Provincial Task-Force on Water Supply, Sewerage and Sanitation which was headed by the PPDO assigned to the sector, was disbanded when the Provincial Sector Planning Team (PSPT) was created.

3) NEDA Regional Office and Regional Development Council

The organizations coordinate with DILG to establish the system for regional sector master planning and the monitoring system. Acting as Secretariat of the Regional Development Council, NEDA ensures that sector plans are consistent with regional and national priorities. It requires project proposals/plans and programs to be approved and endorsed by the Provincial Development Council (PDC) whose task is to incorporate, consolidate and prioritize municipal plans, programs and projects.

(4) Water Districts (WDs)

A Water District is a local government corporation formed pursuant to Presidential Decree No.198, 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. A WD, to be self-sufficient, is operated in a business-like manner to generate enough revenue from its water sales. The income is used to meet operational expenses, debt service and reasonable reserves for contingencies.

(5) Barangay Waterworks and Sanitation Associations/Rural Waterworks and Sanitation Associations (BWSAs/RWSAs)

A BWSA is an organization of water supply and sanitation beneficiaries in a barangay whose objective is to own, operate and maintain the water systems. RA 6716 requires its formation to ensure the provision of adequate, potable and accessible water supply to its members through proper operation and maintenance of the Level I facilities. The organizational size depends on the number of facilities, need, culture and situation in a particular barangay, but the structure is quite simple consisting of the board of directors, book-

keeper and caretaker/s. The formation activities of the BWSA are divided into three phases: pre-formation/social preparation, formation and post formation. During the formation phase, pre-membership training and election of BDO and Officers are held. In this phase, individual member's interest and community commitment are manifested through application for membership in the association and signing of Manifesto Resolution. RWSAs are organized to operate, manage and maintain Level-II and small Level-III systems, which are not covered by Water Districts.

The following is a typical active BWSA maintaining Level III: Brgy. Mati-ao Waterworks and Sanitation Association, Inc. is registered with the Securities Exchange Commission (SEC) in Davao City in 1993. The BWSA started in the 1980s with communal faucets (Level-II). In 1982, the barangay captain and DPWH registered the BWSA with the municipality. This BWSA was organized thrice. First in 1982 by the DPWH, then in 1988 and again, in 1993, by the members, on the initiative of the incumbent president. In its 1993 reorganization, the BWSA was registered with the SEC. In the first two times of the organization of the BWSA, the level of the system was only Level-II. In 1993, the system was upgraded to Level-III with individual meters per house. The cost required comes from the discretionary fund of the congressman. No contribution was given by the end-users. However, the willingness to pay by the end-users was confirmed. Total population served is 2,025 (375 HH individual faucets and 3 communal faucets). Water rate is charged to users, and the BWSA's monthly income is P 45,000-50,000, while expenditure is P35,000/month for O&M of the facilities.

(6) Other concerns

1) Provincial Development Council (PDC)

The main function of the PDC is to formulate a long term, medium term and annual socio-economic development plan and policies as well as investment program of the province. The PDC is headed by the Governor and is composed of the following: Representative of the Congressman, Chairman of Sangguniang Panlalawigan's Committee on Appropriations; municipal mayors, representatives from NGOs, president of the Association of Barangay Captains (refer to 5.5, Data Report for the Local Development Council).

2) Private Sector

The private sector has been involved in water supply development in the form of investments, technical studies and construction of water supply and sanitation facilities. The NGOs have also demonstrated capability to undertake project development and implementation with community participation.

5.6 External Support Agencies Active in the Sector

(1) Multilateral Agencies

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 in Luzon provinces and sanitation nationwide based on completed provincial master plans. The project concept called for a community based approach through BWSAs. The project was implemented from 1991 to 1995 (finally extended up to 1997), and following this project 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. It is the *Local Government Urban Water Supply & Sanitation Project* to assist municipalities of the lower tier income class i.e. 4th, 5th, and 6th (approximately 50 municipalities in the 20 provinces nationwide), which are not covered by water districts: to improve 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.

The Asian Development Bank (ADB) currently provides an assistance for the *Rural Water Supply and Sanitation Sector Project* or *RW3SP*. The project is aiming to improve poor situation of water supply and sanitation of the 20 Social Reform Agenda (SRA) priority provinces located in Luzon, Visayas, and Mindanao. The project consists of two parts, one is the institutional development and another is construction/rehabilitation of water supply and sanitation facilities. The total project cost is estimated at \$57.4 million equivalent, including a foreign exchange component of \$20.0 million and a local cost component of \$37.4 million equivalent. Implementation period is from 1997 to 2001.

UNDP assists the *Institution Building for Decentralized Implementation of Community-Managed Water Supply and Sanitation Project* or *IBWSSP* known as UNDP PHI/93/010 Project under the Fifth Country Program (1994-1997), which directly responds to the Poverty Alleviation Program. In this project, UNDP provides assistance in strengthening the institution involved in the delivery of water supply and sanitation services with emphasis on support to local government units, NGOs, and communities through the BWSAs. The project will complement earlier efforts by UNDP through the UNDP/World Bank Water and Sanitation Program to promote appropriate cost effective technologies in water and sanitation and to improve training capacity of the sector. The project covered the Provinces of Agusan Del Sur, Apayao, Capiz, Cotabato, Kakinaga,

Surigao del Sur and Zamboanga del Sur, and 180 sub-projects were implemented in the objective areas during implementation period 1994-1997.

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

(2) Bilateral Agencies

The Japan International Cooperation Agency (JICA) has been extending grant aid program for the *Rural Environmental Sanitation Project*, jointly implemented by DPWH and DOH. The project covered construction of Level I and II rural water systems and school toilet facilities in the ten (10) provinces. With DPWH, rural water supply systems were constructed at the evacuation centers for the Pinatubo refugees. JICA also supported the ground water development study in Cavite province (with LWUA) and the institutional development activities for MWSS. The PW4SPs for the nine (9) provinces in Luzon area were completed through previous technical cooperation.

The Overseas Economic Cooperation Fund (OECF) provided financial assistance for the RWS IV project. It provided a loan up to Y 5.08B, while counterpart fund was P 400M. The project covered construction / rehabilitation of Level I systems, construction of workshop buildings and procurement of various equipment. OECF has been supporting the Provincial Cities Water Supply Project of LWUA and the Angat Water Supply Optimization Project of MWSS.

DILG requested OECF last year to provide a loan for the *Water Supply and Sanitation Project* (WSSP) for the 6 provinces (based on JICA assisted PW4SPs). The project will achieve additional service coverage both for water supply and sanitation: 549,100 persons with water supply, 9,579 households provided with latrines, 18,750 students with 375 school toilets and 72 public toilets.

The Australian International Development Assistance Bureau (AIDAB) supported the

Central Visayas Water and Sanitation Project through a \$ 14.65M grant. The project was implemented by the LGUs and the Regional Development Council. Project components include: planning and monitoring information systems; infrastructure planning and rehabilitation; and institution building with an emphasis on community management based on experience from other AIDAB-funded projects. The project period was extended until 1997.

Canadian International Development Agency (CIDA) carried out Pre-Feasibility Study of *Malalag Bay Alliance Water Supply Project*, until March 1998, covering 10 coastal municipalities. The project included water source development, construction of storage, transmission and distribution facilities, and service connections. Basic construction costs will be allocated between MBA and municipalities. Implementation period was scheduled from 1998 to 2002. The Malalag Bay Area Development Office will submit a proposal for assistance to CIDA through Regional Management Committee of NEDA Region XI office.

Terms and conditions, priority areas, programs and projects by donor 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 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 therefrom by sub-component. Current conditions of the municipalities investigated are referred to. Furthermore, some of the discussion items covered sector management field.

5.7.1 Technical Aspect

(1) Project identification and prioritization

1) Project Conceptualization and series of procedures to select the project

Annually, the Province appropriates funds for the Provincial Water Program. This is used for the maintenance of the drilling equipment to include the Provincial Water Program vehicle, wages of drillers, purchase of supplies for the installation of Level I projects, maintenance of existing projects, expansion of spring development projects and on a case-to-case basis, construction of spring development projects. Based on

pre-identified needs by the BDC which are being endorsed by the MDC, the PPDO as the implementing agency for water supply projects include the proposals into the Annual Implementation Plan which is being deliberated by the Provincial Development Council.

After the budget for the Provincial water program is approved, the PPDO will inform the MPDO on the number of units to be implemented. It is now the duty of the MPDO to inform the BDC concerned regarding the approval of their projects. The BDC has the obligation to include the identification of possible sites and secure the Deed of Donation before the project is implemented.

2) Concerned parties/people in the sector and their respective activities

The PPDO plays a core role in identification of project needs. It motivates the barangays by introducing community organization and participation in the projects. The activities cover a series of meetings/assemblies and consultation with the barangay people, conducting barangay profile survey, and identifying the needs for WATSAN facilities.

The barangay people/officials are aware of the project needs and their roles through a series of meetings and thus assist in the survey and identification of the project/s. The barangay council prepares and submits the resolution presenting the project to the municipality.

At the municipal level, the MDC through its four sectoral committees, the Macro, Economic, Social and Infrastructure Committees, reviews and gives recommendations to the plan and endorses it to the SB, and then to the PDC. The MDC is composed of the municipal mayor, one SB member, all barangay chairmen and the accredited NGO which is 25% of the total membership. The SB member is the chairman of the committee on appropriation of the SB.

At the provincial level, likewise, the PDC sectoral committee (composed of line agencies, national agencies, accredited NGO and municipal mayors) endorses the provincial development plan (incorporating the municipal development plan of the different municipalities) to the PDC for consideration. The PDC reviews the documents and if there are in order, then endorses them to the SP for adoption and approval as well as for appropriation of funds.

3) Priority criteria for selection of the projects

On top of the criteria are those based on indicators prepared by NEDA, while other selection criteria are based on the result of the Minimum Basic Needs Survey of the barangay. Specific sector beneficiaries within the Barangay are based on those where access to potable water is one of the unmet needs.

4) Technical considerations applied for identification and prioritization

Generally, the barangays and the municipalities do not have the technical expertise in the identification of possible water sites for the construction of water and sanitation facilities. Because of this, expertise from the PPDO is being tapped for assistance in the identification of sites and water sources, and the other technical information needed in the identification and prioritization of projects.

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

After submission of project request by the barangay, a series of procedures including identification, validation and prioritization is required from the concerned LGUs. These result in considerable time consumed to finalize the funding. The LGUs must seek a more simple and systematic procedure.

With reference to the implementation of medium-term target plan, review and modification of selection/prioritization criteria shall be made by LGUs considering said barangay profile. The LGUs together with barangay people shall prepare the requirements including barangay profile in an expeditious manner (referred to UNDP assisted project) as part of annual activities.

(2) Preparation of Feasibility Study (F/S) and Detailed Design (D/D) of Facilities, and Contract Procedure

1) Experience in Master Plan (M/P) preparation in the sector

The Davao Integrated Development Programs (DIDP), an alliance of the three Davao Provinces and Davao City is currently preparing its Master Plan which is being undertaken by the Japan International Cooperation Agency (JICA). Basically, all the local government units are involved in the process from the data generation up to the formulation of the plan.

Also in the pipeline is the preparation of a Master Plan for the Surigao - Davao Oriental Pacific Rim which includes Surigao del Sur, Surigao del Norte, Surigao City and Davao Oriental. It is anticipated that Davao Oriental specifically the PPDO will have a big role in terms of formulating the plan.

2) Water source development experience in survey, planning and design of facilities

Considering that the implementation of water supply projects by the PPDO is limited to Level I and II Systems, the preparation of feasibility studies is not being practiced by the province, instead a simple project proposal is made to support requests for funding assistance.

In case of spring development, related technical information are being gathered from barangay people which include location of the untapped spring and discharge rate during dry season. Preliminary topographic survey (elevation, distances) is conducted to prepare hydraulic profile of transmission pipelines. For ground water development, its technical feasibility is evaluated based on available technical data together with information from barangay people and supported by field confirmation at the existing wells.

3) F/S of Level I, II and III systems

Project proposal for the Level II and Level III system are usually done by the PPDO in coordination with the PEO. Experience of the PPDO in the conduct of technical study include among others identification of sources, water production and water demand. With the assistance of the barangay people it serves, the installation of pipes and location of communal faucets is made. Hydraulics profile and size intake-box / reservoirs is determined by referring to the materials prepared by the then Ministry of Human Settlements (MHS) / Office of the President. The RWDC design standard is also applied. Finally, cost estimates are prepared and submitted to the LCE and donor agencies for possible funding.

4) Contract document preparation and tendering procedure

In cases where Level I and II systems are implemented through contract by the private sector, only the labor is contracted out while the procurement of supplies and materials is left to the province. Normally, the PPDO prepares the plans and the Scope of Work to be attached to the Purchase Request for processing.

In most level II systems, shortage of water supply is experienced as a result of expanding the service coverage without technically assessing the capability of the source and distribution lines. The problem is related to planning/designing in the F/S and D/D. Aside from this, future water supply systems using surface water sources may require water treatment facilities. Knowledge/practice is not only in hydraulic analysis but also in the structural calculation and water treatment; these are necessary during the preparation of F/S and D/D of water supply systems. Thus, it is recommended to increase the capability of the LGUs technical staff in planning and designing. Utilization of consultancy services should also be considered.

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

1) Experiences on force account work of construction of facilities

In the procurement of the needed materials the PPDO prepares the plan and bill-of-materials as basis for the preparation of the purchase request. The PPDC, being the requisitioning officer, signs the PR to be approved by the Local Chief Executive (LCE). Subsequent processing procedure shall follow the normal flow based on existing guidelines.

2) Construction and supervision

In most cases, construction of WATSAN facilities is usually done by the LGU's either the Municipal government or the Provincial government.

For project, implemented by the province, the drilling crew of the PPDO takes charge of its implementation while the barangay council takes charge of securing the Deed of Donation for areas where the location of the project is within private lands.

In trying to build the capabilities of the municipalities, sometimes funding for water supply projects are given to the municipalities as financial assistance. In this case the PPDO's role is to supervise the implementation for the project in terms of technical aspects. Monitoring and evaluation are conducted by the Provincial Project Monitoring Committee of which the PPDO is the secretariat.

3) Rehabilitation of the Facilities

Due to the absence of technical expertise at the barangay level, even minor rehabilitation of projects implemented by the Provincial Government is being undertaken by the drilling crew. Minor repairs include among others the replacement of gaskets for

the facilities. The materials however, are provided by the barangay. For major repairs, both material and labor are being provided by the Provincial Government for provincial projects. Rehabilitation of facilities installed by the DPWH, is also undertaken by the Province occasionally.

In procurement of materials and equipment, the PPDO's role seems to be crucial considering that it prepares the design and estimates as basis in the procurement by the GSO. The PPDO has already the experience in handling the procurement of both low and high cost equipment materials.

A bigger volume of work is anticipated in the implementation of medium-term development plan including the preparation of the required tender documents, evaluation of pre-qualification documents and contract procedures. As far as the PPDO's capability is concerned, it has sufficient experience in the preparation of required documents considering that the PPDO is chairing the Technical Committee of the Pre-qualification, Bids and Awards Committee (PBAC).

The bottleneck being identified in the process of procurement of the materials and equipment is the inability of the GSO to shorten the process without breaking the existing rules and regulations of the COA. Processing of documents is too long which affects the implementation of the project. The LGU should examine the entire procurement system and introduce some innovative techniques to expedite the process.

As to facility construction by administration, the present implementation ability of municipal/provincial offices is limited to a certain number of projects due to insufficiency of manpower resources as well as the shortage of needed vehicles/equipment. Contracting out to the private sector may be practical; however, it is still a must to give water supply engineers more experiences, which is needed particularly in the coordination and supervision of the future projects.

With regard to the rehabilitation of the Level I facilities, strategy and concrete implementation mechanisms among concerned parties have to be established.

(4) O&M of Facilities including Preventive Maintenance, Major and Minor Repairs (Spare Parts Sourcing)

1) Operation and maintenance of water source facilities

Because of the absence of functional BWSAs, minor and major repairs of Level I fa-

cilities are lodged with the Provincial Government. In cases where the province could not readily respond to requests for repair, water facilities are left in such unrepaired condition leaving the system prone to further deterioration. A bigger percentage of unrepaired/abandoned wells are those previously implemented by DPWH. In some cases, abandoned wells are not only caused by lack of spare parts but also due to water quality problems.

Generally, O&M of level I facilities is not properly done by beneficiaries (or BWSA, if exists) because of lack of sense of ownership. Nonetheless, there was a case where the users contributed money to purchase spare parts when pump facilities broke down. It is necessary for the users to consider not only repair/replacement of mechanical parts in its operation but also the re-development of wells and future upgrading of the service level.

On the other hand, Level II and III systems are managed by RWSAs/Municipalities /Provincial Government. Since every system is rather small in terms of the level of service coverage, only few staff (mostly casuals) are assigned to operate the systems.

2) Communication mechanism practiced in case of facility breakdown

In cases where major repair is required (non-functioning of hand pump parts, etc. for Level I), the barangay council passes a resolution to the province requesting for the repair of their facility; in responding to such request, priority is given to projects implemented by the Provincial Government. However, even if the subject facility is a DPWH project, the LCE is always duty-bound to approve the said request specifically for projects located in schools and affecting a greater number of constituencies.

However, for major repair of Level II and III (burst pipe/leakage), the permanent / casual staff takes action to restore / repair. In case they are short in budget, the waterworks/RWSAs submit a request letter for funding to the municipal/provincial government concerned. In areas where RWSAs are not active, the barangay captain submits a request letter to the concerned agencies, or directly to the provincial government. The LGUs shall locate appropriate systems for sustainable O&M.

(5) Water quality examination

- 1) Water quality examination is only for bacteriological content and does not include physical and chemical parameters. The rural Sanitary Inspector (RSI) of MHO does not conduct the sampling. Most of samples come from Level I and II system. Private

wells are also sampled and analyzed, and if found positive, it is disinfected by either the RSI or the SSI of PHO.

The availability of laboratory testing facilities shall increase water quality parameters (physical and chemical) to determine the potability of water as indicated in the National Drinking Water Standards. In addition, a regular program of disinfection for all level of services is necessary, not only during occasions when the source is found positive. In this connection, adequate level of testing facilities, chemicals and manpower shall be sought.

2) Capacity of laboratory

The laboratory is presently manned by three personnel composed of Medical Technologist, Medical Laboratory Technician and an Aide. Samples are submitted to the provincial laboratory for analyses. The SSI facilitates/coordinates the activities of RSI and the laboratory. The schedule for water analysis is 50 samples per week at 25 samples per municipality.

The delivery of health services being devolved to the province is one of the priority thrusts of the LGU. Although constrained with funds, the LGUs see to it that the Provincial Hospital Laboratory shall be equipped with the needed chemicals and equipment. The LGU is also planning to put up a mini-laboratory in Cateel District Hospital which will have the northern municipalities (Boston, and Baganga) as its catchment areas. This will improve and expedite the process of conducting water quality examination which is presently delayed because the Provincial Hospital Laboratory is far from these municipalities. Also in the southern part, a mini-laboratory is envisioned to be put up in Governor Generaoso with San Isidro as its catchment.

3) Budgetary support

Although a budget of P530,000 was allocated this year for the hospital laboratory, the provincial government paid very little attention to address the needs/requirements of this activity. Meanwhile, there is a high incidence of water-borne/related diseases and the percentage of contaminated sources of drinking water remains very high. A requirement of proper allocation of budget for water quality surveillance is self-explanatory for the LGUs.

(6) Private Sector Capability

The capability of existing local contractors is relevant to WATSAN projects implementa-

tion. In the province, the private sector capability is not in question in the implementation of the Level I systems to Level III systems. They are equipped with the necessary manpower and equipment.

Despite the full utilization of local based contractors, additional qualified and experienced contractors shall still be deployed as main contractors in view of the forthcoming projects which are larger in scale and with highly technical requirements. These contractors usually have offices in large cities such as Davao, Cebu and Manila. It is necessary to prepare listings of available contractors, especially for well construction with required capacities.

5.7.2 Institutional Aspect

(1) Linkages among Concerned Parties/Departments

The PPDO, a lead provincial office responsible in the implementation of WATSAN projects, works either directly or indirectly with national government local offices and municipalities as well as other provincial offices (refer to Table-5.7.1, Supporting Report).

There is 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 Existing Project and Sector Monitoring).

(2) Organizational Set-up

In the existing organization set-up of the province, the implementation of the Provincial Water Program is placed directly under the Monitoring, Evaluation, Waterworks and Other Special Projects section of the Plans Programs and Evaluation division.

For the implementation of PW4SP, it is envisioned that a WATSAN Center like that of the Model Province shall be set up also. The proposed staffing will be on an interim basis (detailed) considering that most of the permanent employees will come from the PEO, DILG and PHO (refer to Table 5.7.2, Supporting for the proposed composition of the WATSAN Center).

(3) 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 their regular programs. However, due to shortage of financial support and manpower to the PHO, relevant activities are quite limited at the present time, unless it is a component of DOH/UNICEF/NGO projects/program. It is suggested to put more attention to the need by LGUs to ensure sustainable implementation of the sector development.

(4) Training

Although the central government agencies extended technical training to BWSA/beneficiaries on the foreign assisted project basis, O&M of Level I facilities is commonly neglected. No training is currently provided for WATSAN beneficiaries by the province. The fact that some barangay people are willing to undertake training for O&M of the facilities, effective program/s shall be implemented by LGUs to ensure demand-responsiveness with reference to community development.

1) Planning and engineering for LGU staff

The central government agencies provided technical training on a project basis. The PEO staff received technical training relative to planning and engineering, and O&M. However, engineering training/workshop programs were seldom held, only six (6) times it were given to staffs for last 15 years.

2) Institutional/community development/financial/gender specialists of LGU staff

WATSAN Trainers Training and Community Organizing Training/Workshop were provided by DILG-PMO. But, there is no experiences on gender related training.

3) Organizing the association at barangay level

Before, organizing the association at barangay level was undertaken by the PWDTF spearheaded by the DPWH. Since locally -funded water supply projects had been devolved to the LGUs, DPWH no longer initiated the organization of BWSA. For projects implemented by the LGU, organizing the BWSA is not a pre-requisite before project implementation hence, ensuring the sustainability of the project is very difficult. For projects currently funded by the UNICEF, organization of BWSA is a component of the project.

5.7.3 Financial Aspect

(1) Budgetary Allocation to the Sector

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

Projects being programmed for implementation in the Annual Implementation Plan are those funded only by the 20% Development Fund for the very reason that the AIP forms part of the General Fund Annual Budget. However, in the Local Development Investment Program (LDIP) which is a component of the Comprehensive Development Plan all the projects funded by the NLA's and municipalities find its way to the document to include the WATSAN sector

(2) Access to External Funds

The Provincial Government is open to finding out other means by which the province can access funds to the sources other than its IRA, local taxes and economic enterprises. The limitation that the province encounters is the lack of information by which it could access other financing options.

External assistance experienced by the province for the Sector comes from foreign assisted projects. In the past, participation of the province in projects of foreign funding for the sector was minimal or even nil. But with the devolution of the sector the LGUs pursuant to the LGC, the participation of the LGUs is increased. Before the devolution of the sector, the province was a beneficiary of UNICEF and JICA health service projects through the DOH. After the devolution, the province became direct recipient of foreign grants.

In addition to its own funds source and foreign assistance, the province can also access funds from other sectors, such as the private sector through any of the Build-Transfer-Operating scheme that can provide incentives to the private sectors by minimizing the bureaucracy.

(3) Cost Recovery Practices by LGUs and by Users

For the period that the DPWH was constructing Level I water supply facilities, the

DPWH formed many BWSAs. Some of the BWSAs collecting monthly fees are still active. However most of these BWSAs are no longer functioning, resulting to no water fee collection. As a consequence, the users have to go to the government (usually barangay or municipal) to address the problem. In some cases, the users also 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.

Cost recovery on capital cost for the Sector is dependent on how the community or the clientele perceives their role in the Sector. To the extent that the beneficiaries experience a sense of ownership for the facilities, will they contribute to the sustainability of the facilities. In the case of capital expenditures, provision of counterpart from the beneficiaries in terms of labor would help in giving the beneficiaries a sense of ownership for the facilities and hence, a sense of responsibility for the sustainability of the system.

Similarly, in the O&M cost recovery, the extent that the beneficiaries contribute to the sustainability of the water supply facilities, through monthly contributions, is the extent of ownership and hence, responsibility towards the system is determined. To this ultimate objective should government initiate community empowerment through active participation even at the construction period.

5.7.4 Institutional Arrangements/Capability of the Municipal Government

The municipalities are responsible for the implementation of infrastructure facilities to service the needs of the residents of the municipality. As for WATSAN project, when the barangay is not able to finance the project from its own funds; the BDC then endorses the project to the municipality. The municipality finance said project, if fund available, usually by providing technical and material support. In case the municipality is not able to finance it, the project is once again endorsed to the province.

The municipality prepares municipal development plans and formulates an integrated economic, social and physical development plan. It identifies and prioritizes water projects and secures for funding support. MEO provides technical services including investigation and survey, engineering designs, feasibility studies and project management. It is primarily responsible for the organization and training of the BWSAs within the administrative boundary.

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 Davao Oriental 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: (1) The interviews undertaken with LGU officials during the study period; (2) The answers to the "CD/GAD Questionnaire" distributed to select provincial and municipal officials involved in sector development; (3) The "Results of the Barangay Key Informant Survey for Davao Oriental", a survey administered to the officials of the select local communities (details are referred to Supporting Report); and (4) 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: (1) The "Results of the Group Interview Survey for Davao Oriental" (details are referred to Supporting Report); and (2) The "Barangay Key Informant Sur-

vey for Davao Oriental"; and (3) The results of studies conducted on CD by the national/regional/provincial agencies, if any.

Due to time limitation, only five barangays were surveyed for the key informant and two barangays for the group interviews; but the results 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 its 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 the early 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. However, according to both the project implementors and people served, community participation was generally a "one shot deal," limited to having the beneficiary communities organize themselves into a BWSA/RWSA based on a set of guidelines. During the implementation of the project, some of the BWSA/RWSA members also contributed labor as the

community's counterpart in the construction of facilities, while only a few of the beneficiaries donated materials and cash.

Yet today, many of the BWSAs and RWSAs that have been organized under the BWP and the other sector programs are no longer in existence and the constructed facilities are either badly deteriorated or no longer functioning because of the lack of proper maintenance. Sector planners and implementors have attributed the prevailing condition of water supply and sanitation associations in the province to the inadequate social preparation of the project beneficiaries. But project beneficiaries voiced out insufficient consultations prior to project implementation as one of the reasons why the community does not involve itself in running its own water and sanitation association.

While the past experience opened avenues that linked the province, the municipalities, and the barangays with each other and, more importantly, with the people or the beneficiary communities, this linkage has not been fully maximized and strengthened by the parties. Thus, much remains to be desired on the quality and depth of the people/communities' participation in WATSAN sector developments.

Presently, however, there is a good entry point for CD in the province where the PPDO can penetrate the community and organize it for the sector. This is in the assistance given to the different municipalities and/or barangays who request for the drilling of new wells or rehabilitating old wells. As a recipient of projects from the defunct Rural Water Development Corporation (RWDC), the province is in possession of a drilling rig that it utilizes for its own water projects. But then again, this has not been utilized to the fullest.

5.8.3 Assignment of CD Specialist to Sector Projects

There is no one assigned in the province who is responsible solely for CD work. Right now, a staff has been assigned within the PPDO to undertake CD-related work on a concurrent and/or per project basis. In the PHO, the one assigned to the FW4SP project also undertakes CD, if and when required. The same situation prevails on the municipal level.

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 of the BWP and past sector programs.

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 said 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.

5.8.4 Training on CD

Various community development training programs were participated in by the provincial/municipal level staff provided mainly by the DILG with the support of the provincial government and other agencies for Levels I and II systems.

- 1) *Seminar-Workshop on FW4SP* conducted by PHO/RHU for the municipal staff of Banay-Banay in February 1996.
- 2) *Site Facilitators Trainors Training Management Workshop on RWSSP Projects -- Well Drilling Course* jointly conducted by the DOH, DILG-PMO and RWDC from 1982 to 1992.
- 3) *Organization of Barangay Waterworks and Sanitation Association (1982-1989)* conducted for all barangay beneficiaries and officials.
- 4) *Community Organizing* sponsored by Davao Medical School Foundation-Institute of Primary Health Care for municipal staff of Mati, 1989.
- 5) *PRISP-Local Participatory Planning* conducted for the project beneficiaries of Manikling, San Isidro.
- 6) *Caretakers Training (1985-1986)* conducted for BWSA members.
- 7) *Rural Development Planning* conducted by DILG in 1980.

Water district personnel also attended various trainings and seminars conducted by the Local Water Utilities Administration (LWUA) and other private training institutes focused on ad-

ministrative, 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

Non-government organizations, community-based organizations and people's organizations have been doing work in the province for a number of years now. Many of these are regularly tapped to assist the LGUs in their various development projects.

This fact has been validated from the results of both the barangay and group surveys where people were familiar and comfortable with the work of NGOs, CBOs and POs. Some of these organizations obviously possess the necessary skills in community development work and can be tapped for the WATSAN sector (refer to Supporting Report for the list of NGOs and CBOs in Davao Oriental).

5.8.6 Existing Community Development Processes

(1) Manner of Participation in Sector Development

The efforts of the LGUs in encouraging community participation for sector projects were generally confined to the organization of BWSAs for Level I systems, RWSAs for Level II systems and water districts or LGU waterworks for Level III systems or combination of 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.

Based on the key informant survey, only two out of the five barangays surveyed have their BWSAs/RWSAs in operation. Among the reasons for non-functioning WATSAN associations is the inadequate maintenance of facilities. Prevalent is the thinking that O&M is not the responsibility of the users/beneficiaries but is the job of the barangay council or the officers of the WATSAN association. Another factor is that while the users pay their water bills, the amount is insufficient to cover for O&M.

In this same survey, the barangay councils indicated willingness to pay for the training of volunteers on the operation and maintenance of constructed facilities. The local residents also indicated that they would like to contribute either cash or free labor during construc-

tion as a manifestation of their future active involvement with the WATSAN association. Some expressed willingness to provide free labor for repair and maintenance works.

For the BWSA/RWSA, the users' participation was in the provision of free labor, right-of-way, land contribution, and donation/contribution of other materials needed during the construction phase of the sector project. According to the respondents of the group interviews, very few of them were consulted/and or briefed on their roles and responsibilities on the planning, construction and design of previous WATSAN projects. This was also true for the operation and maintenance and financing aspects of the system. Thus, left to the central and local government planners was the responsibility for the critical 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.

The central and local government planners should, therefore, look for proper opportunities in opening formal or informal avenues that would allow the beneficiary communities more freedom in presenting their own ideas as well as in doing what they feel is in their best interest of the sector. This would greatly enhance the manner and quality of users' participation in the sector.

A positive aspect of the study is the total awareness of the male and female respondents of the group interview of the presence of BWSAs in their communities although not all of them were members of said BWSAs. The men and women respondents also unanimously exhibited eagerness in playing a more dynamic role in sector projects. They professed their willingness to form themselves into water associations, readiness to contribute cash, materials, and even sites for the construction of WATSAN facilities. In addition, the interviewees felt that they are already primed to assume higher responsibilities in managing, operating and maintaining the WATSAN facilities.

Located in provincial urban centers, water districts 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 remains the responsibility of the water district.

(2) Typical CD Work

The present CD practice for sector projects is a carry-over from the manner it was done during the implementation of the BWP and other sector projects funded by the ADB, World Bank or OECF during the 1980s and 1990s. In other words, before any sector project is implemented, a water and sanitation association must first be organized and its officers appointed.

Community participation is solicited through the conduct of trainings, the first of which is a five-day pre-operational training held during the construction of the WATSAN facilities or when at least 90% of the project is completed. After the completion of the project, a technical training is conducted. Only after these and other requirements are complied with is the project/facility turned-over to the WATSAN association.

One of the provinces under this sector study, Agusan del Sur, has been implementing a typical CD process that has been the result of a recent UNDP study (refer to Supporting Report for the Detailed CD Process of Agusan del Sur.)

It is the experience of the province that the facilities in communities that had a solid social preparation and foundation are still in operation. The same is true with WATSAN projects that have been decided upon and endorsed by the people; and taken up firmly by the mayor or the chief local executive. During construction, the community participates by providing the labor or by donating sand or gravel; while the local government pays for materials such as the pipes and/or the pump.

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 succession 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

A comprehensive, well-planned and executed IEC program on the sector informs and educates the people on the value of water, the benefits derived from good health and sanitation and on the programs and activities of government on the sector. This provides the proper media and venue for a sustaining mechanism to promote free, open, two-way exchange of information and communication at all times.

The province has adopted a province-wide IEC program on sector plans and programs in order to gain the support of various publics. The sanitary inspectors are in charge of information dissemination in health and hygiene. Utilized are print and broadcast media (radio), as well as person-to-person communication. Dissemination of information on sector issues and development is also undertaken through discussions at health centers mostly between health workers and mothers. During barangay council meetings, sector information is discussed when there are new government programs and the barangay is a recipient of such program. It may be well to note that even with these numerous activities, the IEC program can be more comprehensive in scope and manner of implementation.

For other projects and activities of the province, there is the *pulong-pulong* on radio, where an open discussion with people by the provincial officials is promoted. This way, the ideas of the people are aired as a form of feedback on policies, programs and issues that affect them. The *pulong-pulong*, therefore, is a form of demand driven approach because the wishes of the people are brought to the attention of planners and implementors. This institutionalized "bench" conference can also be effectively utilized for the WATSAN sector.

In general, water districts (WDs) 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 sponsor 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 a regular public information drive and helps smaller WDs to disseminate information.

5.8.8 Health and Hygiene Education

The province conducts an inter-agency health education program with the PHO as the lead agency involving other offices as the PPDO, Nutrition Office, DECS and DPWH. Aside from this, the PHO conducts a regular training program for Barangay Health Workers (BHW) such as family planning and environmental health which includes water and sanitation. The PHO also runs special campaign programs utilizing the print and broadcast media.

The Provincial Environment and Natural Resources Office (PENRO) regularly conducts seminars/forums on solid waste management. Over DXHM, the PHO broadcasts campaign programs to eradicate malaria by introducing proper usage of chemicals and to promote barangay cleanliness and beautification. Posters and handouts are produced as media support to these programs. Barangay health workers are also active disseminators of health and sanitation information.

Some municipalities implement health and sanitation education program. The town of Manay through the Rural Health Unit, for example, has existing programs on water quality surveillance, excreta disposal, food sanitation, solid and liquid waste management, and insect/vermin control. The RHU undertakes actual disinfection, chemical spraying, construction (and/or supervision) of water system and sanitation facilities (water systems, toilets, drainage, and compost pit), and training of food handlers and other health workers.

The result of the group interviews revealed that the people recognize the importance of good health and hygiene practices. Most of them learned about health and sanitation matters from varied sources such as the schools, health clinics/hospitals, from friends and relatives and from newspapers, radio and television.

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 Davao Oriental 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: (1) The interviews undertaken with LGU officials during the study period; (2) The answers to the "CD/GAD Questionnaire" distributed to select provincial and municipal officials involved in sector development; (3) The "Result of the Barangay Key Informant Survey for Davao Oriental" administered to the officials of the select local communities; and (4) The "Result of the Group Interviews for Davao Oriental" conducted at the barangay level; and (5) 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 various government training institutions to incorporate "Gender and Development (GAD) Concerns and Programs" in their respective 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 government 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, implementation of most health and sanitation projects, including water supply, utilizes the women's sector in the community.

5.9.3 The LGU and Gender

Gender and development (GAD) is relatively new in the province, thus, gender sensitive approaches have not yet been incorporated into project planning and implementation. Exposure of the provincial staff on gender mostly comes from health and hygiene projects where discussions on maternal and child health care are actively pursued. In order to have projects that respond better to the needs of the men and women, the province plans to have its PPDO staff trained on GAD.

5.9.4 Gender in WATSAN Sector Projects

(1) Gender Participation in Sector Development Projects

Since gender has not yet filtered down to sector projects in the province, a province-wide key informant survey and group interviews were undertaken to assess gender sensitivity of barangay officials and constituents in the roles of both men and women as well as their modes of participation in sector projects.

The respondents in the key informant survey were either an official of the barangay council, an official of the BWSA, or a recognized community leader. The purpose of the survey was to find out the degree and type of government assistance on the sector that cascades from the national government down to the barangay level.

In the five barangays surveyed, the total number of barangay council members is 47. Of this number, 32 were males and 15 females. The barangay councils are still male-dominated; that is, there was no case that the women outnumbered men in the composition of the council. A male barangay captain headed all these barangays.

The respondents in the group interviews, on the other hand, were equal numbers of men and women in selected communities, the majority of whom belonged to the 40-59 age bracket. Most of the interviewees reached high school and college levels where both genders had almost equal number of graduates in these levels. Most of the men were farmers/laborers, while the others were either office workers or practiced their professions. More than half of the women was unemployed. Those with work were either self-employed (own business) or practiced their professions.

The objectives of the group survey/interviews were 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 findings are:

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

The boards of the existing BWSAs/RWSAs are male-dominated. Of the 33 board members identified, 30 are males while 3 are females. To the women members were reserved the traditional roles, such as that of board secretary or treasurer. Both men and women are willing to contribute cash or in kind for the construction of their water supply and sanitation facilities.

Based on the results of the group interview, all respondents were aware of the existence of a BWSA in their communities, although more than half was not a member of any WATSAN association. However, all the respondents indicated their interest in becoming a member of BWSA/RWSA once it is formed and/or activated in their respective barangays. Both the male and female interviewees demonstrated willingness to be an officer of

the association and to participate in all project development phases, that is, from water rates formulation to the construction of facilities.

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:

Most of the respondents in the group interview did not attend any training for 1997. Those who did, however, underwent a diversity of training courses. For sector-related training, not one of the respondents was aware of any training program set during the year 1997. In spite of this lack of awareness, all the male and female respondents indicated their keen interest to attend any WATSAN-related training programs in the future.

On participation in health and hygiene:

While most of the male and female respondents equally recognized the importance of good health and hygiene practices, only half of them attended health training programs. The other half was unaware of any health training at all. If given a chance, however, they indicated their interest in attending training on such topics as health and sanitation, proper use of water, WATSAN-related skills development, among others. Training time preference was from one to three days only. It was found out that women were most afflicted with water-related diseases such as stomach disorder, skin disease and diarrhea.

On participation in operation and maintenance:

Both the men and women believe that they can participate in operating and maintaining the WATSAN facilities. They also indicated willingness to pay for the O&M of future facilities and to maintain the surroundings of the facilities as well as monitor if the facility is defective or not.

Majority of the respondents, mostly the females, did not know who was responsible for O&M or for simple repairs for the WATSAN facilities. Most of the men said, however, that it was someone in the BWSA who maintained the WATSAN facilities.

(2) Gender in Water Supply and Sanitation Practices

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

Responsibility in Fetching Water

A big majority of the male and female respondents said that the men (the husband and/or eldest son) are still the ones responsible for hauling drinking water for family use. Only a few of the women shared the burden where the wives or female children fetched water from somewhat distant sources.

The majority of both male and female respondents indicated that families fetch drinking water twice to thrice a day with a duration of about 10 to 20 minutes from the source to their house. All of the male and female respondents surveyed revealed that they have problems with the current water source.

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). The CPH "long form", which includes "water supply", is administered on 10% of the households once every ten years, and "short form" every five years. Water and sanitation is not included in the short form.

(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 foreign assisted infrastructure projects, including water supply project is submitted monthly from PPDO to the regional Office of DILG, while, the reports on other sectors and non-foreign assisted projects are submitted quarterly. The monitoring report submitted to the regional office of DILG is sent to the central government (NEDA) through RDC after compilation with other monitoring reports (by the secretariat of RDC). 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. It is necessary to establish data management system to monitor all related projects.

There are no differences in the current project monitoring systems at LGU level. Aside from local practices, the monitoring reports on foreign assisted projects are submitted to the concerned central government agencies through the regional offices.

The monitoring for WATSAN related projects are conducted under the Regional Monitoring and Evaluation System. The PPDO 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 countermeasure. Figure 5.10.1 shows an example of UNDP assisted project illustrating the linkages among concerned agencies.

Both in sector and project monitoring, the exchange of information between concerned agencies seems to be insufficient/not systematic, though there are opportunities to do so, such as through the periodic meetings done by the Regional Development Council. In addition, no data-management system causes not only increasing working burden in the monitoring but also wide dissatisfaction among project implementers themselves. Monitoring report preparation is seen as a nuisance to performing one's job, and is thus haphazardly done. This leads to the problem of reliability of information coming from the fields. A clear mechanism and data management system are required to authorize among relevant agencies.

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

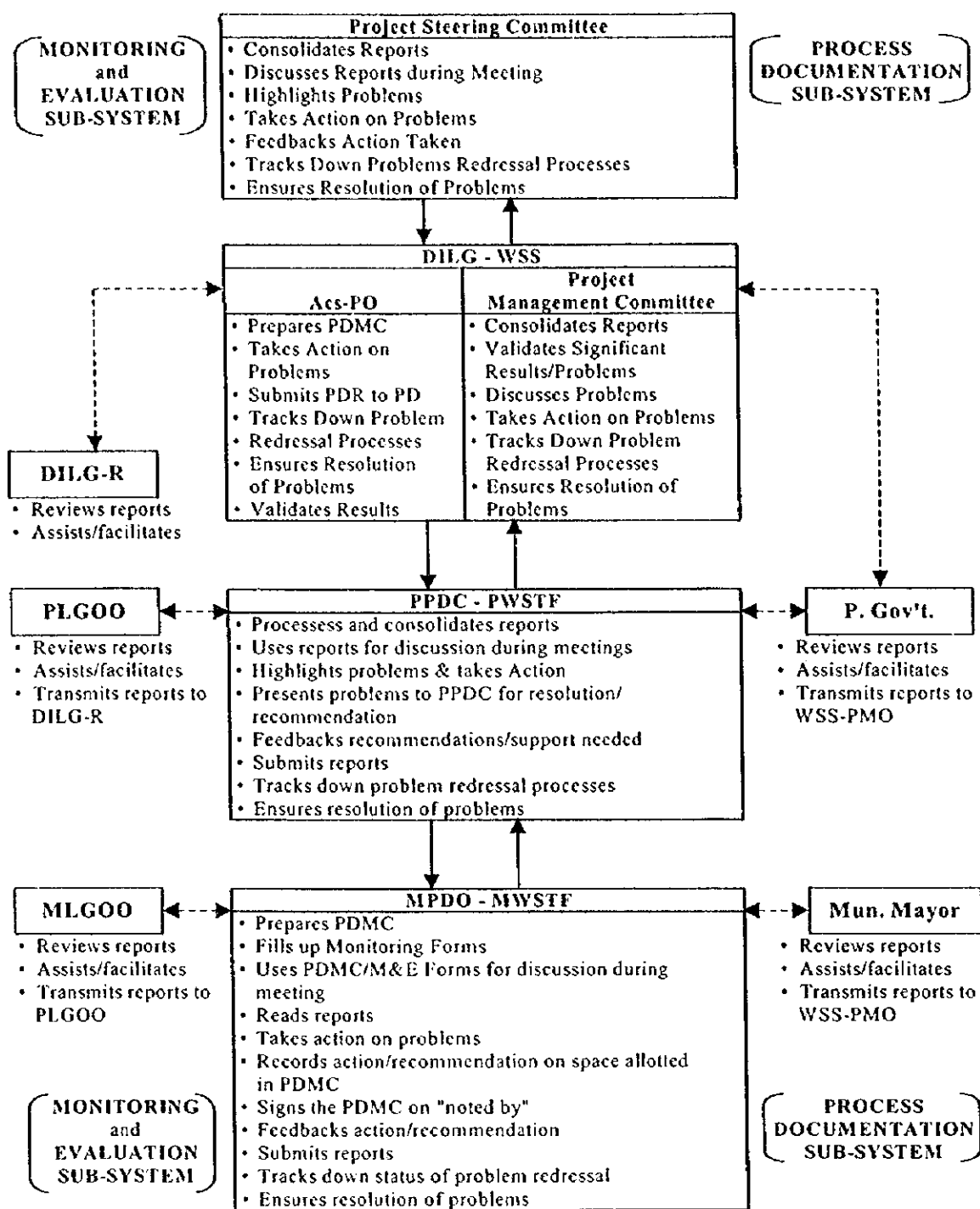


Figure 5.10.1