

Chapter

4

**EXISTING FACILITIES AND
SERVICE COVERAGE**



4. EXISTING FACILITIES AND SERVICE COVERAGE

4.1 Water Supply

4.1.1 General

Existing water supply facilities and conditions were surveyed by municipality under the category of urban and rural areas (as of April 1998 and regarded as the figures 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 levels 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 the need of rehabilitation to reflect in the development plan.

As a provincial total (excluding Butuan City), approximately 61% of the present population (of which 33% in urban area and 67% in rural area) is considered as adequately served (refer to detailed study in Supporting Report). Under the area classification, 75% of urban population and 54% of rural population have access to safe water sources/facilities, while the rest is underserved or unserved. About 71,500 persons or 42% of the served population depend on Level I facilities, while 98,300 persons or 58% are served by Level III or Level II systems. Lower service coverage in rural area is caused by the existence of many 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 have to be adopted by all government agencies including LGUs.

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

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

(2) Safe and unsafe classification of water sources

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

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

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

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

(3) Service level standard

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

Level III: 1 household/connection

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

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

4.1.3 Level III Systems

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

There are 2 Level III systems in the province operated under WDs as shown in Table 4.1.2, but there is only one system in the PW4SP study area, the Nasipit Water District in the municipality of Nasipit.

Table 4.1.2 Information on Existing Level III Systems

| Name of Municipality | Name of Operating Body | Water Source and Consumption | | | Service Coverage | | | | | | | | |
|------------------------|------------------------|------------------------------|------------------------------|---------------------|----------------------|-------|-------|-------------------------|-------|--------|--------------------------|--------|--------|
| | | Type of Water Source | Water Consumption (cu.m/day) | Domestic Supply (%) | No. of Brgys. Served | | | No. of Household Served | | | No. of Population Served | | |
| | | | | | Urban | Rural | Total | Urban | Rural | Total | Urban | Rural | Total |
| Nasipit | Nasipit WD | DW/SP | 1,367 | 84 | 7 | 6 | 13 | 1,634 | 1,346 | 2,980 | 9,804 | 8,076 | 17,880 |
| Butuan City (Capital)* | Butuan City WD | DWO | 12,070 | 85 | | | | 9,351 | 4,156 | 13,507 | 49,373 | 21,985 | 71,358 |

Note: 1. *DW* - Deep Well, *DgW* - Dug Well, *Surf* - Surface Water (River), *SP* - Spring, *IG* - Infiltration Gallery, and *O* - Others.

2. *Butuan City is outside the PW4SP study area

Nasipit WD serves 7 urban barangays and 6 rural barangays in the municipality of Nasipit, with a served population of about 17,900. The WD supplies water for 16 hrs/day utilizing 2 deep wells and one spring source. Collection efficiency of water bill is very high at 95%. While, unaccounted-for-water amounts to about 36% of the production (details are referred to in Table 4.1.1, Supporting Report).

Table 4.1.3 Information on Water District

| Name of Water District | Number of Connections | | | | | | Production (cu. m/mon) | Accounted for Water (cu. m/mon) |
|------------------------|-----------------------|---------------|------------|------------|--------|---------|------------------------|---------------------------------|
| | Domestic | Institutional | Commercial | Industrial | Total | Metered | | |
| Nasipit WD | 2,356 | | 119 | | 2,475 | 2,475 | 63,870 | 41,010 |
| Butuan City WD | 13,507 | | 1,394 | | 14,901 | 14,901 | 404,352 | 321,050 |

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 53 Level II systems and most of these are utilizing spring sources. The municipality of Jabonga has the largest number, 13 systems or 24% 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 pipes due to inappropriate pipe installation and high water pressure. Inadequate supply quantity is also experienced during dry season.

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

(1) Management practice

Although most of the Level II systems are presently operational to some extent because of current management practices, the prevailing practice of flat rate water bill, mostly 20 to 40 Pesos/HH/month at the minimum level will lead to any one of these systems to become non-operational sooner or later. This is because financial saving to cope with future repair and depreciation of existing facilities are not duly considered under the current management practice, while cost recovery by the operating bodies is a prerequisite in sector management.

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

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

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

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 Households Served | | | No. of Population Served | | |
| | | Urban | Rural | Total | Urban | Rural | Total | Urban | Rural | Total |
| Buenavista | Alabild WS | | 1 | 1 | | 136 | 136 | | 1,056 | 1,056 |
| | Guinabsan WS | | 1 | 1 | | 315 | 315 | | 1,821 | 1,821 |
| | Pob. 7 WS | 1 | | 1 | 176 | 176 | 1,040 | | 1,040 | |
| | Sacol WSS | | 1 | 1 | | 370 | 370 | | 1,991 | 1,991 |
| | Municipal Total | 1 | 3 | 4 | 176 | 871 | 1,040 | | 4,868 | 5,908 |
| Cabadbaran | Cabadbaran WS | | 2 | 2 | | 260 | 260 | | 1,340 | 1,340 |
| | Calamba WSD | | 1 | 1 | | 415 | 415 | | 2,175 | 2,175 |
| | Concepcion WSD | | 1 | 1 | | 123 | 123 | | 711 | 711 |
| | Del Pilar SWS | | 1 | 1 | | 441 | 441 | | 2,308 | 2,308 |
| | La Union WS | | 1 | 1 | | 531 | 531 | | 2,883 | 2,883 |
| | Pating Bato SD | | 1 | 1 | | 162 | 162 | | 875 | 875 |
| | | Municipal Total | | 7 | 7 | | 1,932 | 1,932 | | 10,292 |
| Carmen | Poblacion WS | 1 | | 1 | 639 | 639 | 3,445 | | 3,445 | |
| | Rojales-Vintapor WSS | | 2 | 2 | | 110 | 110 | | 524 | 524 |
| | | Municipal Total | 1 | 2 | 3 | 639 | 110 | 3,445 | | 3,969 |
| Jabonga | A. Beltran WSS | | 1 | 1 | | 108 | 108 | | 635 | 635 |
| | Baleguian WS | | 1 | 1 | | 329 | 329 | | 1,839 | 1,839 |
| | Bunga WSS | | 1 | 1 | | 150 | 150 | | 850 | 850 |
| | Celopan WS | 1 | | 1 | 462 | 462 | 2,718 | | 2,718 | |
| | Colorado WS | | 1 | 1 | | 200 | 200 | | 1,049 | 1,049 |
| | Cuyago WSS | | 1 | 1 | | 83 | 83 | | 525 | 525 |
| | Libas WSS | | 1 | 1 | | 243 | 243 | | 1,245 | 1,245 |
| | Magadococ SS | | 1 | 1 | | 139 | 139 | | 758 | 758 |
| | Maraing WS | | 1 | 1 | | 60 | 60 | | 323 | 323 |
| | San Jose WSS | | 1 | 1 | | 117 | 117 | | 635 | 635 |
| | San Pablo SWS | | 1 | 1 | | 155 | 155 | | 840 | 840 |
| | San Vicente WSS | | 1 | 1 | | 252 | 252 | | 1,488 | 1,488 |
| | Sto. Niño WS | | 1 | 1 | | 152 | 152 | | 924 | 924 |
| | | Municipal Total | 1 | 12 | 13 | 462 | 1,988 | 2,450 | 2,718 | 11,111 |
| Kitcharao | Hinimbangan WS | | 1 | 1 | | 38 | 38 | | 200 | 200 |
| | Kitcharao WS | 1 | | 1 | 1,164 | 1,164 | 6,370 | | 6,370 | |
| | Mahayabay WS | | 1 | 1 | | 237 | 237 | | 1,306 | 1,306 |
| | San Isidro | | 1 | 1 | | 155 | 155 | | 800 | 800 |
| | San Roque WS | | 1 | 1 | | 239 | 239 | | 1,195 | 1,195 |
| | | Municipal Total | 1 | 4 | 5 | 1,164 | 669 | 1,833 | 6,370 | 3,501 |
| Las Nieves | Lingayao WSS | | 1 | 1 | | 282 | 282 | | 1,692 | 1,692 |
| | Maninggalao WSS | | 1 | 1 | | 145 | 145 | | 792 | 792 |
| | Poblacion WSS | 1 | | 1 | 88 | 88 | 528 | | 528 | |
| | Tinucuran WSS | | 1 | 1 | | 65 | 65 | | 500 | 500 |
| | Municipal Total | 1 | 3 | 4 | 88 | 492 | 580 | 528 | 2,984 | 3,512 |
| Magallanes | Magallanes WSS | 1 | 5 | 6 | 1,620 | 284 | 1,904 | 9,260 | 1,574 | 10,834 |
| | Tad-oy WS | | 1 | 1 | | 214 | 214 | | 1,118 | 1,118 |
| | | Municipal Total | 1 | 6 | 7 | 1,620 | 498 | 2,118 | 9,260 | 2,692 |
| Nasipit | Amontay SD | | 1 | 1 | | 234 | 234 | | 1,238 | 1,238 |
| | Actao SD | | 1 | 1 | | 115 | 115 | | 690 | 690 |
| | Municipal Total | | 2 | 2 | | 349 | 349 | | 1,928 | 1,928 |
| Remedios T. Romualdez | Balang-Balang WS | | 1 | 1 | | 157 | 157 | | 885 | 885 |
| | Basilisa WS | | 1 | 1 | | 42 | 42 | | 236 | 236 |
| | Humilog WS | | 1 | 1 | | 199 | 199 | | 1,048 | 1,048 |
| | Panaytayon WS | | 1 | 1 | | 101 | 101 | | 566 | 566 |
| | San Antonio WS | | 1 | 1 | | 55 | 55 | | 292 | 292 |
| | Tagbougabong WS | | 1 | 1 | | 190 | 190 | | 950 | 950 |
| | | Municipal Total | | 6 | 6 | | 744 | 744 | | 3,977 |
| Santiago | E. Morgado SWS | | 1 | 1 | | 112 | 112 | | 909 | 909 |
| | Curva SWS | | 1 | 1 | | 198 | 198 | | 1,239 | 1,239 |
| | Jagupit SWS | | 1 | 1 | | 177 | 177 | | 1,140 | 1,140 |
| | Mabaho SWS | | 1 | 1 | | 198 | 198 | | 1,460 | 1,460 |
| | San Isidro SWS | | 1 | 1 | | 248 | 248 | | 1,648 | 1,648 |
| | Santiago SWS | 2 | | 2 | 1,198 | 1,198 | 7,523 | | 7,523 | |
| | | Municipal Total | 2 | 5 | 7 | 1,198 | 933 | 2,131 | 7,523 | 6,396 |
| Tubay | Doña Rosario WWS | | 1 | 1 | | 30 | 30 | | 163 | 163 |
| | Poblacion 1 WS | 1 | | 1 | 96 | 96 | 537 | | 537 | |
| | Poblacion 2 WS | 1 | | 1 | 102 | 102 | 571 | | 571 | |
| | | Municipal Total | 2 | 1 | 3 | 198 | 30 | 228 | 1,103 | 163 |
| Provincial Total | | 10 | 51 | 61 | 5,595 | 8,565 | 14,161 | 31,992 | 43,441 | 80,433 |

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.

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 re-

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 Sources | | | |
|-----------------------|------------------------------|--------------|------------------------------|------------------|-------|--------------|---------------|--------------------------------|----------------------|-------|-------|-------|--------|--------|------------------------|--------|-------|-------|
| | Deep Well | Shallow Well | Covered/Imp covered Dug Well | Developed Spring | Total | Shallow Well | Open Dug Well | Undeveloped Spring | Rain Water Collector | Total | Urban | Rural | Total | Urban | Rural | Total | | |
| | | | | | | | | | | | | | | | | | Urban | Rural |
| Buena Vista | 17 | 126 | - | 1 | 144 | 342 | 9 | - | - | 351 | 640 | 933 | 1,573 | 3,324 | 5,084 | 8,408 | | |
| Bunuan City (Capital) | | | | | | | | | | | | | | | | | | |
| Cabadbaran | 525 | 13 | - | - | 538 | 5 | - | - | - | 5 | 2,714 | 3,577 | 6,291 | 14,872 | 19,065 | 33,937 | | |
| Carmen | 18 | 63 | - | 3 | 84 | 198 | - | - | - | 198 | 10 | 599 | 609 | 52 | 3,115 | 3,167 | | |
| Jabonga | 55 | - | - | 3 | 58 | - | - | - | - | - | - | 186 | 186 | - | 1,057 | 1,057 | | |
| Kitcharao | 19 | 17 | - | - | 36 | - | - | - | - | - | - | 387 | 387 | - | 2,115 | 2,115 | | |
| Las Nieves | 9 | 25 | - | - | 34 | 13 | 226 | - | - | 239 | 99 | 355 | 454 | 581 | 2,015 | 2,596 | | |
| Magallanes | 17 | 4 | - | - | 21 | 5 | 415 | - | - | 420 | - | 4 | 4 | - | 25 | 25 | | |
| Nasipit | 31 | 175 | - | 4 | 210 | 117 | - | - | - | 117 | 844 | 1,047 | 1,891 | 4,381 | 5,634 | 10,015 | | |
| Remedios T. Romualdez | 26 | 16 | - | 5 | 47 | 4 | - | - | - | 4 | 474 | 487 | 961 | 2,680 | 2,551 | 5,231 | | |
| Santiago | 13 | - | - | 9 | 22 | - | - | - | - | - | 85 | - | 85 | 535 | - | 535 | | |
| Tubay | 16 | 22 | - | 16 | 54 | 27 | - | - | - | 27 | - | 789 | 789 | - | 4,458 | 4,458 | | |
| PWASPS Study Area | 746 | 462 | - | 41 | 1,249 | 710 | 650 | - | - | 1,360 | 4,866 | 8,364 | 13,230 | 26,424 | 45,119 | 71,543 | | |

ferred to in Supporting Report). Served population in 1997 is also estimated as shown in the same table.

Of the operational Level I facilities (total of 2,609 facilities), about 45% are shallow wells. According to the PHO water quality analysis results, about 50% of Level I facilities are determined to be unsafe as the provincial average of random samples. All deep wells are regarded as safe water sources. Applying the unsafe percentage to shallow wells for each municipality, 1,249 Level I facilities are classified as safe sources, while 1,360 facilities are under unsafe category.

Percentage shares between public and private Level I facilities for rural water supplies are 61% and 39%, respectively. The share of developed springs in public facilities is 6% (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.

(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 25m 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. Considerable number of public wells are abandoned/non-functional compared with private wells. This fact implies the difference in awareness of ownership of facility between shared facility and privately owned.

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. | 380 | 616 | 366 | 556 | 1,918 |
| | Percentage | 64 | 70 | 96 | 96 | 79 |
| Non-Functioning | No. | 213 | 269 | 14 | 25 | 521 |
| | Percentage | 36 | 30 | 4 | 4 | 21 |
| Total Number | | 593 | 885 | 380 | 581 | 2,439 |

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 primary disadvantages, such as the use of shallow aquifer which is easily affected by surrounding environmental conditions and the simple construction method applied (driving well point) that makes rehabilitation works difficult. A high 50% of shallow wells are found positive in coliform group bacteria in the water quality surveillance conducted by PHO.

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 questionnaire survey results

checked by the 1990 population census data; "Households by Main Source of Drinking Water and City/Municipality" considering some modification.

- 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 at 11 households/facility as a provincial average 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 (PW4SP Study area excluding Butuan City), 61% of the population is adequately served (75% of urban population and 54% of rural population). The lower percentage of service coverage in the rural area is affected by a huge number of unsafe shallow/open dug wells (243 public and 779 private wells used by about 32,100 persons) or no provision of facilities. Among the unserved population, considerable number of population depending on non-reported Level I facilities 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 at 4 municipalities, out of 11 municipalities in the province. As a whole, 26% of the total population (29% of urban population and 24% of rural population) relies on Level I facilities. Percentage share of population coverage by Level I public and private facilities in rural water supply are estimated at 78% and 22%, respectively (details are referred to in Supporting Report).

Meanwhile, Level II systems take a major part of drinking water supply service coverage over 5 municipalities:

- Carmen (80% of urban population),
- Jabonga (90% of urban population and 62% of rural population),
- Kitcharao (97% of urban population and 41% of rural population),
- Magallanes (70% of urban population and 56% of rural population), and
- Santiago (93% of urban population and 74% of rural population).

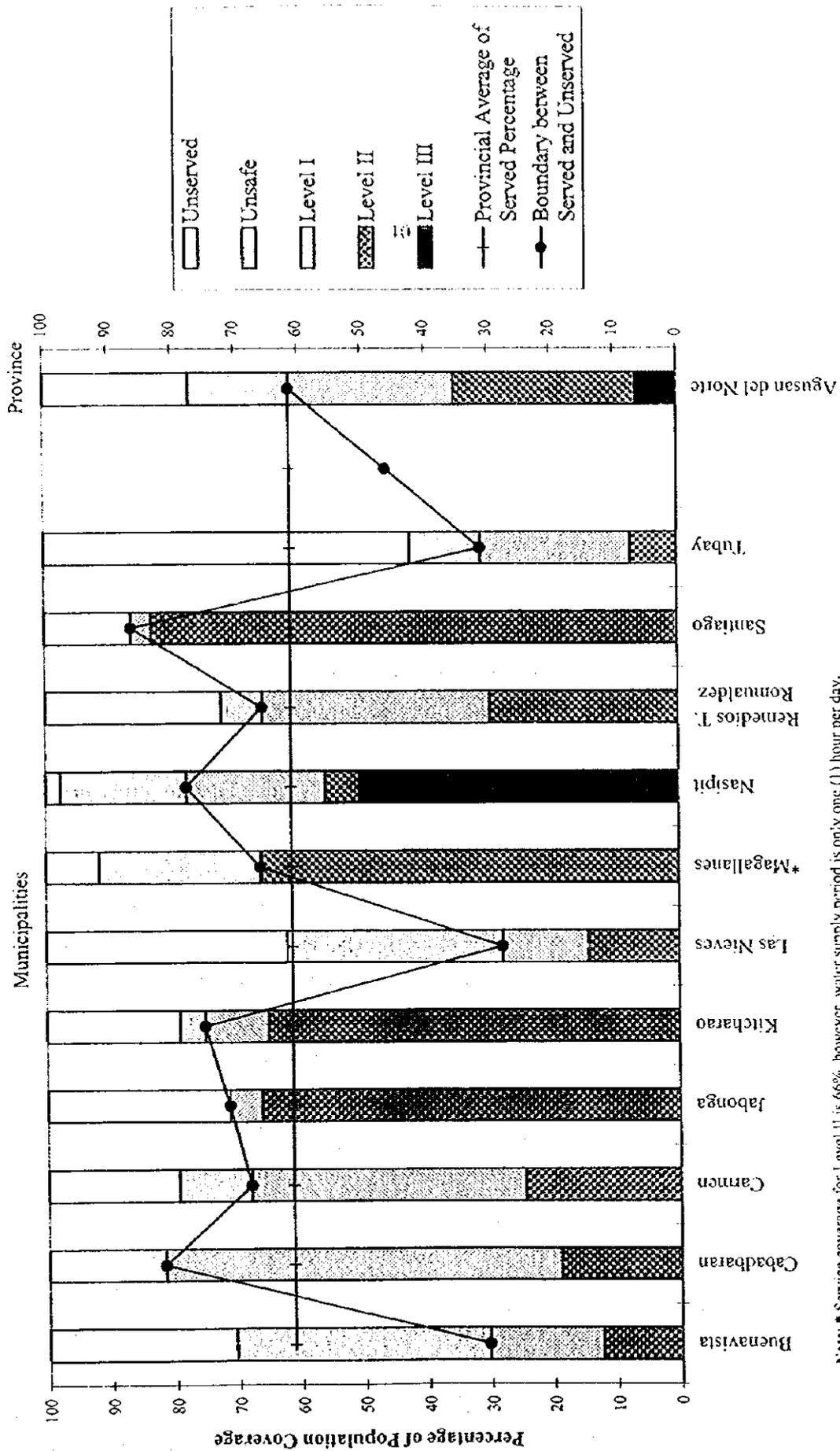
As a provincial total, about 29% are served by Level II systems (35% of urban population and 26% of rural population).

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 | | | Underserved/Unserviced | | | Served by Safe Source | | | Underserved/Unserviced | | | | |
| | | | Level III | Level II | Level I | Total | Unsafe Source | Unserviced | Total | Level III | Level II | Level I | Total | Unsafe Source | Unserviced | Total |
| Buena Vista | Urban | 14,470 | | 1,040 | 3,324 | 4,364 | 7,297 | 2,809 | 10,106 | | 7 | 23 | 30 | 50 | 19 | 70 |
| | Rural | 32,641 | 4,868 | 5,084 | 9,952 | 11,641 | 11,048 | 22,689 | | 15 | 16 | 30 | 36 | 34 | 70 | |
| | Total | 47,111 | 5,908 | 8,408 | 14,316 | 18,938 | 13,857 | 32,795 | | 13 | 18 | 30 | 40 | 29 | 70 | |
| Cabadbaran | Urban | 17,005 | | 14,879 | 14,879 | | 2,126 | 2,126 | | 88 | 88 | 88 | | 13 | 13 | |
| | Rural | 37,104 | 10,292 | 19,065 | 29,357 | | 7,747 | 7,747 | | 28 | 51 | 79 | | 21 | 21 | |
| | Total | 54,109 | 10,292 | 33,945 | 44,237 | | 9,872 | 9,872 | | 19 | 63 | 82 | | 18 | 18 | |
| Carmen | Urban | 4,323 | | 3,445 | 158 | 3,603 | 58 | 662 | 720 | | 80 | 4 | 83 | 1 | 15 | 17 |
| | Rural | 11,860 | 524 | 6,871 | 7,395 | 1,811 | 2,654 | 4,465 | | 4 | 58 | 62 | 15 | 22 | 38 | |
| | Total | 16,183 | 3,969 | 7,028 | 10,997 | 1,870 | 3,316 | 5,186 | | 25 | 43 | 68 | 12 | 20 | 32 | |
| Jabonga | Urban | 3,028 | | 2,718 | | 2,718 | | 310 | 310 | | 90 | | 90 | | 10 | 10 |
| | Rural | 17,838 | 11,111 | 1,057 | 12,168 | | 5,670 | 5,670 | | 62 | 6 | 68 | | 32 | 32 | |
| | Total | 20,866 | 13,829 | 1,057 | 14,886 | | 5,980 | 5,980 | | 66 | 5 | 71 | | 29 | 29 | |
| Kitcharao | Urban | 6,573 | | 6,370 | | 6,370 | 203 | 203 | | 97 | | 97 | | 3 | 3 | |
| | Rural | 8,563 | 3,501 | 1,506 | 5,007 | 610 | 2,947 | 3,556 | | 41 | 18 | 58 | 7 | 34 | 42 | |
| | Total | 15,136 | 9,871 | 1,506 | 11,377 | 610 | 3,150 | 3,759 | | 65 | 10 | 75 | 4 | 21 | 25 | |
| Las Nieves | Urban | 1,109 | | 528 | 581 | 1,109 | | | | 48 | 52 | 100 | | | | |
| | Rural | 23,325 | 2,984 | 2,752 | 5,736 | 8,315 | 9,275 | 17,589 | | 13 | 12 | 25 | 36 | 40 | 75 | |
| | Total | 24,434 | 3,512 | 3,333 | 6,845 | 8,315 | 9,275 | 17,589 | | 14 | 14 | 28 | 34 | 38 | 72 | |
| Magallanes* | Urban | 13,265 | | 9,260 | | 9,260 | 413 | 4,005 | | 70 | | 70 | | 3 | 30 | |
| | Rural | 4,813 | 2,692 | 27 | 2,719 | 1,074 | 2,094 | | 56 | 1 | 56 | 21 | 22 | 44 | | |
| | Total | 18,078 | 11,952 | 27 | 11,979 | 4,612 | 1,486 | 6,099 | | 66 | 0 | 66 | 26 | 8 | 34 | |
| Nasipit | Urban | 16,131 | | 3,613 | 13,417 | 2,552 | 161 | 2,714 | 61 | | 22 | 83 | 16 | 1 | 17 | |
| | Rural | 19,332 | 1,928 | 4,235 | 14,239 | 4,475 | 619 | 5,093 | 42 | 10 | 22 | 74 | 23 | 3 | 26 | |
| | Total | 35,463 | 1,928 | 7,848 | 27,056 | 7,027 | 780 | 7,807 | 50 | 5 | 22 | 78 | 20 | 2 | 22 | |
| Remedios T. Romualdez | Urban | 3,758 | | 2,429 | 2,429 | 506 | 823 | 1,329 | | | 65 | 65 | 13 | 22 | 35 | |
| | Rural | 9,572 | 3,977 | 2,377 | 6,354 | 362 | 2,857 | 3,218 | | 42 | 25 | 66 | 4 | 30 | 34 | |
| | Total | 13,330 | 3,977 | 4,805 | 8,782 | 868 | 3,680 | 4,543 | | 30 | 36 | 66 | 7 | 28 | 34 | |
| Santiago | Urban | 8,058 | | 7,523 | 535 | 8,058 | | | | 93 | 7 | 100 | | | | |
| | Rural | 8,669 | | 6,396 | | 6,396 | | 2,273 | 2,273 | 74 | | 74 | | 26 | 26 | |
| | Total | 16,727 | 13,919 | 535 | 14,454 | | 2,273 | 2,273 | | 83 | 3 | 86 | | 14 | 14 | |
| Tubay | Urban | 3,226 | | 1,108 | 1,108 | | 2,118 | 2,118 | | 34 | | 34 | | 66 | 66 | |
| | Rural | 14,046 | 168 | 4,106 | 4,274 | 1,947 | 9,943 | 11,890 | | 1 | 29 | 30 | 14 | 56 | 70 | |
| | Total | 17,272 | 1,276 | 4,106 | 5,382 | 1,947 | 7,943 | 11,890 | | 7 | 24 | 31 | 11 | 58 | 69 | |
| PW4SP Study Area | Urban | 90,946 | 9,804 | 31,992 | 25,519 | 67,315 | 14,006 | 9,625 | 23,631 | 11 | 35 | 28 | 15 | 11 | 26 | |
| | Rural | 187,763 | 8,076 | 48,441 | 47,079 | 103,596 | 30,180 | 53,987 | 84,167 | 4 | 26 | 25 | 16 | 29 | 45 | |
| | Total | 278,709 | 17,880 | 80,433 | 72,598 | 170,911 | 44,186 | 63,612 | 107,798 | 6 | 29 | 26 | 16 | 23 | 39 | |

Note: * Service coverage for Level II is 66%, however, water supply is only one (1) hour per day.

Figure 4.1.1 Water Supply Coverage of the Province



Note: * Service coverage for Level II is 66%, however, water supply period is only one (1) hour per day.

The share of Level III systems to the service coverage is minimal in the province. Aside from Butuan City, 50% of the total population in the municipality of Nasipit (61% of urban population and 42% of rural population) avails of Level III service.

Taking into account the municipal service coverage, Santiago is the highest at 86% (100% of urban population and 74% of rural population), while Las Nieves is the lowest at 25% inspite of the high coverage in its urban area. The unserved population (38% or about 9,300 persons) of Las Nieves is most likely caused by the presence of non-reported Level I facilities.

Municipalities that have higher service coverage than the provincial average of 61% are: Cabadbran (82%), Jabonga (71%), Kitcharo (79%), Magallanes (66%), Naspit (84%), Remedios T. Romualdez (69%), and Santiago (86%).

4.2 Sanitation and Sewerage

4.2.1 General

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

This sub-sector focuses on household toilets, school toilets and public toilets (public markets, bus/jepney 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 76% of the total number of households. The rest is underserved or unserved. Of this, 13% is without toilet facilities (refer to Table 4.2.1, Supporting Report and 4.2.3 Sanitation Facilities and Service Coverage, Data Report).

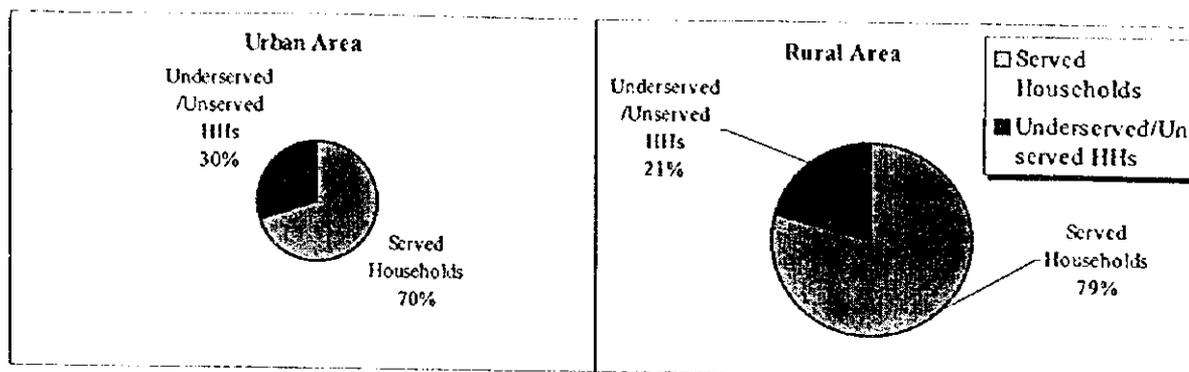
Municipalities that have higher service coverage than the provincial average of 76% are Jabonga (100%), Cabadbaran (87%), Santiago (86%), Carmen (83%) and Nasipit (82%). On the other hand, the first 3 municipalities that registered the lowest service coverage are Magallanes (27%), Las Nieves (60%) and Buenavista (71%). It was observed that in municipalities that have high water supply service coverage (Cabadbaran, Jabonga, Nasipit, Santiago), high sanitation coverage occurs and correspondingly, in low water supply service coverage (Las Nieves, Buenavista), low sanitation coverage also occurs. This can be attributed to 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 70% of the total household is served. Higher served households of 79% exist in rural area. Table 4.2.1 shows the municipal breakdown in the number of urban and rural household toilets by category, and service coverage. Figure 4.2.1 reflects the provincial service coverage of household toilet facilities for urban and rural areas.

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

| Name of Municipality | Households, 1997 | | | Household Toilets Facilities and Service Coverage | | | | | | | | | | | |
|-------------------------|------------------|---------------|---------------|---|-----------|---------------------------|-----------|--------------------------------|-----------|---------------------------|-----------|--------------------------------|-----------|---------------------------|-----------|
| | Urban | Rural | Total | Urban | | | | Rural | | | | Municipal Total | | | |
| | | | | HHs Served by Sanitary Toilets | | Underserved/ Unserved HHs | | HHs Served by Sanitary Toilets | | Underserved/ Unserved HHs | | HHs Served by Sanitary Toilets | | Underserved/ Unserved HHs | |
| | | | | Number | % of HHs | Number | % of HHs | Number | % of HHs | Number | % of HHs | Number | % of HHs | Number | % of HHs |
| Buenavista | 2,788 | 5,989 | 8,777 | 2,103 | 75 | 685 | 25 | 4,113 | 69 | 1,876 | 31 | 6,216 | 71 | 2,561 | 29 |
| Cabadbaran | 3,103 | 6,961 | 10,064 | 2,844 | 92 | 259 | 8 | 5,954 | 86 | 1,007 | 14 | 8,798 | 87 | 1,266 | 13 |
| Carmen | 820 | 2,281 | 3,101 | 753 | 92 | 67 | 8 | 1,811 | 79 | 470 | 21 | 2,564 | 83 | 537 | 17 |
| Jabonga | 536 | 3,135 | 3,671 | 520 | 97 | 16 | 3 | 3,135 | 100 | | | 3,655 | 100 | 16 | |
| Kilcharao | 1,199 | 1,565 | 2,764 | 947 | 79 | 252 | 21 | 1,070 | 68 | 495 | 32 | 2,017 | 73 | 747 | 27 |
| Las Nieves | 188 | 4,114 | 4,302 | 127 | 68 | 61 | 32 | 2,457 | 60 | 1,657 | 40 | 2,584 | 60 | 1,718 | 40 |
| Magallanes | 2,356 | 846 | 3,202 | 412 | 17 | 1,944 | 83 | 452 | 53 | 394 | 47 | 864 | 27 | 2,338 | 73 |
| Nasipit | 3,108 | 3,593 | 6,701 | 1,935 | 62 | 1,173 | 38 | 3,535 | 98 | 58 | 2 | 5,470 | 82 | 1,231 | 18 |
| R. T. R. | 665 | 1,827 | 2,492 | 547 | 82 | 118 | 18 | 1,209 | 66 | 618 | 34 | 1,756 | 70 | 736 | 30 |
| Santiago | 1,283 | 1,300 | 2,583 | 997 | 78 | 286 | 22 | 1,230 | 95 | 70 | 5 | 2,227 | 86 | 356 | 14 |
| Tubay | 556 | 2,486 | 3,042 | 366 | 65 | 190 | 34 | 1,826 | 73 | 660 | 27 | 2,192 | 72 | 850 | 28 |
| PW4SP Study Area | 16,602 | 34,097 | 50,699 | 11,551 | 70 | 5,051 | 30 | 26,792 | 79 | 7,305 | 21 | 38,343 | 76 | 12,356 | 24 |

Figure 4.2.1 Provincial Service Coverage of Household Toilet Facilities, 1997



Even if high percentages of sanitary toilets are revealed in 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 720 toilet units found in 144 schools. Sanitary toilets adequately serve only 45% of the students. The rest, 55% 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 very low to meet the service level standard of 40 students per sanitary facility. At present, the average ratio is 85 students per sanitary toilet, more than double 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.

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 | Served | % | Unserved | % | |
| Buenvista | Public | 20 | 7,963 | 174 | | 174 | 6,960 | 87 | 1,003 | 13 |
| | Private | 2 | 1,560 | 17 | | 17 | 680 | 44 | 880 | 56 |
| | Total | 22 | 9,523 | 191 | | 191 | 7,640 | 80 | 1,883 | 20 |
| Cabadbaran | Public | 25 | 10,935 | 50 | 12 | 62 | 2,000 | 18 | 8,935 | 82 |
| | Private | 4 | 3,089 | 20 | 6 | 26 | 800 | 26 | 2,289 | 74 |
| | Total | 29 | 14,024 | 70 | 18 | 88 | 2,800 | 20 | 11,224 | 80 |
| Carmen | Public | 10 | 3,783 | 6 | | 6 | 240 | 6 | 3,543 | 94 |
| | Private | 1 | 311 | 12 | 2 | 14 | 311 | 100 | | |
| | Total | 11 | 4,094 | 18 | 2 | 20 | 551 | 13 | 3,543 | 87 |
| Jabonga | Public | 13 | 3,819 | 36 | | 36 | 1,440 | 38 | 2,379 | 62 |
| | Private | | | | | | | | | |
| | Total | 13 | 3,819 | 36 | | 36 | 1,440 | 38 | 2,379 | 62 |
| Kitcharao | Public | 7 | 2,874 | 48 | | 48 | 1,920 | 67 | 954 | 33 |
| | Private | 1 | 412 | 8 | | 8 | 320 | 78 | 92 | 22 |
| | Total | 8 | 3,286 | 56 | | 56 | 2,240 | 68 | 1,046 | 32 |
| Las Nieves | Public | 14 | 4,100 | 26 | 2 | 28 | 1,040 | 25 | 3,060 | 75 |
| | Private | | | | | | | | | |
| | Total | 14 | 4,100 | 26 | 2 | 28 | 1,040 | 25 | 3,060 | 75 |
| Magallanes | Public | 4 | 2,780 | 8 | 12 | 20 | 320 | 12 | 2,460 | 88 |
| | Private | 1 | 556 | 14 | 4 | 18 | 556 | 100 | | |
| | Total | 5 | 3,336 | 22 | 16 | 38 | 876 | 26 | 2,460 | 74 |
| Nasipit | Public | 17 | 5,444 | 158 | | 158 | 5,444 | 100 | | |
| | Private | 5 | 2,410 | | | | | | 2,410 | 100 |
| | Total | 22 | 7,854 | 158 | | 158 | 5,444 | 69 | 2,410 | 31 |
| R. T. Romualdez | Public | 1 | 789 | 16 | | 16 | 640 | 81 | 149 | 19 |
| | Private | | | | | | | | | |
| | Total | 1 | 789 | 16 | | 16 | 640 | 81 | 149 | 19 |
| Santiago | Public | 7 | 3,332 | 65 | | 65 | 2,600 | 78 | 732 | 22 |
| | Private | | | | | | | | | |
| | Total | 7 | 3,332 | 65 | | 65 | 2,600 | 78 | 732 | 22 |
| Tubay | Public | 12 | 3,451 | 22 | 2 | 24 | 880 | 25 | 2,571 | 75 |
| | Private | | | | | | | | | |
| | Total | 12 | 3,451 | 22 | 2 | 24 | 880 | 25 | 2,571 | 75 |
| PW4SP Study Area | Public | 130 | 49,270 | 609 | 28 | 637 | 23,484 | 48 | 25,786 | 52 |
| | Private | 14 | 8,338 | 71 | 12 | 83 | 2,667 | 32 | 5,671 | 68 |
| | Total | 144 | 57,608 | 680 | 40 | 720 | 26,151 | 45 | 31,457 | 55 |

There are 22 public markets, bus/jeepney terminals and parks/playgrounds in the province. All these public utilities have sanitary public toilets resulting to 100% service coverage. Table 4.2.3 shows the number and service coverage of public utilities.

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

the structure, most of the facilities have unsanitary conditions due to inadequate/lack of water supply and destroyed appurtenances because of vandalism.

Table 4.2.3 Public Toilets Facilities and Service Coverage in 1997

| Name of Municipality | Number of Sanitary Toilets | | | Number of Unsanitary Toilets | | | Total Number of Public Toilets | Served | | Underserved | |
|-------------------------|----------------------------|-----------------------|-------------------|------------------------------|-----------------------|--------------------|--------------------------------|----------------------------|------------|------------------------------|---|
| | Public Markets | Bus/Jeepney Terminals | Parks/Play-ground | Public Markets | Bus/Jeepney Terminals | Parks/Play-grounds | | Number of Sanitary Toilets | % | Number of Unsanitary Toilets | % |
| Buenavista | 1 | 1 | 2 | | | | 4 | 4 | 100 | | |
| Cabadbaran | 1 | 1 | 2 | | | | 4 | 4 | 100 | | |
| Carmen | 1 | | 3 | | | | 4 | 4 | 100 | | |
| Jabonga | | | | | | | | | | | |
| Kitcharao | | | 2 | | | | 2 | 2 | 100 | | |
| Las Nieves | 1 | | | | | | 1 | 1 | 100 | | |
| Magallanes | 1 | 1 | | | | | 2 | 2 | 100 | | |
| Nasipit | 1 | 1 | | | | | 2 | 2 | 100 | | |
| R. T. Romualdez | 1 | | | | | | 1 | 1 | 100 | | |
| Santiago | 1 | | | | | | 1 | 1 | 100 | | |
| Tubay | 1 | | | | | | 1 | 1 | 100 | | |
| PW4SP Study Area | 9 | 4 | 9 | | | | 22 | 22 | 100 | | |

(3) On-going Projects

A total of 148 toilet bowls through the PAF - 2 project is scheduled for distribution to each of the equivalent number of households in the rural barangays of Carmen (60 units) and Tubay (88 units). These numbers are quite negligible and therefore will not affect coverage of served households.

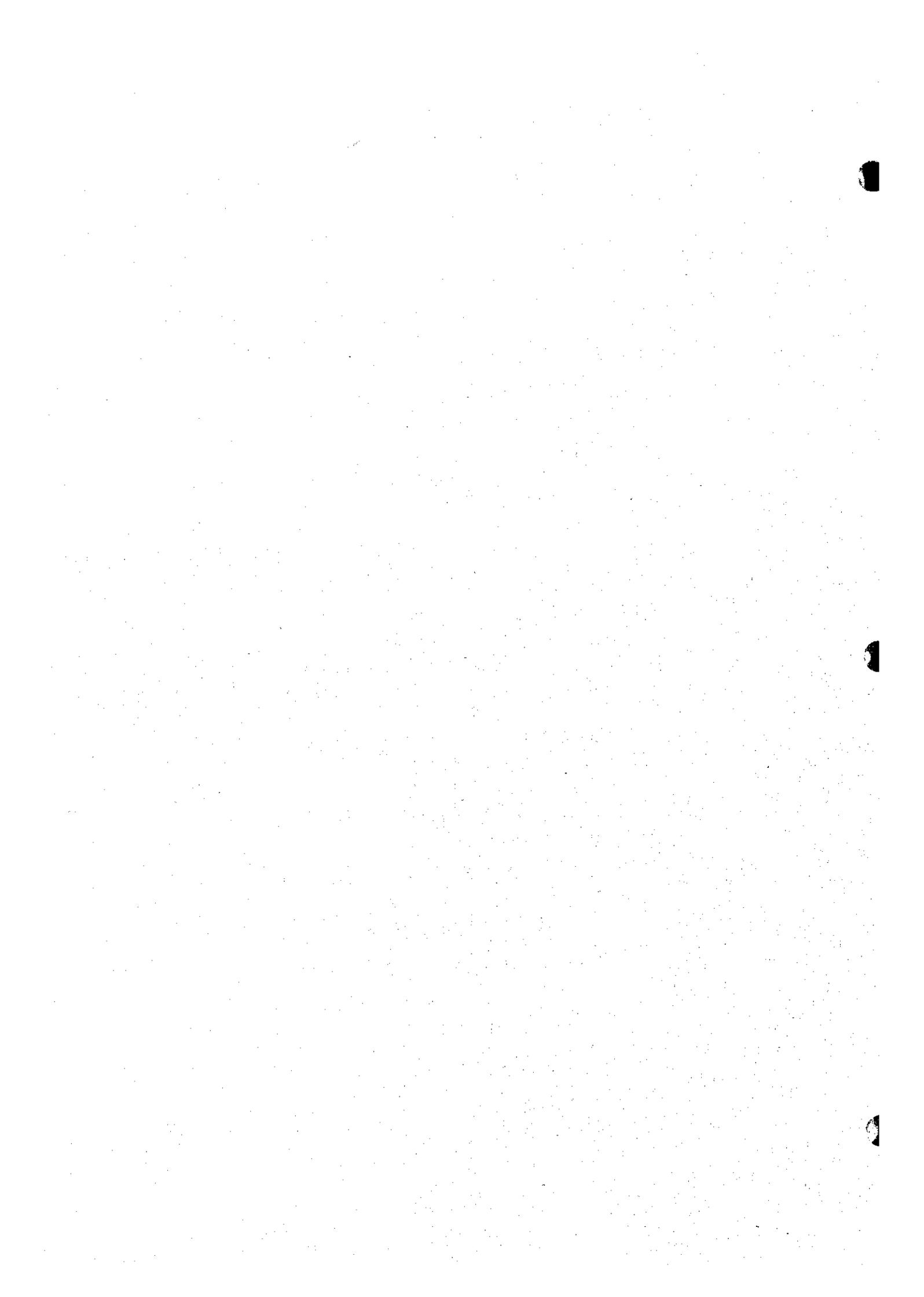
4.2.4 Sewerage Facilities

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) 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 (refer to 5.2, Data Report).

- (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.

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 are 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. The program is supported by centrally- produced information, education and communication (IEC) materials. 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. The program is supplemented by a wide range of learning material (workbook), while prototypes of safe water sources and water sealed toilets are set up in schools. 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 Accounting and Internal Audit Service Office (PAIASO).

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.

As a part of its tasks, PPDO is placed in charge of the planning and programming of WATSAN projects as well. It provides direct assistance in the form of logistics support to the municipalities and barangays, which passes through the Office of the Governor.

The office is composed of four divisions, details of which are shown below (refer to Organization Chart Figure 5.5.1, Supporting Report).

- Administrative – Its function is to provide efficient administration and timely and adequate support services.
- Planning and Program - The division is responsible for undertaking planning and

programming of the various sector development activities: social, economic infrastructure development for the annual, medium-term and long-term plan of the province. It supports the Planning and Programming division in the implementation of the over-all fiscal plan, more specifically the 20% DF of the province. This division is also in charge of the implementation of WATSAN projects funded under the 20% DF.

- **Monitoring, Evaluation, and Statistics** - It conducts field surveys and inspection of proposed projects, prepares statistical reports and other documents necessary for the project evaluation, planning, and programming and implementation. It likewise supports the plans and programs division in the preparation of needed documents.
- **Project Development** - The division is primarily responsible for providing technical assistance in project development activities. It undertakes project proposals and project studies preparation and documentation of other related program activities.

2) Provincial Engineering Office (PEO)

The PEO is responsible for the administration, coordination, supervision, and control of construction, maintenance, improvement, and repair of roads, bridges, and other engineering and public works projects of the provincial government. It formulates policies and objectives, plans and programs, techniques and procedures/practices in infrastructure development and provides engineering services such as investigation and survey, designs, feasibility studies, and project management. It also provides technical supervision over all engineering offices of component municipalities.

The office is composed of the Administrative and two divisions shown below. (refer to Organization Chart Figure 5.5.2, Supporting Report):

- **Administrative** - This division provides administrative services relative to personnel records, general services, property and supply, accounting and other supportive services.
- **Program and Quality Control** - This division is responsible for formulating and integrating general plans, programs and projects of the provincial government. It conducts designing, planning, and programming of provincial/national projects assigned to the office. It undertakes and directs the conduct of laboratory tests on the durability and practicability of locally available materials and evaluate/assess their acceptability.
- **Construction & Maintenance** - Its function is to provide technical supervision and

overall activities relating to construction and maintenance of roads, bridges and drainage systems along provincial roads. It also prepares estimates of construction costs and program construction operations including equipment requirements.

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 assistance in the RHUs/BISSs and assist in the promotion and maintenance of public sanitation. The office is also tasked with conducting health information campaigns and rendering health intelligence service. Figure 5.5.3 in the Supporting Report shows the organizational structure of PHO. The office has 6 services.

- **Technical** - This service provides health services in the hospital and supervises implementation of program activities in the field. Under this service are 9 units, 2 of which are directly involved in the delivery of WATSAN activities.

Environmental Sanitation (EVS) Unit: The EVS is responsible in formulating plans of environmental sanitation, 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 staff man the units; a sanitary engineer and a supervising sanitary inspector.

Primary Health Care and 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 and monitors the continuance of household teaching classes. It also distributes IEC materials and coordinates with GOs and NGOs. There is only one personnel in charge of this unit.

- **Administrative** - This provides the necessary support in carrying out the overall fiscal plan.
- **Medical** - It provides in-patients care.
- **Nursing; Ancillary; and Dietary**

4) Provincial Treasurer's Office (PTO), Provincial Budget Office (PBO), Provincial Accounting and Internal Audit Service Office (PAIASO), and Provincial General Services Office (PGSO)

The PTO is in charge of the disbursement of all local government funds in accordance with existing laws and regulations as well as exercises proper management of the funds. It collects taxes, revenues, fees and other charges that are estimated to

support the general appropriation ordinance. The office maintains and updates the tax information system, and local supervision over all treasury offices of component cities and municipalities. It also conducts periodic tax education information/collection campaign and trains barangay treasurers and officials in the 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 purpose of budgeting. It also provides prompt and efficient reviews of municipal budgets.

The PAIASO 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 statement for submission to different offices regarding financial 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 in 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 in 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 very much the same organization structure and legislative authority with respect to its 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 the planning and development and shall formulate integrated economic, social, physical, and development plans and policies for consideration of the Municipal Development Council. Usually, MPDC coordinates with every sector, while full-time assignment to this sector is not made. Not all municipalities are capable in the implementation of sector projects. As such, employment of NGOs may be required in the future.

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

Every municipality has assigned a Municipal Engineer according to the Local Government Code. However, not a single water supply engineer is assigned. The MEO regularly performs engineering surveys to acquire data for designs, layout or constitution of infrastructure projects.

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 solicited 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, 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 its 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 capability for delivery of basic services. Every province has a PLGOO assigned. The Provincial Task-Force on Water Supply, Sewerage and Sanitation was headed by the DILG Provincial Action Officer assigned to the sector, but 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 systems. 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 interests 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.

(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, President of the Councilors League and the Sangguniang Kabataan President (refer to 5.5 Data Report).

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. 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 scheduled 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 pro-

posal 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 projects

Annually, the provincial government conducts project identification and prioritization based on perceived needs and gathered from the municipalities. The Municipal Water and Sanitation Task Force (MWSTF) conducts fieldwork to identify project needs from barangay people/officials. Then they conduct the required survey in the barangays where possible projects may be introduced.

Of the selected barangays, some barangay councils submit barangay resolutions on the project/s to the municipality requesting project/s. The project proposal/s are incorporated in the municipal development plan. The Municipal Development Council (MDC) through its four sectoral committees, reviews and gives recommendations for endorsement. The MDC endorses it to the Sangguniang Bayan (SB) for adoption and approval and have it endorsed to the Provincial Development Council (PDC) for appropriate action.

The PDC, before incorporating it into the provincial development plan through its sectoral committee, endorses the municipal development plan for consideration and prioritization. The PDC then endorses it to the Sangguniang Panlalawigan (SP) for adoption and approval and appropriate funds.

Before actual implementation starts, only barangay/s selected are informed that the requested project/s were approved and funded.

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 surveys, 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 assisting in the survey and identification of 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 through its sectoral committees 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 these are in order, endorses it to the SP for adoption and approval, and appropriation of funds.

The PDC is composed of all municipal mayors, one SP member and from the accredited NGO that is 25% of the total membership. The SP member is the chairman of the committee on appropriation of the SP.

3) Priority criteria for selection of the projects

Selection criteria are based on the indicators prepared by the NEDA regional office, which serve to identify a) the existence of problems adversely affecting the achievement of certain development objectives; and/or b) certain development potentials.

4) Technical considerations applied for identification and prioritization

Technically, the barangay profile survey is conducted. The barangay profile includes technical matters regarding water supply and toilet facility fabrication: brief description of water sources, etc.

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 in the concerned LGUs. These resulted in considerable time being 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 profiles. The LGUs together with barangay people shall prepare the requirements including barangay profiles in an expeditious manner (refer to UNDP assisted project) as part of annual activities.

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

1) Experience in master plan (M/P) preparation in any sector

NEDA Regional Office of CARAGA region is currently preparing the Regional Master Plan (1998-2008). With reference to this activity, the staff of the PPDO is undertaking part of the M/P, the portion of Agusan del Norte Province. In addition, the Provincial Medium Term Development Investment Plan (1997 – 2001) was prepared by the PPDO as a basis for their annual action plan.

2) Water source development experience in survey, planning and design of facilities
Throughout the implementation of WATSAN project, the provincial government conducted water source development for both spring and ground water sources.

In case of spring development, technical-related information from barangay people is

first collected, which includes locations of the untapped springs and discharge rate during dry seasons. Then, the preliminary topographic survey (elevation and distance) is conducted to prepare a hydraulic profile of the transmission pipeline. For groundwater development, its technical feasibility is evaluated based on available technical data together with information from the barangay and supported by field confirmation at the existing wells.

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

The F/S for the development of Level II and III systems is usually conducted by the PEO / PPDO. In addition to the preliminary study on the said water source development, water production and the water demand are set up to comply with the project needs. Tentative locations of communal faucets are also set up in Level II system. Hydraulic profile (pipe size, length) and size of intake box / reservoirs are determined referring to materials prepared through ITN / DILG training seminars. BWP design standard is also applied depending on the case. Finally, a cost estimate is made for the required facilities. The F/S report is then submitted to PPDC for evaluation and recommendations before approval.

4) Detailed Design (D/D) of facilities and tendering

The D/D of WATSAN facilities is also prepared by the PEO/PPDO based on the F/S report within available budget. Designs of pipeline and structure are based on the standards prepared by BWP, while well design is from DPWH design standards. However, these offices have no experience in planning and designing large water supply facilities including pumping station/water treatment facilities.

The provincial office, likewise, does not have any experience in contracting-out to the local private sector for facility construction. However, it has experience in the procurement of materials, such as cement, sand, reinforced bar and fittings.

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

1) Experiences in force account work for construction of facilities

Some of the materials such as cement, sand, reinforced bar and fitting, etc., have been procured for the WATSAN project. The Terms of Reference for procurement, aside from the common document was prepared by the PPDO with approval from the Provincial Administration (PA). The bid document is then prepared by the PGSO. After the bidding, the PA issues a purchase order, and the procurement is carried out by the PGSO. Likewise, Consultancy Contracts are also executed through bidding.

Huge work will be required for the implementation of the medium-term development plan including the preparation of the required tender documents, evaluation of pre-qualification documents and contract procedure. Furthermore, under the present limited volume of the work/projects, the procurement procedure requires a longer process, which always affects project implementation. The provincial government shall examine the current procurement system to handle/manage the forthcoming projects.

2) Construction, Supervision and Rehabilitation

Construction of WATSAN facilities is usually done by the LGUs, either by the municipal or provincial offices. The barangay council and the users mobilize labor. The MPDO and MEO manage project implementation by hiring skilled laborers. The PEO personnel or the provincial planning technical staff supervise the construction work. The research, monitoring and evaluation division of the PPDO conducts monitoring of the project.

In spite of the LGUs' efforts, their present implementation capability is limited to a certain number of projects, due to insufficient manpower resources as well as shortage of supporting vehicles/equipment. Contracting-out to the private sector maybe practical. At the same time, it is necessary to increase the number of experienced water supply engineers for coordination and supervision of the future projects.

With regards to rehabilitation of the Level I facilities, some works have been conducted by employing skilled labor, only upon request from waterworks / beneficiaries, however, it was not done timely due to budgetary constraints. Thus, strategy and concrete implementation mechanisms among concerned parties have to be established.

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

1) O&M of facilities by service level

For Level I facilities, the BWSAs or beneficiaries are responsible for O & M, however, it is not enough. This can be gleaned from the presence of numerous non-functioning / abandoned wells constructed by DPWH. These arise from lack of spare parts, drying up of water source and water quality problems such as colored water, salty water, etc. In some cases, they encountered problems relating to water source just a few months after turnover of the facility. Once again, beneficiaries start using their private dug wells.

Generally, O&M of Level I facilities is not properly done by BWSAs/beneficiaries because of a lack of sense of ownership. Nonetheless, there was the case where users contributed money towards purchase of 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 re-development of wells and future upgrading of the service level.

On the other hand, Level II and III systems, rather small in size, are managed by RWSA/Municipal/provincial government. The required staff (permanent/casual) are designated to operate/maintain the facilities. However, there are some cases where expansion of distribution pipelines and additional service connections are undertaken without due consideration of technical aspects, e.g., capacities of water sources and distribution facilities. Thus, F/S and D/D shall be timely prepared by the qualified engineer/s to avoid the decrease of supply pressure and quantity. The shortage of major spare parts stored/furnished, due to budgetary constraints is also the problem in maintaining the system (preventive maintenance).

2) Communication mechanism practiced in case of facility breakdown

In case where major repairs are required (non-functioning of hand pump parts, etc. for Level I), the BWSA or Barangay Council presents a resolution to the municipality/DEO - DPWH requesting for its immediate repair. However, most BWSAs have no communication mechanism. Majority of the BWSAs have no idea of the manner of communication with LGUs or private sector in case of a major facility break down, and the request for repair is sometimes improperly addressed. An authorized system shall be prepared and put it into practice.

Meanwhile, for major repair of Level II and III (burst pipe/leakage), the permanent/casual staff take action to restore/repair. In the event 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. Under the LGC, the LGUs shall request for responsible systems for sustainable O&M.

(5) Water Quality Examination

1) Water quality examination is only conducted on bacteriological content and cases not

including physical and chemical parameters. The rural Sanitary Inspector (RSI) of MHO conducts the sampling. Frequency of sampling and disinfection is as follows: for Level I -- once every three months; Level II -- once every two months; and Level III -- monthly one sample. Private wells are also sampled and analyzed, and if found positive, are either disinfected by the RSI or the SSI of PHO.

The laboratory shall increase water quality parameters (physical and chemical) necessary to determine the potability of water as indicated in the National Drinking Water Standards. In addition, a regular program of disinfection for all levels of services is necessary, not only on occasions when the source is found positive.

2) Capacity of laboratory

Collected samples are analyzed at the provincial laboratory. Analysis of the samples is scheduled according to the limited capacity in both facilities and manpower. The sampling in municipalities is conducted only once a month (only on Monday) with 3 to 4 samples per municipality. The laboratory can accommodate 10-14 samples per week coming from 3-4 municipalities. In connection, adequate level of facilities, chemicals and manpower shall be considered.

3) Water quality condition

In 1997, the PHO-Laboratory analyzed a total of 138 samples using the BGLB and E.coli method. It found fecal contamination at water sources of all service levels. Water quality problems usually occur during floods. This is aggravated by poor sanitary conditions within most villages -- lack or inadequate toilet facilities, improper construction of depositories/latrines, lack of sludge/sullage disposal management, and absence of drainage facilities. Handling of samples to preserve them under fresh condition may also be a cause of positive results in E coli. For areas that are far from the laboratory, the PHO recommended the putting up of another laboratory with trained personnel to cover these far-flung municipalities.

4) Budgetary support

The provincial government pays very little attention in addressing 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 for the Sector Project

As present, the capable locally based private contractors for WATSAN projects are available. Skilled labors are available for shallow well construction, as well as a company for deep well construction is also available. In considering the full utilization of local based contractors, qualified and experienced contractors as main contractors shall be employed in view of the forthcoming projects in technical requirements and project scale. It is necessary to prepare inventories on the available contractors, especially for well construction with required capacities for the project.

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 clearly spelled out.

(2) Health and Hygiene Education with Typical Program

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 DOIH/UNICEF/NGO projects/program. It is suggested to put more attention to the need by LGUs to ensure sustainable implementation of the sector development.

(3) Training

1) Planning and engineering for LGU staff

The central government agencies provided technical training on a project basis. The PPDO and PEO staff was provided technical training relative to planning and engineering and O&M under BWP. The technical staff of PPDO/PEO/MPO applied the know-how obtained from the training in the preparation of plans and designs in WATSAN projects.

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

The beneficiaries are provided with information on the association set-up before the construction starts. The manner is currently rather demand-driven and participatory by the beneficiaries compared to the previous supply-driven approach.

Although the central government agencies extended technical training to BWSAs/beneficiaries on the foreign assisted project basis, O&M of Level I facilities is commonly neglected. 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.

5.7.3 Financial Aspect

(1) Budgetary Allocation to the Sector

The province appropriates its capital expenditures from the 20% DF of the IRA. The LGU may allocate more than 20% of the total IRA to capital projects with a condition that the income of the LGU from all sources (including IRA) must first be applied to the contractual and statutory obligations of the province. The Provincial Development Council (PDC) determines the allocation of the DF to the respective sectors in the province.

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.

The budgetary allocation for the sector is included in the reported 20% DF and in other items unless the waterworks is an economic enterprise of the LGU. In evaluating the capacity of the province in terms of financial capability, there is no database on the budgetary allocation at present. This can be remedied by computerizing the system for easy access of the information.

(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.

The province has also to explore means by which the private sector can be tapped particularly for financing in the Sector. The Province had undertaken a build-transfer scheme in the past. It can provide incentives to the Private Sector by minimizing 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 clientile 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 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

(1) General scheme in WATSAN project implementation

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, through the MPDO, prepares municipal development plans and formulates an integrated economic, social and physical development plan. It identifies and prioritizes water projects and secures 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 Agusan del Norte 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 *Result of the Barangay Key Informant Survey*, a survey administered to the officials of the select local communities (details are referred to the Supporting Report); and (4) Other documents researched on and provided by the national, regional, provincial, municipal and barangay level offices.

The other major part of this chapter 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 *Result of the Group Interview Survey* (details are referred to the Supporting Report); and (2) The Result of the Barangay Key Informant Survey; and (3) The results of studies conducted on CD by the national/regional/provincial agencies.

Due to time limitation, only five barangays were made to participate in the key informant survey and two for the group interviews; but the results of the key informant survey and group interviews 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 but this was limited to the provision of free labor by few beneficiaries during the construction of Level I facilities. To implement these projects, the province created a task force, composed of representatives from the DILG, PEO, PHO, DPWH and non-government organizations. The provincial officials admitted that the program failed, attributed mainly to the "I-don't-care" attitude of the people, as well as to the lack of training of the users of the facilities on O&M. They cited that the biggest problem right now, prevalent in municipalities where there is abundant water or free flowing wells, is the "free water" mentality of the people. In fact, this situation hindered the formation of water associations in many barangays, including the five barangays that were surveyed.

From 1995-1997, the province implemented the First Water Supply, Sanitation and Sewerage Sector Project (FW4SP) which also necessitated some CD effort, as mobilization of community was required before water facilities are constructed and/or improved. Like in the BWP, the beneficiaries contributed labor and/or donated materials as the community's counterpart in the construction of facilities. A CD unit was set up within each of the PPDO and PHO, although this does not concentrate on WATSAN-related projects alone. The CD unit of the PHO undertakes mostly health and sanitation-related projects while that of the PPDO's handles CD for all kinds of projects.

At the municipal level, a sector task force (MSTF) was organized in some municipalities to implement previous projects. A few of these task forces were retained after completion of the special projects; while the others were dissolved. The City of Butuan also set up a CD unit under the City Planning and Development Office; but this does not concentrate on WATSAN alone.

5.8.3 Assignment of CD Specialist to Sector Projects

Presently, a staff assigned with the PPDO undertakes community development work required for all types of community-based projects being implemented by the province, including water and sanitation. The province could not hire a permanent CD Specialist solely for the WATSAN sector due to lack of manpower and plantilla position. This is also true with the

CD staff stationed at the PHC whose function covers mostly health-related activities including water and sanitation.

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 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.

The provincial task force for water supply and sanitation is no longer in place in the province because the BWP is no longer a current thrust, nor are there new special sector projects being implemented. But many of those who have been trained on past WATSAN projects, particularly on the CD component, are still with the province. Although there is no existing position for a community development specialist in the province, or in the municipalities, the LGU officials are in agreement that there should be better community participation in future WATSAN activities and projects for the facilities to be sustained. However, there is a need to re-orient staff who would be involved in sector-related projects in order for them to learn some up-to-date techniques and strategies that are otherwise not present in previous CD process.

5.8.4 Training on CD

The province is willing to reorganize the task force and make it a permanent body to implement, on a continuing basis, new projects on water supply and sanitation and give this group sufficient training for sector activities and projects. Although no new training on CD is presently in force, the LGUs showed willingness to facilitate said training programs that are relevant to the achievement of the sector plan under preparation as borne out by the discussions with these officials and the *Results of the Barangay Key Informant Survey*.

Past training programs with CD components participated in by the provincial/municipal level staff are as follows:

- 1) *Management Seminar for Rural Development* sponsored by National Economic Development Authority (NEDA) in August 1993.
- 2) *Agrarian Reform Community Development Planning Workshop* conducted by Department of Agrarian Reform (DAR), Region X in May 1993.
- 3) *Regional Barangay Administration Trainor's Training* sponsored by DILG-Region X in July 1994.
- 4) *Barangay Water Program Trainor's Training*, conducted by DILG and PDAP in 1985.
- 5) *Trainor's Training* conducted by the now defunct Rural Waterworks Development Corporation in May 1985.

As can be gleaned from the list, the training conducted and/or received by the LGUs are by no means recent. The most recent training was conducted four years ago and this was not specifically for or the WATSAN sector; while the most recent training program on the sector was conducted more than 13 years ago.

Water district personnel also attended various training and seminars conducted by the Local Water Utilities Administration (LWUA) and other private training institutes focused on administrative, financial and technical aspects of level III water supply systems. The varied skills that WD staff learned can also be applicable to small systems and therefore can be replicated or transferred to BWSA/RWSA personnel.

5.8.5 Utilization of NGOs

While the provincial government considers non-government organizations or NGOs as partners in development in Agusan del Norte, very few organizations are presently working actively for the promotion of WATSAN-related projects. One positive point, however, is that these NGOs have had wide experience in dealing with the grassroots levels; they have knowledge of strategies on how to enter a community and blend with the local people. The provincial officials believe that tapping the assistance of the NGOs will not be difficult in the

WATSAN sector. The list of NGOs that have a track record of doing work in the province is updated on a yearly basis. (refer to Supporting Report for the list of NGOs and CBOs in Agusan del Norte)

5.8.6 Existing Community Development Processes

(1) Manner of Participation in Sector Development

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

For the BWSA/RWSA, the users' participation was usually in the provision of free labor and in the donation of cash during the construction phase of the sector project. Left to the central and local government planners was the responsibility for the other stages of project development such as planning and design, monitoring and evaluation which included activities as project identification, site selection, water rate setting, and operation and maintenance. As a result, only a few BWSA/RWSA are presently in operation because WATSAN facilities have not been properly maintained and very few users continue to pay their water fees.

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 the best interest of the sector. This would greatly enhance the manner and quality of the users' participation in the sector.

As suggested in the results of the group interviews conducted for this sector study, both the male and female beneficiaries are now receptive to playing a more dynamic role in sector projects. They professed willingness to form themselves into water associations, readiness to contribute cash, materials, and even sites for the construction of WATSAN facilities. In addition, they are already primed to assume higher responsibilities in managing, operating and maintaining the WATSAN facilities.

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

(2) Typical CD Work

The typical CD work is a carry over from the manner it was done in past sector programs. This includes the formation of the water supply and sanitation association that follow the general guidelines set forth by the government such as project orientation at the barangay level and the conduct of trainings participated in by members of the beneficiary community. Since there is no new WATSAN project being implemented in the province at present, no CD work or CD process is being undertaken.

More often than not, the agreement to organize the BWSA/RWSA was reached after one general assembly meeting called for the purpose. The BWSA/RWSA was tasked to operate and maintain the water supply and sanitation facilities. Its membership were, at that time, given different types of training, such as pre-organizational teach-ins, pre-operational and post completion training and operation and maintenance seminars.

There is a similar process being practiced by the City Planning and Development Office of Butuan. The CD works start with the pre-feasibility study meeting among the project implementors. Once the study has been conducted, results and preliminary engineering components are presented to intended beneficiaries. Organizational meetings that include pre-organizational teach-in, people's organization, and pre- and post-operational training follow. The last process is the regular consultation and monitoring.

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.)

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

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

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

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 no existing comprehensive IEC program on sector plans and programs in order to gain the support of various publics. Efforts are minimal, unplanned and unsystematic. No other media of communication is being utilized in disseminating information on the community on sector policies, opportunities and programs. This has been confined to community assemblies and seminars. The municipalities and the barangays likewise do not have existing IEC program to generate community participation on sector projects.

Dissemination of information on sector issues and development is limited to 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.

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

5.8.8 Health and Hygiene Education

The PHO, in coordination with all the rural health units (RHUs) implements a province-wide environmental sanitation program which involves lecture-discussions and training of project beneficiaries. The program includes topics on water and sanitation, food sanitation and school sanitation. The PHO utilizes all available media of communication in the conduct of this health education program.

A key informant survey among barangay residents revealed that people recognize the importance of good health and hygiene practices. Most of them learned about health and sanitation matters mostly from health workers, radio and television. They also learned health education from their relatives and friends and health clinics

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 Agusan del Norte 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 Agusan del Norte* administered to the

officials of the select local communities; and (4) *The Result of the Group Interviews for Agusan del Norte* 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 govern-

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

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

5.9.3 The LGU's and Gender

The inclusion or utilization of gender sensitive approach to planning water supply and sanitation is something new in the province, and the officials admit to have heard of the subject only when this was brought up in the joint meeting. There are also no other projects in the province where gender and development, or gender sensitive approaches are applied. They are willing, however, to utilize and be trained on the gender-responsive approaches to the planning and implementation of sector projects. 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.

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 survey and group interviews were undertaken to assess gender sensitivity of barangay officials and the beneficiaries in the roles and modes of participation that they, as men and women, perceive for themselves 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 35. Of this number, 24 were males and 11 females. Two of the barangay chairpersons are women.

The respondents in the group interviews, on the other hand, composed of 30 females and 20 males, the majority of whom belong to the 20-50 age bracket. The level of education of said interviewees were fairly distributed from elementary to college levels with women outnumbering men in the having graduated from college. The occupation of a big majority of the respondents is farming/fishing.

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 and WD Board:

The key informants of the five barangays surveyed revealed there were no existing BWSAs/RWSAs in their barangays. Nevertheless, all indicated interest in becoming a member of the WATSAN association once it is formed in their respective barangays. They also indicated willingness to provide free labor or donate materials as their participation during the construction of WATSAN facilities.

For the group interviews, all the male respondents indicated that they were not consulted and briefed on their proposed roles and responsibilities in the planning, design and construction of water supply facilities in their areas. This is contrary to more than half the female respondents who said that they were consulted. In the formation of the WATSAN association or the fixing of water charges, all the respondents said they were not consulted.

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

On participation in WATSAN training:

Only a third of the respondents attended training programs geared toward barangay administration, crime prevention and financial administration for the year 1997. As for sector-related training, most of the respondents said they were not aware of or did they

attend any training for the same period. However, the majority of male and female interviewed indicated interest to attend training programs for the WATSAN sector such as Skills Training Program (O&M); Management Skills; and, Livelihood. Most females preferred a one day training schedule; all the males said that two days is desirable training period.

On participation in health and hygiene:

Both male and female respondents equally recognized the importance of good health and hygiene practices. Most of them have attended health education training program. If given a chance, they would like to attend more training programs on health and sanitation specifically on proper water usage and management, barangay health and hygiene development program, skills training and livelihood.

On water-related illnesses, it was found out that men were more afflicted than women with diseases such as diarrhea, kidney trouble and stomach pain.

On participation in operation and maintenance:

Only the men believe that they can participate in operating and maintaining the WATSAN facilities. The men further said that they could also serve as officers of the association, do repair of facilities, or maintain the cleanliness of the facilities. The women, on the other hand, affirmed that they could help in cleaning water source and its surroundings. The interviewees indicated that somebody in the barangay is the one responsible for doing minor repairs of the family/community water supply facility.

(2) Gender in Water Supply and Sanitation Practices

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

Responsibility in Fetching Water:

The 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 distant sources. The majority of both male and female respondents indicated that families fetch drinking water up to three times a day with a duration of about 30 minutes to fetch water from the source to their house. Most of the male and female respondents admitted 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 run 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.

There are no differences in the current project monitoring systems at LGU level. However, the monitoring report on foreign assisted projects is submitted to the concerned central government agencies through the regional office.

The exchange of monitoring 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 to the insufficient/non-systematic exchange of monitoring information no data-management system

causes not only increasing working burden in the monitoring and also wide dissatisfaction among project implementers themselves as monitoring report preparation is seen as 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 among relevant agencies.

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.

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

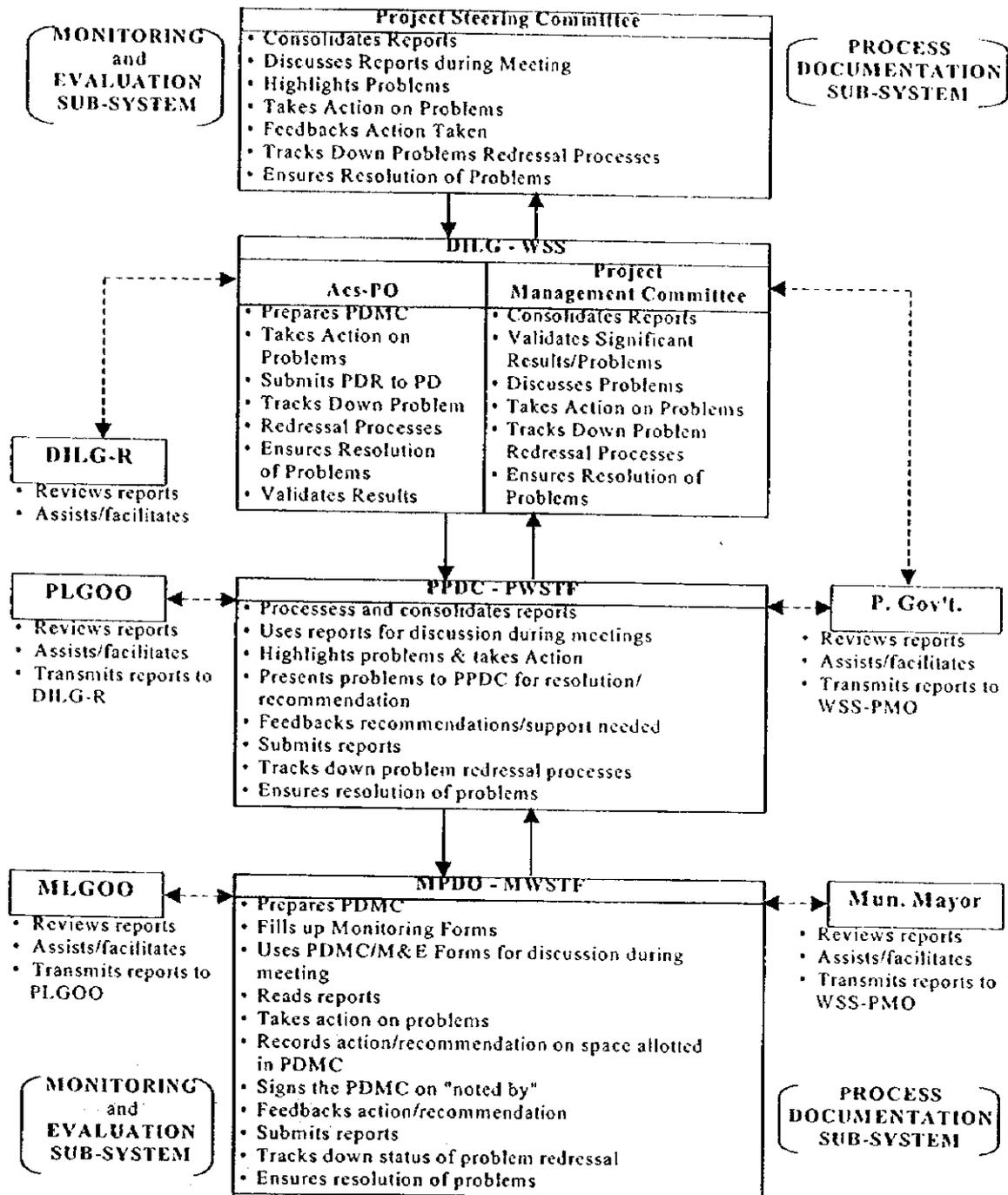


Figure 5.10.1

