

JAPAN INTERNATIONAL COOPERATION AGENCY

DEPARTMENT OF THE INTERIOR AND LOCAL GOVERNMENT
THE REPUBLIC OF THE PHILIPPINES

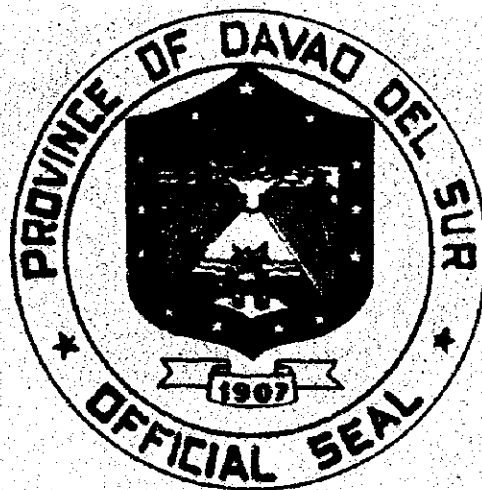
THE STUDY ON THE
PROVINCIAL WATER SUPPLY, SEWERAGE AND
SANITATION SECTOR PLAN
IN
THE REPUBLIC OF THE PHILIPPINES

VOLUME II - [3]

SUPPORTING REPORT

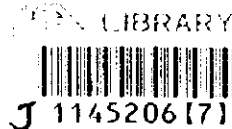
PROVINCIAL WATER SUPPLY, SEWERAGE AND
SANITATION SECTOR PLAN
FOR THE PROVINCE OF

DAVAO DEL SUR



OCTOBER 1998

NIPPON JOGESUIDO SEKKEI CO., LTD.



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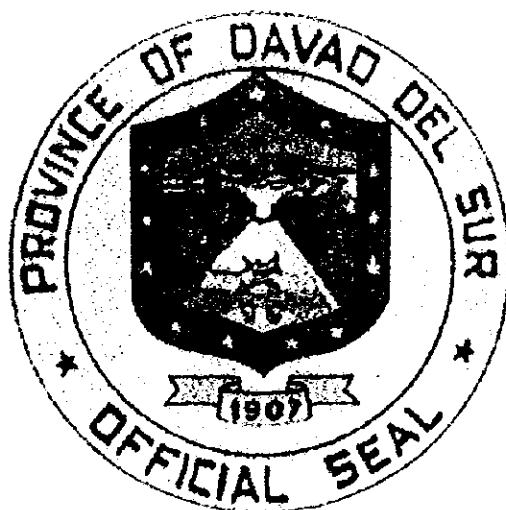
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**PROVINCIAL WATER SUPPLY, SEWERAGE AND
SANITATION SECTOR PLAN**

VOLUME II SUPPORTING REPORT

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**PROVINCIAL WATER SUPPLY, SEWERAGE AND
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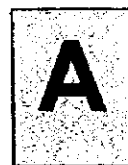


**PROVINCIAL WATER SUPPLY, SEWERAGE AND
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**BACKGROUND INFORMATION
AND EXISTING CONDITIONS**

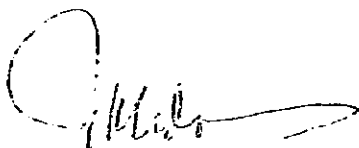


- 1. INTRODUCTION
- 1.3 The Provincial Plan for the Province of Davao del Sur
- 1.3.1 Preparation of the Plan

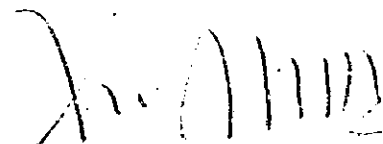
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AGREED UPON BETWEEN
THE DEPARTMENT OF THE INTERIOR AND
LOCAL GOVERNMENT
AND
THE STUDY TEAM OF
JAPAN INTERNATIONAL COOPERATION AGENCY

MANILA, JANUARY 26, 1998



MR. NORMANDO J. TOLEDO
Director
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MR. MASATOSHI MOMOSE
Team Leader, Study Team
Japan International Cooperation
Agency

Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programs of the Government of Japan, dispatched the Study Team to the Republic of the Philippines on January 13, 1998 to conduct "The Study on Provincial Water Supply, Sewerage and Sanitation Sector Plans for Visayas and Mindanao" (hereinafter referred to as "the Study") in accordance with the Implementing Arrangement for the Study executed between the JICA and the Department of the Interior and Local Government (hereinafter referred to as "DILG") on August 27, 1997.

A series of discussions were made on the Inception Report for the Study between the Study Team and the officials of DILG and other agencies concerned. In the course of the discussions, both parties have agreed with the general approach and methodology, and implementation arrangements detailed in the Inception Report. Also agreed upon were the changes made as to which provinces are to be covered in 1st batch and 2nd batch (refer to I. Study Area). The list of attendees in the series of discussions is presented in Appendix A.

1. Study Area

The subject twenty-one (21) provinces were grouped into four batches in the "Implementing Arrangement on the Study". However, a delay in the organization of the Provincial Sector Planning Team (PSPT) in the 1st batch provinces of Misamis Oriental and Surigao del Sur prompted their transfer to the 2nd batch. Instead, Davao del Sur and Davao Oriental from the 2nd batch whose PSPTs were already formed were moved up in their place. In this connection, the DILG completed to exchange MOA with the provinces on the participation and full support by the provinces.

The present study area covers the following 21 provinces grouped into four batches.

| 1 st BATCH | 2 nd BATCH | 3 rd BATCH | 4 th BATCH |
|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. Agusan del Norte | 1. Davao | 1. Biliran | 1. Aklan |
| 2. Agusan del Sur | 2. Misamis Oriental | 2. Eastern Samar | 2. Antique |
| 3. Davao del Sur | 3. Sarangani | 3. Leyte | 3. Capiz |
| 4. Davao Oriental | 4. South Cotabato | 4. Northern Samar | 4. Iloilo |
| 5. Surigao del Norte | 5. Surigao del Sur | 5. Southern Leyte | 5. Negros |
| | | 6. Western Samar | Occidental |

With regard to Davao province, the separation into two provinces is currently under legislative process. Upon the formalization of an additional province, the total number of the provinces in the study area would be 22. The DILG has requested that the forthcoming province be included in the study area. The JICA Study Team will relay the request to JICA headquarters for consideration. The DILG is expected to complete the execution of the MOAs of the 2nd batch provinces by early July to catch up with the planned schedule. The required arrangements in terms of subject provinces and study period will be discussed between the DILG and JICA.

2. General Approach and Methodology to the Study

The PW4SPs will be prepared with the full participation of the respective PSPTs together with DILG coordinators and the Study team in accordance with the approach and methodology outlined in the Inception Report. The following topics were confirmed during the discussions:

(1) Planning framework for future sector development

- a) Planning base year is 1997 for 1st and 2nd batches and 1998 for 3rd and 4th batches. Medium-term and long-term target years are 2005 (implementation program: year 2001 to year 2005) and 2010, respectively.
- b) Plan will be prepared in compliance with "Implementing Rules and Regulations of NEDA Board Resolution No. 4".

(2) Standard provision of school toilets

Discussions and confirmation on the provision of school toilets will be arranged with DECS.

(3) Options on the sludge removal from septic tank and its disposal will be shown in the plan.

(4) Model province for 1st batch is Agusan del Sur.

3. Sector Information Collection

The DILG and the JICA Study Team will continuously collect information on the projects/programs assisted by various financial sources. The information will be reflected in the plans.

4. Implementation Set-Up for the Study

In accordance with the Implementing Arrangements between the DILG and the JICA, the DILG shall:

- (1) Secure the safety of the JICA Study Team;
- (2) Assign DILG counterpart staff members who will coordinate and assist PSPTs at the provincial level;
- (3) Set-up PSPTs by respective provincial governments in the study area and secure budget to carry out the Study;
- (4) Through PSPT in each study area province; facilitate and coordinate in data gathering with municipal government and other agencies concerned, and participate in workshops and preparation of PW4SP;

- (5) Facilitate coordination with concerned agencies like DPWH, DOH, NEDA, LWUA and with appropriate bodies.

The JICA Study Team shall:

- (1) Pursue technology transfer to the Philippine counterpart personnel in the course of the Study and;
- (2) Assist PSPTs in the preparation of the PW4SP.

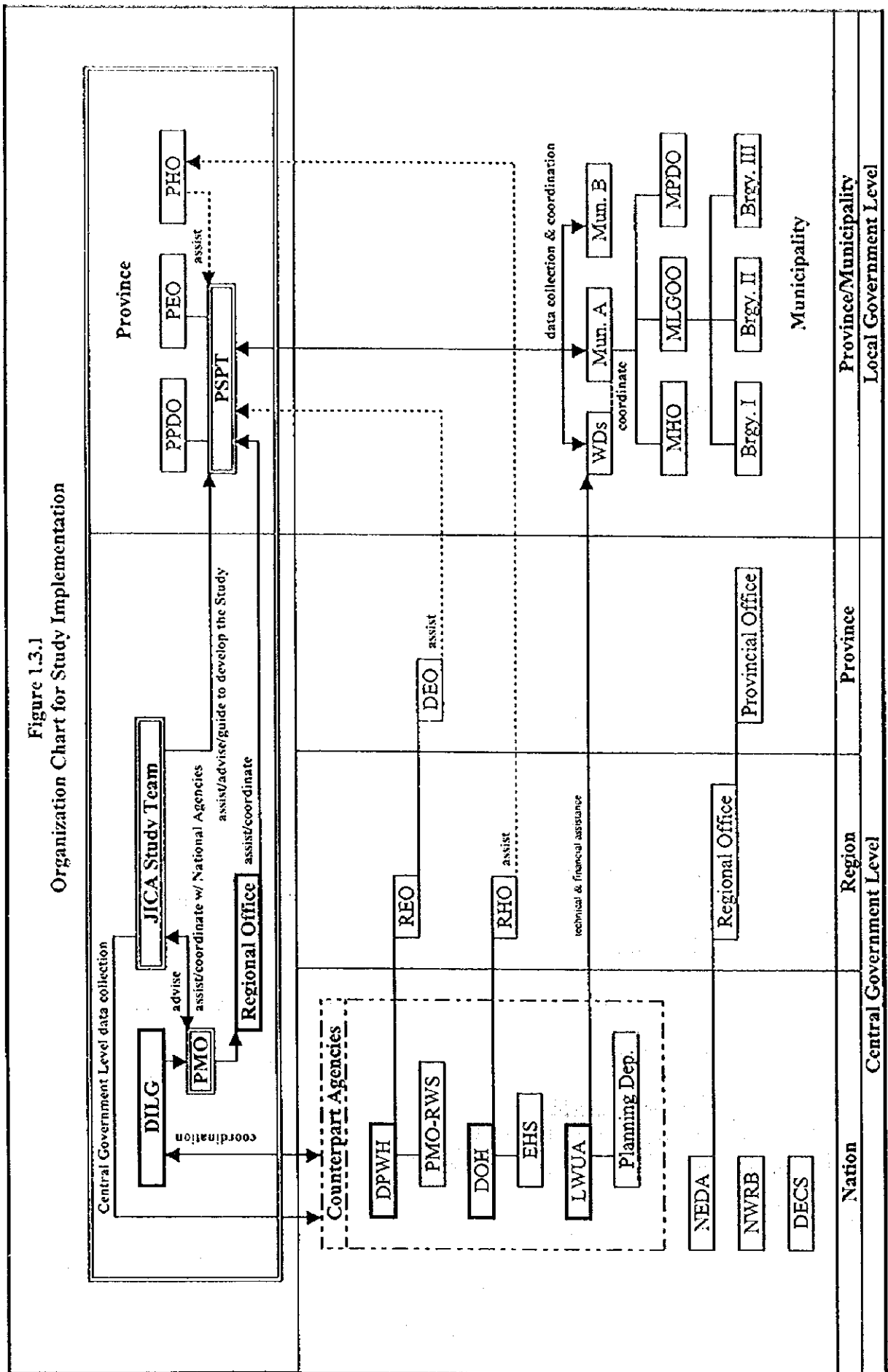
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LIST OF ATTENDEES IN THE SERIES OF DISCUSSIONS

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| 1. Mr. Normando J. Toledo | Director, Office of Project Development Services |
| 2. Mr. Orville M. Roque | Program Manager, WSS-PMO |
| 3. Ms. Ellen I. Pascua | Asst. Program Manager, WSS-PMO |
| 4. Mr. Rogelio B. Ocampo | Chief, Planning Division, WSS-PMO |
| 5. Ms. Fe Crisilla M. Banluta | PW4SP Project Officer, WSS-PMO |
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| 1. Mr. Sam Siao | Officer, PMO-RWS, DPWH |
| 2. Dr. Mario Villaverde | Director, EHS, DOH |
| C. JICA Advisory Committee | |
| 1. Ms. Keiko Yamamoto | Chairman, Advisory Committee |
| 2. Mr. Keiichi Kanaya | Member, Advisory Committee |
| D. JICA Headquarters | |
| 1. Mr. Shigeyuki Matsumoto | Second Development Study Division, Social Development Study Dept. |
| E. JICA Study Team | |
| 1. Mr. Masatoshi Momose | Team Leader/Water Supply Planning |
| 2. Mr. Nobuki Abe | Water Supply/Sanitation Engineer |
| 3. Ms. Consuelo B. Estepa | Community Dev't/WID Specialist |
| 4. Ms. Elizabeth L. Verzola | Socio-Economic/Financial Specialist |
| 5. Mr. Kenji Takayanagi | Water Source Development Specialist |
| 6. Mr. Emmanuel L. Patingo | Data Management Specialist |

Figure 1.3.1
Organization Chart for Study Implementation

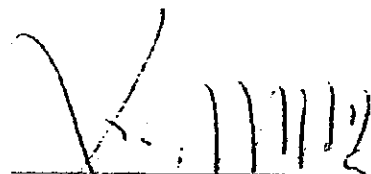


MINUTES OF DISCUSSIONS
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THE DEPARTMENT OF THE INTERIOR AND
LOCAL GOVERNMENT
AND
THE STUDY TEAM OF
JAPAN INTERNATIONAL COOPERATION AGENCY

MANILA, MARCH 18, 1998



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The Stage I fieldwork for "the Study on Provincial Water Supply, Sewerage and Sanitation Sector Plan" started on January 13, 1998 and completed on March 23, 1998.

A series of discussions were held throughout the course of the Study, between JICA Study Team and officials concerned including DILG, NEDA, DOH, DPWH and other central government agencies and provinces. The general approach and methodologies, as presented in the Inception Report, have been employed for the fieldwork.

A Progress Report, which covers all outputs during the work period, was prepared entailing part of PW4SP for the respective provinces. The contents of the report were basically agreed upon on March 18, 1998 between JICA Study Team and officials of the DILG. The list of attendees to the meeting is presented in Appendix A. The following issues/problems on the arrangements required for the implementation of the Study were discussed, and the Study Team will relay the modified arrangements required to JICA headquarters.

(1) Modified Arrangements Required for 1st batch Study

1) Due to the presidential election scheduled on May 11, 1998, the second workshop may be held from May 18 to May 22, 1998 after the election, and tentatively starting the 2nd field work on May 13, 1998.

2) The venue for the final workshop was requested by concerned PPDCs to be held in Mindanao rather than in Manila as originally planned. This is because of the financial constraint on the travel expenses required for 7 members of respective PSPTs under the current GOP instruction to LGUs to reduce its planned annual expenditures of up to 25%.

(2) Provinces to be Covered by the 2nd Batch

The total number of provinces for the 2nd batch (5 provinces) will be kept as previously agreed between the two parties. However, Surigao del Sur will be omitted from the Study, since timely establishment of the PSPT by the province seems to be difficult. Instead of the said province, either the newly created Compostela Valley or Bukidnon (Region X) would be included.

The DILG will inform the Study Team of the possibility in the setting up of PSPT by the administration of Compostela Valley by the middle of June 1998. If not, DILG will make an advanced arrangement with Bukidnon.

(3) Electric Resistivity Prospecting and Test Boring

Comparatively reliable data to evaluate the development potential of water source were collected for 1st batch provinces during the fieldwork. It is assumed that the conduct of the field test for groundwater analysis, given a limited period, cannot be able to contribute significantly to the level of accuracy in the preparation of M/P and F/S. The situation will remain the same for 2nd batch provinces. Accordingly, it is not recommended to conduct field test for this study.

The required areas and the scope of work/surveys, such as field tests, will be recommended in the PW4SP and will be considered during detailed design and construction stages.

(4) Time Constraint in Data Collection/Validation/Follow-up

It was found, both by the Study Team and the DILG through the fieldwork, the following problems on data collection/validation/follow-up:

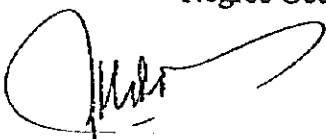
- 1) The summary reports on the sector status prepared by NEDA Regional Office through UNICEF fund were field confirmed as the materials to provide approximate sector situations in the fact of no existence of sector related information at present.
- 2) Data collection by PSPTs had sometimes to be done at the barangay level, due to limited data available in the municipal level. Thus, additional time was required for PSPTs to access to remote rural barangays.
- 3) Comprehensive planning work by the province in Mindanao area is still initial stage. It is necessary for the activities to ensure much more time through intensive technology transfer to DILG coordinators and PSPTs.

Based on the lessons learned, the Study Team and the DILG recognized the need of the review on the allotted period for the activities. The Study Team will relay this matter to JICA headquarters.

(5) Cities to be Covered in the Preparation of PW4SP

Of the three classes of cities in the Local Government Code, only component cities, which are under the jurisdiction of the provincial government will be considered. The subject cities are as follows:

| <u>Province</u> | <u>Component City</u> |
|-------------------|--|
| Surigao del Norte | Surigao City |
| Davao | Tagum City and Island Garden City |
| Leyte | Tacloban City |
| Western Samar | Calbayog City |
| Capiz | Roxas City |
| Iloilo | Passi City |
| Negros Occidental | Bago City, Cadiz City, La Carlota City, San Carlos City and Silay City |



LIST OF ATTENDEES IN THE SERIES OF DISCUSSION

| <u>ATTENDEES</u> | <u>DESIGNATION</u> |
|-------------------------------|-------------------------------------|
| <i>A. DILG</i> | |
| 1. Mr. Orville M. Roque | Program Manager, WSS-PMO |
| 2. Ms. Ellen I. Pascua | Asst. Program Manager, WSS-PMO |
| 3. Mr. Rogelio B. Ocampo | Chief, Planning Division, WSS-PMO |
| 4. Ms. Fe Crisilla M. Banluta | PW4SP Project Officer, WSS-PMO |
| 5. Ms. Charito Araza | Area Coordinator, WSS-PMO |
| 6. Ms. Maria Contessa Navarro | Area Coordinator, WSS-PMO |
| 7. Ms. Josephine Ramos | Area Coordinator, WSS-PMO |
| 8. Ms. Susan Mangoda | Area Coordinator, WSS-PMO |
| 9. Ms. Crisanta Raporap | Area Coordinator, WSS-PMO |
| <i>B. JICA Study Team</i> | |
| 1. Mr. Masatoshi Momose | Team Leader/Water Supply Planning |
| 2. Mr. Nobuki Abe | Water Supply/Sanitation Engineer |
| 3. Mr. Kenji Takayanagi | Water Source Development Specialist |
| 4. Ms. Consuelo B. Estepa | Community Dev't./WID Specialist |
| 5. Ms. Elizabeth L. Verzola | Socio-economic/Financial Specialist |



2. **PLANNING APPROACH FOR FUTURE SECTOR DEVELOPMENT**
2.6 **Planning Principles and Data Management**
2.6.2 **Data Management**

(1) Computer-based System

The data management system was established to support the Provincial Sector Planning Team (PSPT) in the preparation of the Provincial Water Supply, Sewerage and Sanitation Sector Plan (PW4SP). An essential task of data management is to organize various kind of data into an effective and efficient information base.

A computer-based system was applied as a viable solution to process large amount of data and to minimize the human-error in calculation. For this particular project, a dynamic system is designed to allow the planner to adjust planning factors and update the information when further data becomes available.

It is viable and economical to choose the microcomputer with software suitable for the average skills of the common user. In this connection, of the two types of software package available, *database* and *spreadsheet*, the latter method was selected. Among the available spreadsheet-type software, EXCEL was used. EXCEL supports file conversion (opening and saving), multiple file opening, graphic presentation of data, What-You-See-Is-What-You-Get (WYSIWYG) formatting, scaleable font and view, etc. The following are the advantages and disadvantages of the spreadsheet method with reference to database method.

| <u>Advantage</u> | <u>Disadvantage</u> |
|---|---|
| 1. Minimum programming skills | 1. Repeated entry of same formula |
| 2. Friendly environment to users | 2. Sorting or indexing is done manually |
| 3. Graphic presentation of data at user's option | 3. All data are loaded in memory, which require huge amount of memory |
| 4. Execution of data linkage at formula level entry | 4. Limited to static data linkages |
| 5. Guided formula creation using function wizard | |

Data management task starts from the collection of data using the questionnaire forms. The existence and accuracy of data are major concern at this stage to prepare main information bases. Using the microcomputer provided with EXCEL spreadsheet, data in the questionnaire forms are transferred into the forms constructed in EXCEL. Applicable policy, criteria and assumptions are entered into key parameter tables. These data are then processed and finally consolidated into target forms. These final forms provide a map of provincial profile, service coverage, future requirements, cost estimates for future sector development, and funding requirements.

Table 2.6.1 Key Parameter

| No. | Description of Key Parameter | | Unit | Values |
|------------------------|--|--|------------------------|--------|
| 1. | Service Level | <i>Water Supply</i> | | |
| | | Number of household to be served by Level I Facility | HH/Source | |
| | | Number of household to be served by Level II System | HH/Public Faucet | |
| | | Water Consumption Rate for Level III System | Liter/capita/day | |
| 2. | Provincial Sector Target | <i>Sanitation</i> | | |
| | | Std. number of student to be served by a unit of Sanitary toilet | Student/Toilet | |
| | | Standard number of toilets for a public utility | Toilet/Public Facility | |
| | | <i>Water Supply</i> | | |
| Urban Water Supply | | % of Population | | |
| Rural Water Supply | | % of Population | | |
| <i>Sanitation</i> | | | | |
| Household Toilet | | | | |
| Urban Household Toilet | | % of Household | | |
| Flush | | % of Household | | |
| Pour Flush | | % of Household | | |
| VIP Latrine | | % of Household | | |
| Rural Household Toilet | | % of Household | | |
| Flush | | % of Household | | |
| Pour Flush | | % of Household | | |
| VIP Latrine | | % of Household | | |
| School Toilet | % of Public Student | | | |
| Public Toilet | % of Public Utility | | | |
| Solid Waste | % of Population | | | |
| 3. | Long Term Plan | <i>Water Supply</i> | | |
| | | Urban Water Supply | % of Population | |
| | | Rural Water Supply | % of Population | |
| | | <i>Sanitation</i> | | |
| | | Household Toilet | | |
| | | Urban Household Toilet | % of Household | |
| | | Flush | % of Household | |
| | | Pour Flush | % of Household | |
| | | VIP Latrine | % of Household | |
| | | Rural Household Toilet | % of Household | |
| | | Flush | % of Household | |
| | | Pour Flush | % of Household | |
| | | VIP Latrine | % of Household | |
| | | School Toilet | % of Public Student | |
| | | Public Toilet | % of Public Utility | |
| | | Urban Sewerage | % of Urban Population | |
| 4. | Percentage of Level I Deep Wells to be Rehabilitated | | % | |
| 4. | Percentage of Sector Management Cost to Construction Cost | | | |
| | Feasibility and Detail Design | % of Construction Cost | | |
| 5. | Construction Supervision | % of Construction Cost | | |
| | Community Development and Training Cost | | | |
| 5. | Level III | % of Construction Cost | | |
| | Level I, II and Public Toilet | % of Construction Cost | | |
| 6. | Recurrent Cost | Level III System (Operating Cost) | Pesos/HH/year | |
| | | Level III System (Spare Parts/Equipment) | % of Construction Cost | |
| | | Level II System (Spare Parts/Equipment) | Pesos/HH/year | |
| | | Level I System (Spare Parts/Equipment) | Pesos/HH/year | |
| | | Public School Toilet Maintenance Cost | Pesos/Toilet/year | |
| | | Public Utility Toilet Maintenance Cost | Pesos/Toilet/year | |
| 7. | Allocation factors/Percentages of IRA | | | |
| | From Provincial | % | | |
| 8. | From Municipality and Brgy. | % | | |
| | Funding Levels/Percentages for Different Financing Scenarios | | | |
| | 1st Scenario | % Funding Available | | |
| | 2nd Scenario | % Funding Available | | |
| | 3rd Scenario | % Funding Available | | |
| | 4th Scenario | % Funding Available | | |
| 5th Scenario | % Funding Available | | | |

Table 2.6.2 Composition of Well Sources and Specific Capacity

| Name of Municipality | Type | Type Water Source | Proportion (%) | Standard Specification | | |
|----------------------|-------|-------------------|----------------|------------------------|---------|---------------------------------|
| | | | | Depth (m) | SWL (m) | Specific Capacity (liter/sec/m) |
| | Urban | Shallow Well | | | | |
| | | Deep Well | | | | |
| | | Spring | | | | |
| | Rural | Shallow Well | | | | |
| | | Deep Well | | | | |
| | | Spring | | | | |
| | Urban | Shallow Well | | | | |
| | | Deep Well | | | | |
| | | Spring | | | | |
| | Rural | Shallow Well | | | | |
| | | Deep Well | | | | |
| | | Spring | | | | |
| | Urban | Shallow Well | | | | |
| | | Deep Well | | | | |
| | | Spring | | | | |
| | Rural | Shallow Well | | | | |
| | | Deep Well | | | | |
| | | Spring | | | | |
| | Urban | Shallow Well | | | | |
| | | Deep Well | | | | |
| | | Spring | | | | |
| | Rural | Shallow Well | | | | |
| | | Deep Well | | | | |
| | | Spring | | | | |
| | Urban | Shallow Well | | | | |
| | | Deep Well | | | | |
| | | Spring | | | | |
| | Rural | Shallow Well | | | | |
| | | Deep Well | | | | |
| | | Spring | | | | |
| | Urban | Shallow Well | | | | |
| | | Deep Well | | | | |
| | | Spring | | | | |
| | Rural | Shallow Well | | | | |
| | | Deep Well | | | | |
| | | Spring | | | | |
| | Urban | Shallow Well | | | | |
| | | Deep Well | | | | |
| | | Spring | | | | |
| | Rural | Shallow Well | | | | |
| | | Deep Well | | | | |
| | | Spring | | | | |

Table 2.6.5 Unit Construction Cost of Different Facilities

| Description | Unit Construction Cost (Pesos) | Service Coverage | | Unit Cost | |
|--|--------------------------------|-------------------|------------------|---------------|------------------|
| | | Served Population | Served Household | Pesos/ Person | Pesos/ Household |
| Water Supply | | | | | |
| <i>Level III - New System</i> | | | | | |
| For 5000 Population | | | | | |
| For 10000 Population | | | | | |
| For 15000 Population | | | | | |
| <i>Level III - Expansion</i> | | | | | |
| For 5000 Population | | | | | |
| For 10000 Population | | | | | |
| For 15000 Population | | | | | |
| <i>Level II</i> | | | | | |
| <i>Level I</i> | | | | | |
| Deep Well - 40 meter depth | | | | | |
| Deep Well - 80 meter depth | | | | | |
| Deep Well - 120 meter depth | | | | | |
| Shallow Well - 18 meter depth | | | | | |
| Spring Development | | | | | |
| <i>Rehabilitation Cost for Level I Deep Well</i> | | | | | |
| <i>Disinfection of Level I Wells</i> | | | | | |
| Sanitation | | | | | |
| Flush | | | | | |
| Pour Flush | | | | | |
| VIP / Dry | | | | | |
| School Toilet | | | | | |
| Public Toilet | | | | | |
| Urban Sewerage | | | | | |

Table 2.6.6 Scoring Factor for Municipal Investment Ranking for Urban Water Supply

| Score | Underserved and Underserved Population in Base Year | Underserved and Underserved Population in Phase I | Population Underserved by Level III Systems in Base Year |
|-----------------------------|---|---|--|
| 1.0 | < % | < % | < % |
| 0.8 | < % < 40 | < % < | < % < |
| 0.6 | < % < 30 | < % < | < % < |
| 0.4 | < % < 20 | < % < | < % < |
| 0.2 | % < 10 | % < | % < |
| Weight Allocation Score (%) | | | |

Table 2.6.7 Scoring Factor for Municipal Comprehensive Investment Ranking

| Score | Urban Water Supply | Rural Water Supply | Urban Sanitation | Rural Sanitation |
|-----------------------------|--------------------|--------------------|------------------|------------------|
| 1.0 | N.A. | < % | < % | < % |
| 0.8 | N.A. | < % < | < % < | < % < |
| 0.6 | N.A. | < % < | < % < | < % < |
| 0.4 | N.A. | < % < | < % < | < % < |
| 0.2 | N.A. | % < | % < | % < |
| Weight Allocation Score (%) | | | | |

3. PROVINCIAL PROFILE

3.3 Socio-economic Conditions

3.3.1 Economic Activities and Family Income

Table 3.3.1 Distribution of Families by Income Class

| Income Class | Davao del Sur | | | | Region XI | |
|-------------------|----------------|-------|-------------------|-----------------|--------------------------|-------------------------------|
| | Total Families | | Annual Income | | Total Number of Families | Annual Income Average (Pesos) |
| | Number | Share | Total (P '000.00) | Average (Pesos) | | |
| Under 20,000 | 36,060 | 27 | 723,629 | 20,067 | 90,530 | 19,146 |
| 20,000 - 29,999 | 30,247 | 22 | 957,899 | 32,570 | 130,339 | 31,209 |
| 30,000 - 39,999 | 25,303 | 19 | 1,007,778 | 41,238 | 139,506 | 42,205 |
| 40,000 - 59,999 | 23,153 | 17 | 1,300,602 | 51,075 | 175,000 | 57,821 |
| 60,000 - 99,999 | 15,422 | 11 | 1,484,220 | 82,357 | 153,085 | 89,888 |
| 100,000 - 249,999 | 5,356 | 4 | 824,894 | 221,980 | 88,874 | 164,862 |
| 250,000 and over | | 0 | | | 12,021 | 496,071 |

Source : 1994 Family Income and Expenditure Survey, NSO

Notes:

- (1) Excludes Surigao del Sur province (from previous classification)
- (2) Based on NEDA and other agencies , poverty threshold in Region XI in 1994 was estimated at P 41,579.07 (P 8,201 annual per capita poverty threshold).
- (3) For purposes of the survey, a family is defined as a group of persons usually living together and composed of the head and other persons related by blood, marriage and adoption. A single person living alone is considered as a separate family. A household is composed of 1 or more families in the same housing unit and have a common arrangement of food preparation and consumption.

Table 3.3.2 Employment by Major Industry Group and Class Worker, 1994

| Major Industry Group | Household Population 15 years and Over Who Worked | Class of Worker | | | | | | | Not Reported |
|-----------------------------------|---|--|---|---|---|----------------------------------|---|--|--------------|
| | | Worked for Private Household (Domestic Services) | Worked for Private Business/ Enterprise/ Farm | Worked for Government/ Government Corporation | Self-employed Without Any Paid Employee | Employer In Own Farm or Business | Work With Pay in Own Family Operated Farm or Business | Work Without Pay in Own Family Operated Farm or Business | |
| Agriculture, Hunting and Forestry | 171,377 | 137 | 29,043 | 171 | 70,796 | 24,181 | 1,388 | 45,449 | 206 |
| Fishing | 12,877 | 10 | 2,094 | 4 | 8,049 | 838 | 146 | 1,701 | 33 |
| Mining and Quarrying | 314 | 2 | 258 | 0 | 34 | 4 | 2 | 12 | 2 |
| Manufacturing | 6,962 | 29 | 4,317 | 7 | 1,844 | 442 | 40 | 257 | 26 |
| Electricity, Gas and Water | 390 | 0 | 323 | 20 | 34 | 9 | 2 | 1 | 1 |
| Construction | 6,181 | 41 | 5,594 | 83 | 391 | 44 | 5 | 13 | 10 |
| Trade | 21,226 | 34 | 4,555 | 11 | 12,487 | 2,074 | 155 | 1,885 | 28 |
| Services | 45,181 | 10,732 | 14,635 | 13,563 | 5,431 | 1,145 | 88 | 517 | 65 |
| Not Stated | 476 | 14 | 106 | 9 | 55 | 11 | 3 | 64 | 214 |
| Provincial Total | 265,984 | 10,999 | 60,930 | 13,868 | 99,121 | 28,748 | 1,829 | 49,899 | 585 |

Source: NSO, Davao del Sur

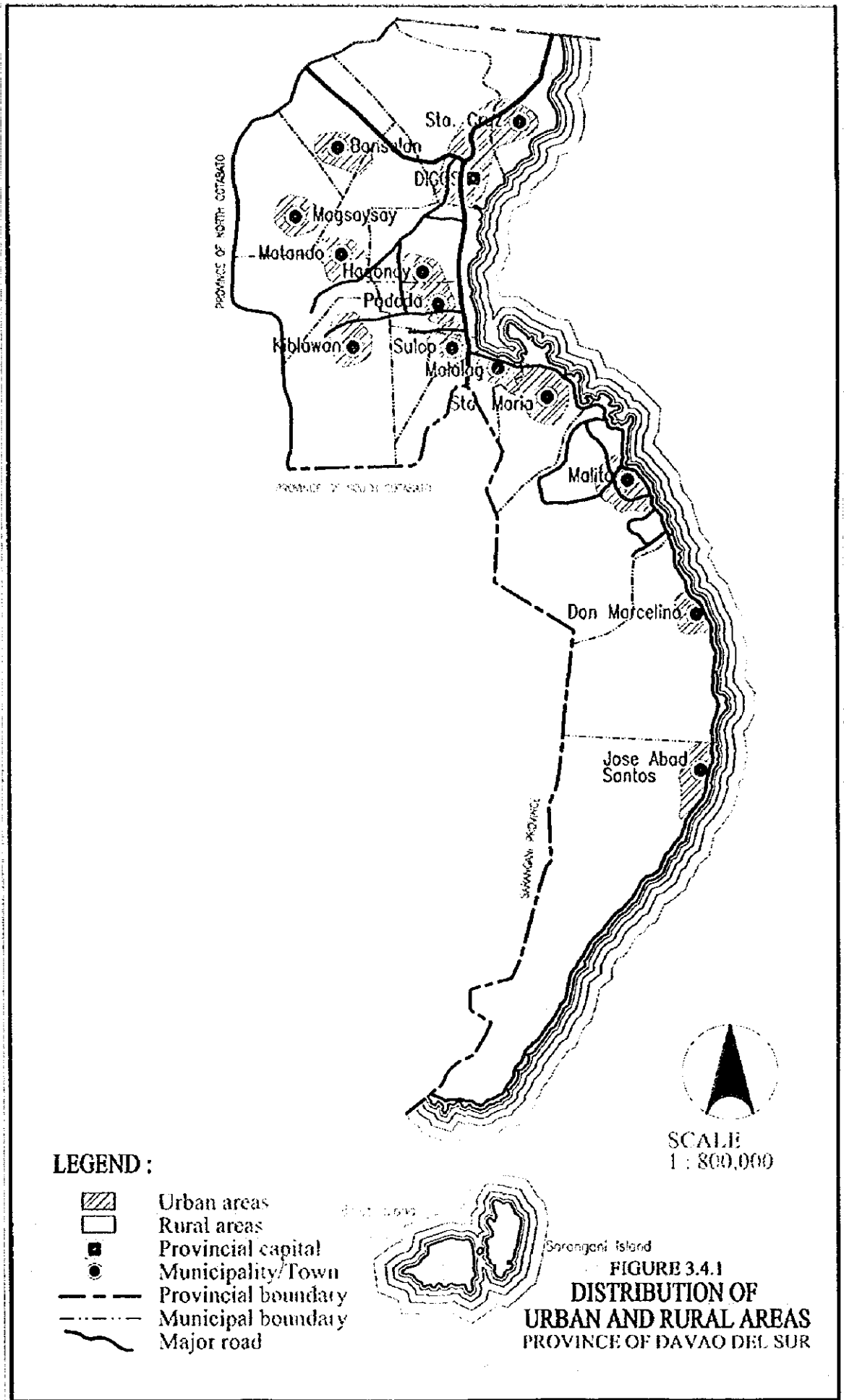
3.3.3 Education

Table 3.3.3 Household Population by Highest Education Attainment

| Highest Educational Attainment | Household Population 5 years Old and Over | Age Group | | | | |
|--------------------------------|---|----------------|---------------|---------------|---------------|----------------|
| | | Below 20 | 20 - 24 | 25 - 29 | 30 - 34 | 35 and Over |
| No Grade Completed | 79,257 | 48,704 | 2,742 | 2,964 | 2,584 | 22,263 |
| Pre-school | 17,755 | | 114 | 101 | 76 | 636 |
| Elementary | | | | | | |
| 1st - 4th Grade | 165,342 | 95,072 | 10,202 | 8,928 | 7,655 | 43,485 |
| 5th - 7th Grade | 138,458 | 42,936 | 15,050 | 15,590 | 13,943 | 50,939 |
| High School | | | | | | |
| Undergraduate | 78,089 | 35,445 | 10,573 | 8,465 | 6,903 | 16,703 |
| Graduate | 44,406 | 8,203 | 9,569 | 7,482 | 6,043 | 13,109 |
| Post Secondary | | | | | | |
| Undergraduate | 827 | 178 | 288 | 154 | 63 | 144 |
| Graduate | 2,903 | 230 | 1,011 | 688 | 290 | 684 |
| College Undergraduate | 25,355 | 4,707 | 6,189 | 3,727 | 3,339 | 7,373 |
| Academic Degree Holder | 21,499 | 103 | 3,167 | 4,076 | 3,874 | 10,279 |
| Post-Baccalaureate | 592 | 1 | 43 | 73 | 72 | 403 |
| Not Stated | 9,057 | 6,082 | 551 | 446 | 375 | 1,603 |
| Total | 583,540 | 241,661 | 59,499 | 52,694 | 45,217 | 167,621 |

Source: NSO

3.4 Population
 3.4.2 Classification of Urban and Rural Areas



DISK NAME : DAVAO DEL SUR(DISK1)
 FILENAME : DAVAO-DELSUR(DISTRIBUTION)

3.5 Health Status

Table 3.5.1 Number and Ratio of Population to Health Facilities and/or Medical Practitioners

| Health Facilities and Practitioners | Davao del Sur | | Philippines | |
|-------------------------------------|---------------|----------|-------------|----------|
| | Number | Ratio | Number | Ratio |
| Health Facilities | | | | |
| Hospital | 7 | 1/99,514 | 1,700 | 1/40,206 |
| Rural Health Units | 16 | 1/43,537 | 2,335 | 1/29,272 |
| Barangay Health Station | 168 | 1/4,146 | 11,646 | 1/5,869 |
| Practitioners | | | | |
| Doctors | 52 | 1/13,396 | 6,913 | 1/9,887 |
| Nurses | 80 | 1/8,707 | 8,849 | 1/7,724 |
| Midwives | 185 | 1/3,765 | 10,831 | 1/6,311 |
| Dentists | 32 | 1/21,769 | 1,895 | 1/36,068 |
| Others Medical Practitioner | 34 | 1/20,488 | | N/A |

3.6 Environmental Pollution

3.6.2 Water Pollution

Table 3.6.1 Types of Drainage

| Type | Length (km) |
|---|-------------|
| Drainage Main | |
| Open Channel (with concrete and rubble masonry) | 2.982 |
| Open Ditches and Unlined Laterals | 1.072 |
| Reinforced Concrete Circular Pipes | 2.795 |
| Street Gutters | .778 |
| Outfalls to rivers from drainage mains | |

Table 3.6.2 DENR Water Quality Criteria/Water Usage and Classification for Fresh Water

| PARAMETER | UNIT | CLASS AA | CLASS A | CLASS B | CLASS C | CLASS D |
|---|-----------|----------|----------|----------|---------|---------|
| Color | PCU | 15 | 50 | (C) | (C) | (C) |
| Temperature ^(b) (max. rise in deg. Celsius) | °C rise | -- | 3 | 3 | 3 | 3 |
| pH (range) | | 6.5-8.5 | 6.5-8.5 | 6.5-8.5 | 6.5-8.5 | 6.0-9.0 |
| Dissolve Oxygen ^(b) (Minimum) | %satn | 70 | 70 | 70 | 60 | 40 |
| | mg/L | 5.0 | 5.0 | 5.0 | 5.0 | 3.0 |
| 5-Day 20°C BOD | mg/L | 1 | 5 | 5 | 7(10) | 10(15) |
| Total Suspended Solids | mg/L | 25 | 50 | | | |
| Total Dissolved Solids | mg/L | 500 | 1,000 | -- | -- | 1,000 |
| Surfactants (MBAS) | mg/L | nil | 0.2(0.5) | 0.3(0.5) | 0.5 | -- |
| Oil/Grease (Petroleum Ether Extract) | mg/L | nil | 1 | 1 | 2 | 5 |
| Nitrate as Nitrogen | mg/L | 1 | 10 | NR | 10 | -- |
| Phosphate as Phosphorous | mg/L | nil | 0.1 | 0.2 | 0.4 | -- |
| Phenolic Substances as Phenols | mg/L | nil | 0.002 | 0.005 | 0.02 | -- |
| Total Coliforms | MPN/100mL | 50 | 1,000 | 1,000 | 5,000 | -- |
| or Fecal Coliforms | MPN/100mL | 20 | 100 | 200 | -- | -- |
| Chloride as Cl | mg/l | 250 | 250 | -- | 350 | -- |
| Copper | mg/L | 1 | 1 | -- | 0.05 | -- |

Notes:

Class AA - Public Water Supply Class I. Intended for waters having watersheds which are uninhabited and otherwise protected and which require only approved disinfection in order to meet the national standards for drinking water.

Class A - Public Water Supply Class II. Sources of water supply that will require complete treatment (coagulation, sedimentation, filtration and disinfection) in order to meet drinking water standards.

Class B - Recreational Water Class I. For primary contact recreation such as bathing, swimming, skin diving, etc. (particularly for tourism purposes).

Class C - Fishery Water for the propagation and growth of fish and other aquatic resources; recreational (for boating, etc.); industrial water supply class I for manufacturing processes after treatment.

Class D - For agriculture, irrigation, livestock watering, etc.; for industrial water supply class II (cooling, etc.); other inland waters by their quality, belong to this specification.



4. EXISTING FACILITIES AND SERVICE COVERAGE

4.1 Water Supply

4.1.3 Level III Systems

Table 4.1.1 Details on Existing Level III Systems

Sheet 1 of 4

| Name of Municipality | Name of Operating Body | Level III Services | | | | | | | | |
|-------------------------|------------------------|----------------------------|-----------|-----------|-----------------------------|--------------|---------------|-----------------------------|---------------|---------------|
| | | Number of Barangays Served | | | Number of Households Served | | | Number of Population Served | | |
| | | Urban | Rural | Total | Urban | Rural | Total | Urban | Rural | Total |
| Bansalan | Bansalan WD | 1 | 10 | 11 | 1,307 | 1,527 | 2,834 | 6,247 | 2,513 | 13,760 |
| Digos (Capital) | Digos WD | 1 | 6 | 7 | 6,224 | 750 | 6,974 | 30,498 | 3,735 | 34,233 |
| Hagonoy | Hagonoy WD | 1 | | 1 | 346 | | 346 | 1,370 | | 1,370 |
| | Hagonoy RWSA | 1 | | 1 | 376 | | 376 | 1,869 | | 1,869 |
| | Municipal Total | 2 | | 2 | 722 | | 722 | 3,239 | | 3,239 |
| Kiblawan | Kiblawan WD | 1 | | 1 | 426 | | 426 | 2,049 | | 2,049 |
| Magsaysay | Magsaysay RWSA | 1 | | 1 | 304 | | 304 | 1,578 | | 1,578 |
| | Tacul WWA | | 1 | 1 | | 190 | 190 | | 967 | 967 |
| | Municipal Total | 1 | 1 | 2 | 304 | 190 | 494 | 1,578 | 967 | 2,545 |
| Malalag | Malalag WWS | 1 | 2 | 3 | 159 | 225 | 384 | 918 | 1,150 | 2,068 |
| Malita | Malita RWSA | 1 | 1 | 2 | 1,100 | 450 | 1,550 | 5,623 | 2,342 | 7,965 |
| Matanao | Manga WWA | | 1 | 1 | | 18 | 18 | | 94 | 94 |
| | Matanao RWSA | 1 | | 1 | 430 | | 430 | 2,141 | | 2,141 |
| | Municipal Total | 1 | 1 | 2 | 430 | 18 | 448 | 2,141 | 94 | 2,235 |
| Padada | Padada WSC | 1 | 4 | 5 | 1,273 | 127 | 1,400 | 6,492 | 899 | 7,391 |
| | Piape RWSA | | 3 | 3 | | 90 | 90 | | 671 | 671 |
| | Municipal Total | 1 | 7 | 8 | 1,273 | 217 | 1,490 | 6,492 | 1,570 | 8,062 |
| Santa Cruz | Sta. Cruz MWW | 2 | 1 | 3 | 1,665 | 204 | 1,869 | 8,475 | 1,026 | 9,501 |
| Santa Maria | Sta. Maria RWSA | 1 | | 1 | 370 | | 370 | 1,883 | | 1,883 |
| Sulop | Sulop RWSA | 1 | 4 | 5 | 150 | 200 | 350 | 900 | 1,000 | 1,900 |
| PW4SP Study Area | | 14 | 33 | 47 | 14,130 | 3,781 | 17,911 | 70,043 | 19,397 | 89,440 |

Table 4.1.1 Details on Existing Level III Systems

Sheet 2 of 4

| Name of Municipality | Name of Operating Body | Level II Services | | | | | | | | |
|-------------------------|------------------------|--------------------------|-----------|------------|-----------------------------|------------|------------|-----------------------------|--------------|--------------|
| | | Number of Public Faucets | | | Number of Households Served | | | Number of Population Served | | |
| | | Urban | Rural | Total | Urban | Rural | Total | Urban | Rural | Total |
| Bansalan | Bansalan WD | | | | | | | | | |
| Digos (Capital) | Digos WD | | | | | | | | | |
| Hagonoy | Hagonoy WD | 411 | | 411 | 284 | | 284 | 1,422 | | 1,422 |
| | Hagonoy RWSA | | | | | | | | | |
| | Municipal Total | 411 | | 411 | 284 | | 284 | 1,422 | | 1,422 |
| Kiblawan | Kiblawan WD | | | | | | | | | |
| Magsaysay | Magsaysay RWSA | | | | | | | | | |
| | Tacul WWA | | | | | | | | | |
| | Municipal Total | | | | | | | | | |
| Malalag | Malalag WWS | | | | | | | | | |
| Malita | Malita RWSA | | 24 | 24 | | 120 | 120 | | 600 | 600 |
| Matanao | Manga WWA | | | | | | | | | |
| | Matanao RWSA | | | | | | | | | |
| | Municipal Total | | | | | | | | | |
| Padada | Padada WSC | | | | | | | | | |
| | Piape RWSA | | 41 | 41 | | 205 | 205 | | 1,025 | 1,025 |
| | Municipal Total | | 41 | 41 | | 205 | 205 | | 1,025 | 1,025 |
| Santa Cruz | Sta. Cruz MWW | | | | | | | | | |
| Santa Maria | Sta. Maria RWSA | | | | | | | | | |
| Sulop | Sulop RWSA | | | | | | | | | |
| PW4SP Study Area | | 411 | 65 | 476 | 284 | 325 | 609 | 1,422 | 1,625 | 3,047 |

Table 4.1.1 Details on Existing Level III Systems

Sheet 3 of 4

| Name of Municipality | Name of Operating Body | Water Sources | | | Consumptions | | | |
|-------------------------|------------------------|-------------------|-----------|------------------------|-----------------|---------------|------------|--------------|
| | | Type ¹ | Number | Production (cu. m/day) | Domestic | Institutional | Commercial | Industrial |
| | | | | | (cu. m/day) | | | |
| Bansalan | Bansalan WD | DW/SP | 3 | 2,877 | 1,814.00 | | | 15.00 |
| Digos (Capital) | Digos WD | DW | 1 | 5,170 | 4,050.00 | | | 66.00 |
| Hagonoy | Hagonoy WD | DW | 1 | 280 | 265.00 | | | 2.00 |
| | Hagonoy RWSA | DW | 1 | 173 | 173.00 | | | |
| | Municipal Total | | 2 | 453 | 438.00 | | | 2.00 |
| Kiblawan | Kiblawan WD | DW | 1 | 933 | 210.00 | | | |
| Magsaysay | Magsaysay RWSA | DW | 1 | 184 | 158.00 | | | |
| | Tacul WWA | SP | 1 | 100 | 97.00 | | | |
| | Municipal Total | | 2 | 284 | 255.00 | | | |
| Malalag | Malalag WWS | DW | 2 | 200 | 200.00 | | | |
| Malita | Malita RWSA | DW | 3 | 1,494 | 636.00 | 3.00 | | 10.00 |
| Matanao | Manga WWA | DW | 1 | | 10.00 | | | |
| | Matanao RWSA | DW | 1 | 132 | 132.00 | | | |
| | Municipal Total | | 2 | 132 | 142.00 | | | |
| Padada | Padada WSC | DW | 1 | 1,488 | 740.00 | | | |
| | Piape RWSA | DW | 1 | 70 | 127.00 | | | |
| | Municipal Total | | 2 | 1,558 | 867.00 | | | |
| Santa Cruz | Sta. Cruz MWW | SP | 1 | 1,091 | 950.00 | | | |
| Santa Maria | Sta. Maria RWSA | DW | 1 | 220 | 212.63 | | | |
| Sulop | Sulop RWSA | DW/SP | 2 | 653 | 190.00 | | 0.82 | |
| PW4SP Study Area | | | 22 | 15,065 | 9,964.63 | 3.82 | | 93.00 |

Note: 1. Type of Water Source; DW - Deep Well, DgW - Dug Well, Surf - Surface Water (River), SP - Spring, and IG - Infiltration Gallery

Table 4.1.1 Details on Existing Level III Systems

Sheet 4 of 4

| Municipality | Operating Body | Consumers | | | | | | | | | | | |
|-------------------------|------------------------|----------------------------|------------|-------------------------|------------|-------------------------|---------------|----------------------|-----------|----------------------|-------------|--|--------------|
| | | Domestic House Connections | | Domestic Public Faucets | | Institutional Consumers | | Commercial Consumers | | Industrial Consumers | | | |
| | | Connection Metered | Unmetered | Connection Metered | Unmetered | Connection Metered | Unmetered | Connection Metered | Unmetered | Connection Metered | Unmetered | | |
| Bansalan | Bansalan WD | 2,684 | | 1,814.00 | | | | | 150 | | 15.00 | | |
| Digos | Digos WD | 6,269 | | 4,050.00 | | | 50 | | 655 | | 66.00 | | |
| Hagonoy | Hagonoy WD | 56 | 6 | 200.00 | 411 | | 65.00 | | 15 | | 2.00 | | |
| | Hagonoy RWSA | 376 | | 173.00 | | | | | | | | | |
| | Municipal Total | | 6 | 373.00 | 411 | | 65.00 | | 15 | | 2.00 | | |
| Kiblawan | Kiblawan WD | 426 | | 210.00 | | | | | | | | | |
| Magsaysay | Magsaysay RWSA | 304 | | 158.00 | | | | | | | | | |
| | Tacul WWA | | 190 | 97.00 | | | | | | | | | |
| | Municipal Total | | 190 | 255.00 | | | | | | | | | |
| Malalag | Malalag WWS | 384 | | 200.00 | | | | | | | | | |
| Malita | Malita RWSA | 1,205 | | 600.00 | 24 | | 36.00 | 27 | 3 | 93 | 10.00 | | |
| Matanao | Manga WWA | | | 10.00 | | | | | | | | | |
| | Matanao RWSA | 430 | | 132.00 | | | | | | | | | |
| | Municipal Total | | | 142.00 | | | | | | | | | |
| Padada | Padada WSC | 1,400 | | 740.00 | | | | | | | | | |
| | Piape RWSA | 90 | | 67.00 | 41 | | 60.00 | | | | | | |
| | Municipal Total | | | 807.00 | 41 | | 60.00 | | | | | | |
| Santa Cruz | Sta. Cruz MWW | 341 | 464 | 950.00 | | | | | | | | | |
| Santa Maria | Sta. Maria RWSA | 376 | | 212.63 | | | | | | | | | |
| Sulop | Sulop RWSA | 343 | | 190.00 | | | | 2 | | 0.82 | | | |
| PW4SP Study Area | | 14,683 | 660 | 9,803.63 | 476 | | 161.00 | 79 | | 3.82 | 913 | | 93.00 |

4.1.4 Level II Systems

Table 4.1.2 Details on Existing Level II Systems
Sheet 1 of 6

| Name of Municipality | Name of Operating Body | Water Source | | | Existing Facilities | | | | |
|-------------------------|------------------------|--------------|----------------|---------------------------------|-------------------------------------|---------------------|--------------------------|-------------------------------------|--------------------------|
| | | Type | Number | Discharge (m ³ /day) | Length of Transmission Line (meter) | Reservoir Number | Volume (m ³) | Length of Distribution Line (meter) | Number of Public Faucets |
| Bansalan | Alegre/Bitaug RWS | SP | 1 | 259.2 | 7,800 | 4 | 56.7 | 8,150 | 27 |
| | Alemwasa | SP | 1 | 302.4 | 11,424 | 2 | 110.0 | 4,000 | 38 |
| | Dawusa | SP | 1 | 216.0 | 7,980 | 5 | 75.8 | 8,220 | 29 |
| | Municipal Total | | 3 | 777.6 | 27,204 | 11 | 242.5 | 20,370 | 94 |
| Digos (Capital) | Kapatagan RWSA | SP | 1 | 323.6 | | 1 | | | 47 |
| | Tres de Mayo | DW | 1 | 345.6 | | 1 | | | 30 |
| | Municipal Total | | 2 | 669.2 | | 2 | | | 77 |
| Don Marcelino | Brgy. Council | SP | 1 | 1,296.0 | 33,300 | 7 | 70,000.0 | | 38 |
| Hagonoy | Aplaya RWSA | DW | 1 | | | 1 | 40.0 | | 5 |
| | Sinayawan RWSA | DW | 1 | 24.0 | | 1 | 3.0 | | 3 |
| | Municipal Total | | 2 | 24.0 | | 2 | 43.0 | | 8 |
| Kiblawan | Brgy. Council, Kibl | SP | 1 | 518.4 | | 4 | | | 67 |
| Magsaysay | Acacia RWSA | SP | 1 | 28.8 | | 1 | 4.5 | | 10 |
| | Bacungan RWSA | SP | 1 | 336.0 | 3,500 | 1 | 3.0 | | 6 |
| | Balnate RWSA | SP | 1 | 11.2 | 1,500 | 1 | 4.5 | | 3 |
| | Glamang RWSA | SP | 1 | 182.4 | 3,500 | 1 | 27.0 | | 8 |
| | Malawanit RWSA | SP | 2 | | 5,000 | 1 | 4.0 | | 8 |
| | New Opon RWSA | SP | 2 | 216.0 | 3,750 | 2 | 4.0 | | 12 |
| | San Miguel RWSA | SP | 2 | 72.0 | 4,700 | 2 | 37.0 | | 18 |
| | Simon RWSA | SP | 1 | 7.2 | 4,000 | 1 | 4.5 | | 9 |
| | Upper Bala RWSA | SP | 4 | 64.8 | 17,000 | 2 | 9.0 | | 17 |
| Municipal Total | | 15 | 918.4 | 42,950 | 12 | 97.5 | | 91 | |
| Malalag | Ibo RWSA | SP | 1 | 604.8 | | 1 | | | 10 |
| Malita | Bolita RWSA | SP | 1 | 518.4 | | 1 | | | 15 |
| | Brgy. Council, Mali | SP | 4 | 604.8 | | 4 | | | 35 |
| | Ticulon RWSA | SP | 1 | 432.0 | | 1 | | | 13 |
| | Municipal Total | | 7 | 2,160.0 | | 7 | | | 73 |
| Matanao | Bangkal RWSA | SP | 1 | 495.9 | | 1 | | | 57 |
| | Cabiligan WWA | DW | 1 | 61.2 | 1,900 | 1 | 5.0 | | 8 |
| | Saboy WWA | SP | 1 | | 1,700 | 1 | 14.0 | 600 | 9 |
| | Municipal Total | | 3 | 557.1 | 3,600 | 3 | 19.0 | 600 | 74 |
| Santa Cruz | Astorga RWSA | DW | 1 | | | 1 | 38.0 | | 23 |
| | Bato RWSA | SP | 1 | 432.0 | | 1 | | | 15 |
| | Brgy. Council, Sant | SP | 1 | 432.0 | | 1 | | | 10 |
| | Darong RWSA | SP | 1 | 345.6 | | 1 | | | 15 |
| | Idong RWSA | SP | 1 | 432.0 | | 1 | | | 12 |
| | McFlia RWSA | SP | 1 | 518.4 | | 1 | | | 5 |
| | Rizal RWSA | SP | 1 | 518.4 | | 1 | | | 6 |
| | Salidacon RWSA | SP | 1 | 345.6 | | 1 | | | 5 |
| | Sinuron RWSA | SP | 1 | 518.4 | | 1 | | | 5 |
| Municipal Total | | 9 | 3,542.4 | | 9 | 38.0 | | 96 | |
| Santa Maria | Pongpong RWSA | SP | 1 | 604.8 | | 1 | | | 18 |
| Sarangani | Sarangani RWSA | SP | 1 | 1,036.8 | | 1 | | | 26 |
| PW4SP Study Area | | | 45 | 12,104.7 | 107,054 | 59 | 70,440.0 | 20,970 | 662 |

Note: 1. Type of Water Source, DW - Deep Well, DgW - Dug Well, Surf - Surface Water (River), SP - Spring, and IG - Infiltration Gallery

Table 4.1.2 Details on Existing Level II Systems
Sheet 2 of 6

| Name of Municipality | Name of Operating Body | Number of Barangay Served | | | Number of Households Served | | | Number of Population Served | | |
|-------------------------|---------------------------|---------------------------|-----------|-----------|-----------------------------|--------------|--------------|-----------------------------|---------------|---------------|
| | | Urban | Rural | Total | Urban | Rural | Total | Urban | Rural | Total |
| Bansalan | Alegre/Ditaug RWS | | 2 | 2 | | 135 | 135 | | 810 | 810 |
| | Alemwasa | | 2 | 2 | | 190 | 190 | | 1,140 | 1,140 |
| | Dawusa | | 1 | 1 | | 170 | 170 | | 1,015 | 1,015 |
| | Municipal Total | | 5 | 5 | | 495 | 495 | | 2,965 | 2,965 |
| Digos (Capital) | Kapatagan RWSA | | 1 | 1 | | 294 | 294 | | 1,470 | 1,470 |
| | Tres de Mayo | | 1 | 1 | | 272 | 272 | | 1,360 | 1,360 |
| | Municipal Total | | 7 | 7 | | 1,061 | 1,061 | | 5,795 | 5,795 |
| Don Marcelino | Brgy. Council | 1 | 5 | 6 | 180 | 250 | 430 | 934 | 1,318 | 2,252 |
| Hagonoy | Aplaya RWSA | 1 | | 1 | 50 | | 50 | 250 | | 250 |
| | Sinayawan RWSA | | 1 | 1 | | 30 | 30 | | 150 | 150 |
| | Municipal Total | 1 | 1 | 2 | 50 | 30 | 80 | 250 | 150 | 400 |
| Kiblawan | Brgy. Council, Kiblawan | | 4 | 4 | | 466 | 466 | | 2,423 | 2,423 |
| Magsaysay | Acacia RWSA | | 1 | 1 | | 67 | 67 | | 347 | 347 |
| | Bacungan RWSA | | 1 | 1 | | 80 | 80 | | 400 | 400 |
| | Balnate RWSA | | 1 | 1 | | 20 | 20 | | 103 | 103 |
| | Glamang RWSA | | 1 | 1 | | 80 | 80 | | 398 | 398 |
| | Malawanit RWSA | | 1 | 1 | | 80 | 80 | | 400 | 400 |
| | New Opon RWSA | | 1 | 1 | | 72 | 72 | | 366 | 366 |
| | San Miguel RWSA | | 1 | 1 | | 120 | 120 | | 610 | 610 |
| | Simon RWSA | | 1 | 1 | | 45 | 45 | | 233 | 233 |
| | Upper Bala RWSA | | 1 | | | 102 | 102 | | 519 | 519 |
| | Municipal Total | | 9 | 8 | | 666 | 666 | | 3,376 | 3,376 |
| Malalag | Ibo RWSA | | 1 | 1 | | 69 | 69 | | 353 | 353 |
| Malita | Bohla RWSA | | 1 | 1 | | 145 | 145 | | 783 | 783 |
| | Brgy. Council, Malita | | 4 | 4 | | 350 | 350 | | 1,750 | 1,750 |
| | Ticulon RWSA | | 1 | 1 | | 80 | 80 | | 403 | 403 |
| | Municipal Total | | 6 | 6 | | 575 | 575 | | 2,936 | 2,936 |
| Matanao | Bangkal RWSA | | 1 | 1 | | 434 | 434 | | 2,252 | 2,252 |
| | Cabligan WWA | | 1 | 1 | | 48 | 48 | | 249 | 249 |
| | Saboy WWA | | 1 | 1 | | 54 | 54 | | 280 | 280 |
| | Municipal Total | | 3 | 3 | | 536 | 536 | | 2,781 | 2,781 |
| Santa Cruz | Astorga RWSA | | 1 | 1 | | 143 | 143 | | 720 | 720 |
| | Bato RWSA | | 1 | 1 | | 137 | 137 | | 690 | 690 |
| | Brgy. Council, Santa Cruz | | 1 | 1 | | 98 | 98 | | 494 | 494 |
| | Darong RWSA | | 1 | 1 | | 130 | 130 | | 655 | 655 |
| | Idong RWSA | | 1 | 1 | | 128 | 128 | | 645 | 645 |
| | Melilia RWSA | | 1 | 1 | | 44 | 44 | | 222 | 222 |
| | Rizal RWSA | | 1 | 1 | | 60 | 60 | | 302 | 302 |
| | Saliducon RWSA | | 1 | 1 | | 37 | 37 | | 186 | 186 |
| | Sinuron RWSA | | 1 | 1 | | 30 | 30 | | 151 | 151 |
| | Municipal Total | | 9 | 9 | | 807 | 807 | | 4,065 | 4,065 |
| Santa Maria | Pongpong RWSA | | 1 | 1 | | 180 | 180 | | 938 | 938 |
| Sarangani | Sarangani RWSA | 1 | | 1 | 260 | | 260 | 1,300 | | 1,300 |
| PW4SP Study Area | | 3 | 46 | 48 | 490 | 4,640 | 5,130 | 2,484 | 24,135 | 26,619 |

Table 4.1.2 Details on Existing Level II Systems
Sheet 3 of 6

| Name of Municipality | Name of Operating Body | Supply (Hrs/day) | Dirty Water ¹ | Taste or Smell ² | Service Conditions During Dry Season | | | | Supply Water Pressure (% of total) | |
|----------------------|---------------------------|------------------|--------------------------|-----------------------------|--------------------------------------|----------------|------------|--------|------------------------------------|------------|
| | | | | | Power Failure | Pump Breakdown | Pipe Burst | Others | Adequate | Inadequate |
| Bansalan | Alegre/Bitaug RWSA | 24 | O | G | | | | | | |
| | Alemwasa | 24 | O | G | | | | | | |
| | Dawasa | 24 | O | G | | | | | | |
| Digos (Capital) | Kapatagan RWSA | 24 | | G | | | | | | |
| | Tres de Mayo | 24 | | G | | | | | | |
| | Brgy. Council | 24 | | G | | | | | | |
| Don Marcelino | Aplaya RWSA | 24 | | G | 2 | | | | 90 | 10 |
| | Sinayawan RWSA | 12 | | G | 2 | 1 | | | 100 | |
| Magsaysay | Brgy. Council, Kiblawan | | | | | | | | | |
| | Acacia RWSA | 8 | | | | | | | 50 | 50 |
| | Bacungan RWSA | 24 | | G | | | | | 90 | 10 |
| | Balmate RWSA | 8 | | | | | | | 70 | 30 |
| | Giamang RWSA | 24 | | | | | | | 100 | |
| | Malawmit RWSA | | | | G | | | | 80 | 20 |
| | New Open RWSA | | | | | | | | | |
| | San Miguel RWSA | 24 | | G | | | | | 95 | 5 |
| | Simon RWSA | 24 | | G | | | | | 90 | 10 |
| | Upper Bala RWSA | 6 | | G | | | | | 80 | 20 |
| Malalag Malita | Ibo RWSA | 24 | | G | | | | | | |
| | Bohita RWSA | 24 | | G | | | | | | |
| | Brgy. Council, Malita | 24 | | G | | | | | | |
| | Ticulon KWSA | 24 | | G | | | | | | |
| | Bangka RWSA | 24 | | G | | | | | | |
| Matnaw | Cabiligan WWA | 6 | | | 2 | | | | | |
| | Saboy WWA | 24 | | | | | | | | |
| | Astorga RWSA | | | S | | | | | 90 | 10 |
| Santa Cruz | Bato RWSA | 24 | | G | | | | | | |
| | Brgy. Council, Santa Cruz | 24 | | G | | | | | | |
| | Darong RWSA | 24 | | G | | | | | | |
| | Idong RWSA | 24 | | G | | | | | | |
| | Melilla RWSA | 24 | | G | | | | | | |
| | Riza RWSA | 24 | | G | | | | | | |
| | Salduena RWSA | 24 | | G | | | | | | |
| | Sinuron RWSA | 24 | | G | | | | | | |
| | Pongpony RWSA | 24 | | G | | | | | | |
| | Sarangani RWSA | 24 | | G | | | | | | |

Note: 1. Dirty Water: B - Everyday, OW - Once a week, OM - Once a month, O - Occasional.
2. Taste or Smell: G - Good taste, S - Salty, W - Wood taste, M - Metallic taste, O - Others.

Table 4.1.2 Details on Existing Level II Systems
Sheet 4 of 6

| Name of Municipality | Name of Operating Body | Technical Staff | Administrative Staff | Collector | Total Number of Staff | Number of Staff | | | |
|----------------------|---------------------------|-----------------|----------------------|-----------|-----------------------|-----------------|---------|-----|-------------|
| | | | | | | Local Tradesman | MEO/CEO | DEO | Others |
| Bansalan | Alegre/Binaug RWSA | | | 2 | 7 | | | | Comm. |
| | Alemwasa | | | 7 | 7 | | | | Comm. |
| | Dawusa | | | 4 | 7 | | | | Comm. |
| Digos (Capital) | Kapitagan RWSA | | | | | ✓ | | | |
| | Tres de Mayo | | | | | ✓ | | | |
| Don Marcelino | Brig. Council | | | | | ✓ | | | |
| | Aplaya RWSA | 7 | | 1 | 8 | ✓ | | | |
| Hagonoy | Sinayawan RWSA | | | 1 | 8 | ✓ | | | |
| | Brig. Council, Kiblawan | | | | | | | | |
| Kiblawan | Acacia RWSA | | | 1 | | | | | Assn. Mem. |
| | Bacungan RWSA | | | 3 | | | | | |
| | Balmate RWSA | | | 1 | | | | | |
| | Giamang RWSA | | | 2 | | | | | |
| | Malawmit RWSA | | | 2 | | | | | Assn. Mem. |
| | New Opon RWSA | | | 1 | | ✓ | | | |
| | San Miguel RWSA | | | 18 | 7 | ✓ | | | |
| | Simon RWSA | | | 9 | | | | | Assn. Mem. |
| | Upper Bala RWSA | | | 7 | | ✓ | | | |
| | Ibo RWSA | | | | | ✓ | | | |
| Matlag | Bollia RWSA | | | | | ✓ | | | |
| | Brig. Council, Malita | | | | | ✓ | | | |
| Matanao | Ticulon RWSA | | | | | ✓ | | | |
| | Bangka RWSA | | | | | | | | |
| | Cabiligan WWA | | 1 | 1 | 2 | | | | Gold's Pump |
| | Saboy WWA | | | 2 | 2 | ✓ | | | |
| Santa Cruz | Astorga RWSA | | | | | ✓ | | | |
| | Bato RWSA | | | | | ✓ | | | |
| | Brig. Council, Santa Cruz | | | | | ✓ | | | |
| | Darong RWSA | | | | | ✓ | | | |
| | Idong RWSA | | | | | ✓ | | | |
| | Melitia RWSA | | | | | ✓ | | | |
| | Rizal RWSA | | | | | ✓ | | | |
| | Saliducan RWSA | | | | | ✓ | | | |
| Santa Maria | Simuron RWSA | | | | | ✓ | | | |
| | Pongpong RWSA | | | | | ✓ | | | |
| | Sarangani RWSA | | | | | ✓ | | | |

Table 4.1.2 Details on Existing Level II Systems
Sheet 5 of 6

| Name of Municipality | Name of Operating Body | Expenditures | | | | | | Tariff | | | | Average Collection Efficiency (%) |
|----------------------|---------------------------|--------------|-------|--------------------|-----------|---------|----------------|--------|-------------------------|---------------|--------------------|-----------------------------------|
| | | Annual | Wages | Fuel, Chem. Mat'l. | Transport | Repairs | Loan Repayment | Other | Consumer Payment (Year) | Cost per Pail | Cost per Cu. Meter | |
| Bansalan | Alegre/Bitang RWSA | | | | | | | | 0.5 | | 5 | 90 |
| | Alemwasa | | | | | | | | | | 5 | 90 |
| Digos (Capital) | Dawasa | | | | | | | | | | 5 | 90 |
| | Kapangan RWSA | | | | | | | | 4 | | 25 | |
| Don Marcelino | Tres de Mayo | | | | | | | | | | | |
| | Brgy. Council | | | | | | | 25.20 | | | 12 | 81 |
| Hagonoy | Aplaya RWSA | | | | | | | 2.00 | | | 20 | 100 |
| | Sinayawan RWSA | | | | | | | | | | | |
| Kiblawan | Brgy. Council, Kiblawan | | | | | 0.50 | | | | | 10 | 40 |
| | Acacia RWSA | | | | | | | | | | | 50 |
| Magsaysay | Bacungan RWSA | | | | | 1.20 | | | | | 10 | 40 |
| | Balnate RWSA | | | | | | | | | | 5 | |
| | Giandang RWSA | | | | | 0.25 | | | | | | 55 |
| | Malawanit RWSA | | | | | | | 2.06 | | | | 80 |
| | New Opon RWSA | | | | | 3.00 | | | | | 5 | 20 |
| | San Miguel RWSA | | | | | 1.60 | | | | | 10 | 80 |
| | Simon RWSA | | | | | 1.00 | | | | | 5 | 75 |
| | Upper Bala RWSA | | | | | | | | | | 25 | |
| Malalag | Ibo RWSA | | | | | | | | | | | |
| | Bolila RWSA | | | | | | | | | | | |
| Malita | Brgy. Council, Malita | | | | | | | | | | | |
| | Ticulon RWSA | | | | | | | | | | 35 | |
| Matnabo | Bangka RWSA | | | | | | | | | | 30 | 100 |
| | Cabigan WWA | | 0.60 | | | 2.00 | | | | | 10 | 100 |
| Santa Cruz | Saboy WWA | | | | | | | | | | 35 | 20 |
| | Astorga RWSA | | | | | | | | | | 15 | |
| | Bato RWSA | | | | | | | | | | 15 | |
| | Brgy. Council, Santa Cruz | | | | | | | | | | 15 | |
| | Darong RWSA | | | | | | | | | | 15 | |
| | Idong RWSA | | | | | | | | | | 15 | |
| | Melilla RWSA | | | | | | | | | | 15 | |
| | Rizal RWSA | | | | | | | | | | 15 | |
| | Salducon RWSA | | | | | | | | | | 15 | |
| | Sinuron RWSA | | | | | | | | | | 20 | |
| Santa Maria | Pongpong RWSA | | | | | | | | | | 15 | |
| Sarangani | Sarangani RWSA | | | | | | | | | | 15 | |

Table 4.1.2 Details on Existing Level II Systems
Sheet 6 of 6

| Name of Municipality | Name of Operating Body | Billings | | | Revenues | | | | | | |
|----------------------|---------------------------|--------------------------------|------------------------|----------------------------|--------------------|--------|-------------------------------------|------------------------------------|--------------------------------------|-----------|-------|
| | | Annual Billing (Pesos/Year) | Public Faucet Consumer | House Connection Consumers | Expected Subsidies | Others | Annual Income (P '000.00 / year) | Payment by Public Faucet Consumers | Payment by House Connection Consumer | Subsidies | Other |
| Bansalan | Alegre/Braug RWSA | | | | | | 12.00 | | | | |
| | Alemwasa | | | | | | 10.26 | | | | |
| | Dawasa | | | | | | 10.00 | | | | |
| Digos (Capital) | Kapitagan RWSA | | | | | | | | | | |
| | Tres de Mayo | | | | | | | | | | |
| Don Marcelino | Brgy. Council | | | | | | | | | | |
| | Aplaya RWSA | | | | | | | 24.00 | 24.00 | | |
| Hagonoy | Sinayawan RWSA | 24,000 | 24.00 | | | | | | | | |
| | Brgy. Council, Kiblawan | | | | | | | | | | |
| Kiblawan | Acacia RWSA | 8,040 | 8.04 | | | | | | | | |
| | Bacungan RWSA | 26,400 | | | | | | | | | |
| Magsaysay | Balnate RWSA | 2,400 | | | | | | | | | |
| | Glanang RWSA | | | | | | | | | | |
| | Malawant RWSA | 6,900 | | | | | | | | | |
| | New Opon RWSA | 3,600 | | | | | | | | | |
| | San Miguel RWSA | | | | | | | | | | |
| | Simon RWSA | 9,600 | | | | | | | | | |
| Malalag | Upper Baja RWSA | 6,120 | 6.12 | | | | | | 4.59 | | |
| | Ibo RWSA | | | | | | | | | | |
| Malita | Bolila RWSA | | | | | | | | | | |
| | Brgy. Council, Malita | | | | | | | | | | |
| Matanao | Ticulen RWSA | | | | | | | | | | |
| | Bangkal RWSA | | | | | | | | | | |
| | Cabiligan WWA | 39,600 | | | | | | | | | 39.60 |
| | Saboy WWA | 36,360 | | | | | | | | | 36.36 |
| Santa Cruz | Astorga RWSA | | | | | | | | | | |
| | Bato RWSA | | | | | | | | | | |
| | Brgy. Council, Santa Cruz | | | | | | | | | | |
| | Darong RWSA | | | | | | | | | | |
| | Idong RWSA | | | | | | | | | | |
| | Melilla RWSA | | | | | | | | | | |
| | Rizal RWSA | | | | | | | | | | |
| | Saliducon RWSA | | | | | | | | | | |
| Santa Maria | Simuron RWSA | | | | | | | | | | |
| | Pongpong RWSA | | | | | | | | | | |
| Sarangani | Sarangani RWSA | | | | | | | | | | |

4.1.5 Level I Facilities

Safe and Unsafe Classification of Level I Facilities

The PHO conducted water quality analysis of samples collected from public and private Level I wells and classified into safe and unsafe sources/facilities.

The results of water quality analysis indicate that about 46% of the existing wells as a provincial average are classified as unsafe sources as shown in Table 4.1.3. Since the total number of shallow wells (1,927) occupies 37% of the total number of Level I facilities (5,238) and deep well is rarely exposed to contamination by seepage of wastewater, the PHO analysis results (unsafe percentages) were applied to classify all shallow wells (drilled and driven) into safe and unsafe sources.

The unsafe percentage of provincial average is applied, common to urban and rural areas both for public and private shallow wells. While, those sources other than shallow wells are classified based on the questionnaire. Table 4.1.4 (a) presents the number of Level I facilities by safe and unsafe classification.

Table 4.1.3 Level I Safe and Unsafe Percentage

| Name of Municipality | Unsafe (%) |
|----------------------|-----------------|
| Bansalan | 70 |
| Digos | 32 |
| Don Marcelino | 57 |
| Hagonoy | 41 |
| Jose Abad Santos | 91 |
| Kiblawan | 38 |
| Magsaysay | 46 |
| Malalag | 73 |
| Malita | 62 |
| Matanao | 50 |
| Padada | 56 |
| Santa Cruz | 65 |
| Santa Maria | 68 |
| Sarangani | No Shallow Well |
| Sulop | 40 |
| Provincial Total | 46 |

Public and Private Level I Facilities for Rural Water Supply

Table 4.1.4 (b) represents the number and proportion of Level I facilities by public and private sources for rural water supply in the province. Public and private facilities cover

89% and 11% of the safe water sources, respectively. Developed springs share is 15% of the total public facilities.

Table 4.1.4 (b) Public and Private Level I Facilities for Rural Water Supply

| Facility | Public Source | | Private Source | | Total |
|------------------|---------------|-----------|----------------|-----------|--------------|
| | Number | (%) | Number | (%) | |
| Deep Well | 1,734 | 100 | 0 | 0 | 1,734 |
| Shallow Well | 439 | 60 | 291 | 40 | 730 |
| Developed Spring | 374 | 100 | 0 | 0 | 374 |
| Others | 0 | 0 | 10 | 100 | 10 |
| Total | 2,547 | 89 | 301 | 11 | 2,848 |

4.1.6 Water Supply Service Coverage

Estimation of Service Coverage in Terms of Safe, Unsafe and Unserved Classification

Through review of the number of water supply systems/facilities and the number of households that were derived from the questionnaire, it was found that a great number of unserved population would be accounted as a balance between the total population and the population with any levels of services (including unsafe facilities) in application of the service level standard for Level I and II. To come up with more realistic service coverage, the unserved population in 1997 was referred to the profile in 1990 population census data, "Households by Main Source of Drinking Water and City/Municipality." The rest of the population, those who are not served by Level III and/or II systems were considered to be covered by shared or own use of Level I facilities. The calculation procedure is as follows:

- Service percentage/population of Level III and Level II systems was estimated based on the questionnaire survey results.
- Percentage of unserved population (using undeveloped spring, lake, river, etc.) reported in the 1990 population census was assumed to have unchanged up to the present.
- Population covered by Level I facilities was calculated as the balance between the total population, and the population served by Level III & II systems and the unserved population.
- Level I population coverage was estimated with the assumption that 50% of the private facilities was shared by neighbors.

Unserved population and the population covered by Level I facilities are presented in Table 4.1.4. Table 4.1.5 presents the overall population covered by Level I facilities and the number of households.

Number of households per shared public/private facility ranges mostly from 6 to 25 households, which is considered within a reasonable level, and which is more or less equivalent to the service level standard of Level I public facility (15 households/facility).

Percentage of Population Covered by Level I Public Facility for Rural Water Supply

Grasping the current percentage of population covered by public facilities would be a useful information in considering to what extent the additional population to be covered by public facilities in the future plan. This takes into account that the major facilities would be Level I especially for rural water supply in the future.

Population covered by Level I public facility for rural water supply is calculated as a balance between total population served by Level I facilities and population covered by private facilities. Thus, it is estimated at 232,200 persons or 94% of the total population is covered by public Level I facilities as shown in Tables 4.1.6 (a) and 4.1.6 (b).

Table 4.1.5 Estimation of Unserved Population by Municipality

| Name of Municipality | Area | Population and Household (1997) | | Served Population | | | Unserved Population | | | Population Covered by Level I Facilities | |
|-----------------------------|-------|---------------------------------|---------|-------------------|----------|---------|----------------------------|---------------------|----|--|---------|
| | | Number | HH Size | Level III | Level II | Total | Unserved Percentage (1995) | | | | |
| | | | | | | | Total No. of HHs | No. of Unserved HHs | % | | |
| Bansalan | Urban | 6,697 | 4.80 | 6,247 | - | 6,247 | 1,375 | 387 | 28 | 450 | - |
| | Rural | 42,918 | 4.93 | 7,513 | 2,965 | 10,478 | 8,582 | 2,159 | 25 | 10,797 | 21,643 |
| | Total | 49,615 | 4.91 | 13,760 | 2,965 | 16,725 | 9,957 | 2,546 | 26 | 11,247 | 21,643 |
| Digos (Capital) | Urban | 41,886 | 4.92 | 30,498 | - | 30,498 | 8,219 | 295 | 4 | 1,503 | 9,885 |
| | Rural | 68,436 | 5.00 | 3,735 | 2,830 | 6,565 | 13,211 | 1,647 | 12 | 8,532 | 53,339 |
| | Total | 110,322 | 4.97 | 34,233 | 2,830 | 37,063 | 21,430 | 1,942 | 9 | 10,035 | 63,224 |
| Don Marcelino | Urban | 11,181 | 5.19 | - | 934 | 934 | 418 | - | - | - | 10,247 |
| | Rural | 20,227 | 5.27 | - | 1,318 | 1,318 | 5,275 | 4,623 | 88 | 17,727 | 1,182 |
| | Total | 31,408 | 5.26 | - | 2,252 | 2,252 | 5,693 | 4,623 | 81 | 17,727 | 11,429 |
| Hagonoy | Urban | 6,751 | 4.97 | 3,239 | 1,672 | 4,911 | 2,988 | 4 | 0 | 9 | 1,831 |
| | Rural | 36,595 | 5.01 | - | 150 | 150 | 5,371 | 20 | 0 | 136 | 36,309 |
| | Total | 43,346 | 4.99 | 3,239 | 1,822 | 5,061 | 8,359 | 24 | 0 | 145 | 38,140 |
| Jose Abad Santos (Trinidad) | Urban | 5,167 | 5.21 | - | - | - | 1,430 | 879 | 61 | 3,176 | 1,991 |
| | Rural | 43,642 | 5.15 | - | - | - | 7,843 | 4,901 | 62 | 27,271 | 16,371 |
| | Total | 48,809 | 5.16 | - | - | - | 9,273 | 5,780 | 62 | 30,447 | 18,362 |
| Kiblawan | Urban | 5,925 | 4.81 | 2,049 | - | 2,049 | 800 | 449 | 56 | 3,325 | 551 |
| | Rural | 32,006 | 5.20 | - | 2,423 | 2,423 | 6,254 | 2,505 | 40 | 12,820 | 16,763 |
| | Total | 37,931 | 5.16 | 2,049 | 2,423 | 4,472 | 7,054 | 2,954 | 42 | 16,145 | 17,314 |
| Magsaysay | Urban | 6,737 | 5.19 | 1,578 | - | 1,578 | 1,263 | 292 | 23 | 1,558 | 3,601 |
| | Rural | 36,393 | 5.09 | 967 | 3,376 | 4,343 | 6,961 | 1,629 | 23 | 8,517 | 23,533 |
| | Total | 43,130 | 5.10 | 2,545 | 3,376 | 5,921 | 8,224 | 1,921 | 23 | 10,074 | 27,135 |
| Malalag | Urban | 4,599 | 4.85 | 918 | - | 918 | 918 | 181 | 20 | 907 | 2,774 |
| | Rural | 27,124 | 5.11 | 1,150 | 353 | 1,503 | 5,141 | 1,010 | 20 | 5,329 | 20,292 |
| | Total | 31,723 | 5.07 | 2,068 | 353 | 2,421 | 6,059 | 1,191 | 20 | 6,236 | 23,066 |
| Malita | Urban | 12,897 | 5.16 | 5,623 | - | 5,623 | 2,452 | 1,340 | 55 | 7,048 | 226 |
| | Rural | 72,123 | 5.04 | 2,342 | 3,133 | 5,475 | 14,060 | 7,471 | 53 | 38,324 | 28,324 |
| | Total | 85,020 | 5.05 | 7,965 | 3,133 | 11,098 | 16,512 | 8,811 | 53 | 45,372 | 28,550 |
| Matanao | Urban | 4,010 | 4.99 | 2,141 | - | 2,141 | 783 | 233 | 30 | 1,193 | 676 |
| | Rural | 40,615 | 5.19 | 94 | - | 94 | 7,626 | 1,297 | 17 | 6,908 | 33,613 |
| | Total | 44,625 | 5.17 | 2,235 | - | 2,235 | 8,409 | 1,530 | 18 | 8,101 | 34,289 |
| Padada | Urban | 9,297 | 5.11 | 6,492 | - | 6,492 | 1,770 | 180 | 10 | 945 | 1,860 |
| | Rural | 13,704 | 4.87 | 1,570 | 1,025 | 2,595 | 2,736 | 1,001 | 37 | 5,014 | 6,095 |
| | Total | 23,001 | 4.97 | 8,062 | 1,025 | 9,087 | 4,506 | 1,181 | 26 | 5,959 | 7,955 |
| Santa Cruz | Urban | 20,787 | 5.10 | 8,475 | - | 8,475 | 3,945 | 492 | 12 | 2,592 | 9,720 |
| | Rural | 40,326 | 5.04 | 1,026 | - | 1,026 | 7,749 | 2,743 | 35 | 14,275 | 25,025 |
| | Total | 61,113 | 5.06 | 9,501 | - | 9,501 | 11,694 | 3,235 | 28 | 16,867 | 34,745 |
| Santa Maria | Urban | 6,738 | 5.16 | 1,883 | - | 1,883 | 1,274 | 425 | 33 | 2,248 | 2,607 |
| | Rural | 36,264 | 5.21 | - | - | - | 6,786 | 2,367 | 35 | 12,649 | 23,615 |
| | Total | 43,002 | 5.20 | 1,883 | - | 1,883 | 8,060 | 2,792 | 35 | 14,897 | 26,222 |
| Sarangani | Urban | 2,746 | 5.29 | - | - | - | 503 | 139 | 28 | 759 | 1,987 |
| | Rural | 14,447 | 5.37 | - | - | - | 2,607 | 778 | 30 | 4,311 | 10,136 |
| | Total | 17,193 | 5.35 | - | - | - | 3,110 | 917 | 29 | 5,070 | 12,123 |
| Sulop | Urban | 5,792 | 4.92 | 900 | - | 900 | 1,159 | 148 | 13 | 740 | 4,152 |
| | Rural | 20,565 | 4.95 | 1,000 | - | 1,000 | 4,092 | 826 | 20 | 4,151 | 15,414 |
| | Total | 26,357 | 4.95 | 1,900 | - | 1,900 | 5,251 | 974 | 19 | 4,891 | 19,566 |
| PW4SP Study Area | Urban | 151,210 | 5.02 | 70,043 | 2,606 | 72,649 | 29,297 | 5,414 | 19 | 26,454 | 52,107 |
| | Rural | 545,385 | 5.08 | 19,397 | 17,573 | 36,970 | 104,294 | 34,977 | 34 | 176,760 | 331,655 |
| | Total | 696,595 | 5.07 | 89,440 | 20,179 | 109,619 | 133,591 | 40,421 | 30 | 203,214 | 383,762 |

Table 4.1.6 (a) Estimation of Population Covered by Safe and Unsafe Source by Municipality

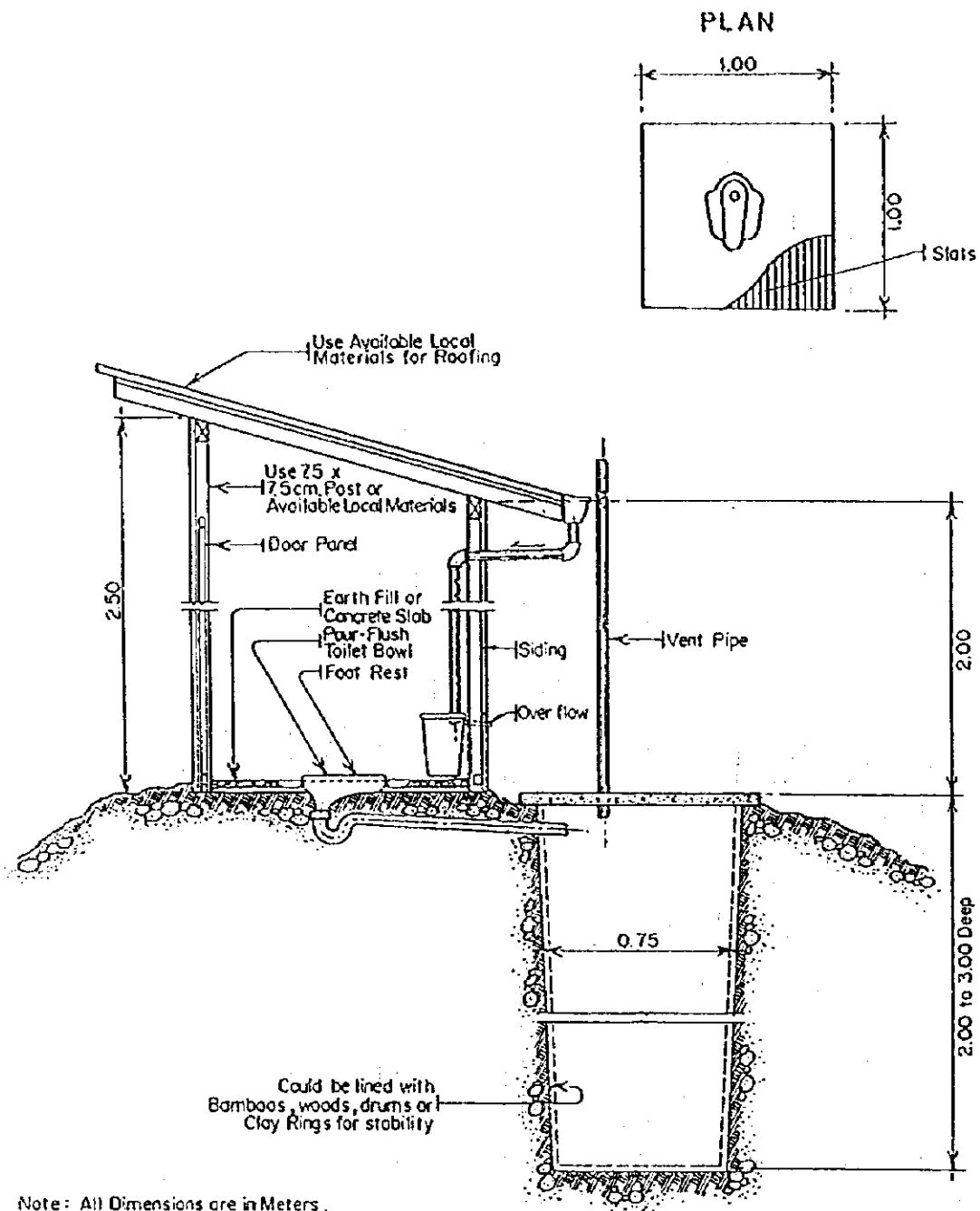
| Name of Municipality | Area | Pop. Covered by Level 1 Facilities | Number of Facilities | | | | | | Coverage of Own Use | | | | | |
|-----------------------------|-------|------------------------------------|----------------------|--------|-------|--------------------|--------|-------|------------------------------|--------|-------|------------------------|--------|-------|
| | | | Public Facilities | | | Private Facilities | | | Number of Private Facilities | | | (1) Population Covered | | |
| | | | Safe | Unsafe | Total | Safe | Unsafe | Total | Safe | Unsafe | Total | Safe | Unsafe | Total |
| Bansalan | Urban | 6 | 1 | 7 | 2 | 34 | 35 | 17 | 18 | 4 | 80 | 84 | | |
| | Rural | 50 | 5 | 55 | 2 | 34 | 35 | 17 | 18 | 4 | 80 | 84 | | |
| | Total | 56 | 6 | 62 | 4 | 68 | 73 | 34 | 36 | 70 | 164 | 178 | | |
| Digos (Capital) | Urban | 49 | 21 | 70 | 27 | 18 | 45 | 13 | 32 | 65 | 157 | | | |
| | Rural | 528 | 41 | 569 | 37 | 27 | 64 | 22 | 55 | 109 | 268 | | | |
| | Total | 577 | 62 | 639 | 64 | 44 | 108 | 35 | 87 | 174 | 425 | | | |
| Don Marcelino | Urban | 18 | 6 | 24 | 3 | 41 | 44 | 20 | 20 | 40 | 171 | | | |
| | Rural | 111 | 17 | 128 | 10 | 56 | 66 | 28 | 33 | 61 | 255 | | | |
| | Total | 129 | 23 | 152 | 14 | 96 | 110 | 48 | 53 | 101 | 426 | | | |
| Hagonoy | Urban | 93 | 7 | 100 | 5 | 16 | 21 | 8 | 17 | 44 | 84 | | | |
| | Rural | 36,509 | 10 | 264 | 18 | 161 | 179 | 10 | 10 | 20 | 104 | | | |
| | Total | 38,140 | 17 | 274 | 23 | 177 | 200 | 18 | 19 | 37 | 188 | | | |
| Jose Abad Santos (Trinidad) | Urban | 26 | 11 | 37 | 3 | 65 | 68 | 32 | 32 | 64 | 169 | | | |
| | Rural | 66 | 25 | 91 | 3 | 65 | 68 | 2 | 50 | 52 | 274 | | | |
| | Total | 92 | 36 | 128 | 6 | 130 | 136 | 34 | 82 | 116 | 443 | | | |
| Kiblawan | Urban | 551 | 2 | 553 | 5 | 13 | 18 | 7 | 101 | 108 | 486 | | | |
| | Rural | 16,763 | 18 | 148 | 54 | 148 | 202 | 74 | 101 | 175 | 529 | | | |
| | Total | 17,314 | 20 | 156 | 59 | 161 | 220 | 81 | 110 | 142 | 387 | | | |
| Magsaysay | Urban | 3,601 | 3 | 59 | 1 | 3 | 4 | 1 | 2 | 3 | 10 | | | |
| | Rural | 23,533 | 3 | 235 | 20 | 37 | 57 | 19 | 29 | 48 | 188 | | | |
| | Total | 27,135 | 6 | 264 | 21 | 40 | 61 | 20 | 31 | 56 | 198 | | | |
| Mablaog | Urban | 2,774 | 11 | 44 | 8 | 24 | 32 | 4 | 12 | 16 | 78 | | | |
| | Rural | 20,292 | 35 | 155 | 10 | 38 | 48 | 9 | 31 | 40 | 194 | | | |
| | Total | 23,066 | 46 | 199 | 18 | 62 | 80 | 13 | 42 | 54 | 272 | | | |
| Malita | Urban | 326 | 52 | 378 | 7 | 29 | 35 | 3 | 15 | 18 | 90 | | | |
| | Rural | 28,124 | 12 | 269 | 15 | 196 | 211 | 98 | 106 | 204 | 544 | | | |
| | Total | 28,450 | 64 | 307 | 22 | 212 | 226 | 101 | 111 | 112 | 534 | | | |
| Maanabo | Urban | 676 | 3 | 16 | 4 | 10 | 14 | 5 | 7 | 10 | 25 | | | |
| | Rural | 33,613 | 46 | 235 | 41 | 66 | 106 | 33 | 53 | 86 | 163 | | | |
| | Total | 34,289 | 49 | 251 | 45 | 76 | 120 | 38 | 60 | 96 | 188 | | | |
| Padada | Urban | 1,860 | 26 | 286 | 22 | 27 | 49 | 14 | 23 | 37 | 125 | | | |
| | Rural | 6,095 | 32 | 120 | 22 | 27 | 49 | 14 | 23 | 37 | 125 | | | |
| | Total | 7,955 | 58 | 146 | 44 | 54 | 98 | 28 | 46 | 74 | 250 | | | |
| Santa Cruz | Urban | 9,720 | 13 | 41 | 1 | 16 | 17 | 0 | 8 | 9 | 42 | | | |
| | Rural | 25,023 | 28 | 109 | 7 | 65 | 72 | 33 | 36 | 69 | 184 | | | |
| | Total | 34,743 | 41 | 150 | 8 | 81 | 89 | 41 | 45 | 86 | 226 | | | |
| Santa Maria | Urban | 2,607 | 40 | 54 | 8 | 35 | 43 | 4 | 18 | 22 | 90 | | | |
| | Rural | 23,615 | 136 | 382 | 23 | 78 | 101 | 39 | 51 | 90 | 261 | | | |
| | Total | 26,222 | 176 | 436 | 31 | 113 | 144 | 43 | 70 | 113 | 351 | | | |
| Sarangani | Urban | 1,987 | 35 | 35 | 5 | 106 | 111 | 3 | 53 | 56 | 280 | | | |
| | Rural | 10,136 | 35 | 53 | 5 | 106 | 111 | 3 | 53 | 56 | 280 | | | |
| | Total | 12,123 | 70 | 88 | 10 | 212 | 222 | 6 | 106 | 112 | 560 | | | |
| Sulop | Urban | 4,152 | 11 | 17 | 1 | 40 | 41 | 1 | 11 | 12 | 54 | | | |
| | Rural | 15,414 | 52 | 224 | 36 | 60 | 96 | 18 | 30 | 48 | 148 | | | |
| | Total | 19,566 | 63 | 241 | 37 | 100 | 136 | 19 | 41 | 60 | 202 | | | |
| PW4P Study Area | Urban | 42,107 | 438 | 562 | 87 | 250 | 337 | 44 | 125 | 169 | 653 | | | |
| | Rural | 331,655 | 2,547 | 3,019 | 301 | 1,019 | 1,320 | 509 | 660 | 1,169 | 3,332 | | | |
| | Total | 383,762 | 3,005 | 3,581 | 388 | 1,269 | 1,657 | 194 | 634 | 829 | 4,185 | | | |

Table 4.1.6 (b) Estimation of Population Covered by Safe and Unsafe Source by Municipality

| Name of Municipality | Area | Coverage of Shared Well | | | | | | | | | | Level Coverage (1) + (2) | | | | | | | | | |
|-----------------------------|-------|--|---------|---------|--------|--------|----------------------|---------|-------|---------|-------|--------------------------------|-------|--------|-------|--------|-------|--------|-------|--------|-------|
| | | (2) Population Covered by Private and Public | | | | | Number of Households | | | | | No. of HHs per Shared Facility | | Safe | | Unsafe | | Total | | | |
| | | Unsafe | | Total | | Total | | Safe | | Unsafe | | Total | | Pop. | | % | | Pop. | | % | |
| | | Unsafe | Total | Unsafe | Total | Unsafe | Total | Unsafe | Total | Unsafe | Total | Unsafe | Total | Unsafe | Total | Unsafe | Total | Unsafe | Total | Unsafe | Total |
| Bansalan | Urban | 15,180 | 6,379 | 21,559 | 1,294 | 4,373 | 60 | 15,184 | 35 | 6,459 | 15 | 21,643 | 50 | | | | | | | | |
| | Rural | 15,180 | 3,079 | 18,259 | 1,294 | 4,373 | 55 | 15,184 | 31 | 6,459 | 13 | 21,643 | 44 | | | | | | | | |
| | Total | 30,360 | 9,458 | 39,818 | 2,588 | 8,746 | 115 | 30,368 | 66 | 12,918 | 28 | 43,286 | 94 | | | | | | | | |
| Digos (Capital) | Urban | 6,711 | 3,083 | 9,794 | 623 | 1,987 | 21 | 6,778 | 16 | 3,107 | 7 | 9,885 | 24 | | | | | | | | |
| | Rural | 46,975 | 6,207 | 53,182 | 1,241 | 10,636 | 17 | 47,067 | 69 | 6,273 | 9 | 53,339 | 78 | | | | | | | | |
| | Total | 53,686 | 9,270 | 62,956 | 1,864 | 12,622 | 38 | 53,844 | 49 | 9,379 | 9 | 63,224 | 57 | | | | | | | | |
| Don Marcelino | Urban | 4,460 | 3,073 | 7,533 | 859 | 1,952 | 42 | 4,469 | 40 | 5,778 | 52 | 10,247 | 92 | | | | | | | | |
| | Rural | 852 | 1,011 | 1,863 | 102 | 192 | 1 | 879 | 4 | 303 | 1 | 1,182 | 6 | | | | | | | | |
| | Total | 5,312 | 4,084 | 9,396 | 961 | 2,144 | 43 | 5,348 | 44 | 6,081 | 53 | 11,429 | 98 | | | | | | | | |
| Hagonoy | Urban | 1,672 | 1,811 | 3,483 | 336 | 364 | 4 | 1,684 | 25 | 2,516 | 7 | 36,309 | 59 | | | | | | | | |
| | Rural | 33,749 | 2,475 | 36,224 | 404 | 7,230 | 28 | 33,793 | 92 | 2,663 | 6 | 38,140 | 89 | | | | | | | | |
| | Total | 35,421 | 4,286 | 39,707 | 740 | 7,594 | 32 | 35,477 | 82 | 5,322 | 13 | 43,800 | 98 | | | | | | | | |
| Jose Abad Santos (Trinidad) | Urban | 8,787 | 7,406 | 16,193 | 1,706 | 3,144 | 25 | 8,795 | 20 | 5,775 | 17 | 16,371 | 38 | | | | | | | | |
| | Rural | 8,341 | 18,088 | 26,429 | 1,890 | 3,508 | 19 | 9,799 | 20 | 8,603 | 18 | 18,402 | 38 | | | | | | | | |
| | Total | 17,128 | 25,284 | 42,422 | 3,596 | 6,652 | 44 | 18,594 | 40 | 14,378 | 35 | 34,773 | 76 | | | | | | | | |
| Kiblawan | Urban | 278 | 307 | 585 | 45 | 105 | 6 | 290 | 5 | 261 | 4 | 551 | 9 | | | | | | | | |
| | Rural | 10,551 | 5,726 | 16,277 | 2,079 | 1,101 | 13 | 10,681 | 33 | 6,082 | 19 | 16,763 | 52 | | | | | | | | |
| | Total | 11,829 | 6,033 | 17,862 | 2,124 | 1,146 | 19 | 11,762 | 46 | 6,343 | 23 | 17,526 | 61 | | | | | | | | |
| Magsaysay | Urban | 3,352 | 230 | 3,582 | 646 | 692 | 11 | 3,555 | 50 | 246 | 4 | 3,801 | 55 | | | | | | | | |
| | Rural | 24,804 | 1,954 | 26,758 | 4,214 | 4,594 | 17 | 21,502 | 59 | 2,031 | 5 | 23,533 | 65 | | | | | | | | |
| | Total | 28,156 | 2,284 | 30,440 | 4,860 | 5,288 | 28 | 23,504 | 68 | 2,277 | 9 | 25,786 | 70 | | | | | | | | |
| Malabag | Urban | 1,715 | 481 | 2,196 | 354 | 556 | 9 | 1,735 | 38 | 2,031 | 5 | 27,133 | 63 | | | | | | | | |
| | Rural | 14,165 | 6,010 | 20,175 | 2,772 | 3,948 | 22 | 14,190 | 52 | 6,103 | 22 | 20,292 | 75 | | | | | | | | |
| | Total | 15,880 | 6,491 | 22,371 | 3,126 | 4,504 | 31 | 15,925 | 50 | 7,142 | 23 | 23,065 | 73 | | | | | | | | |
| Malita | Urban | 136 | 136 | 272 | 26 | 26 | 0 | 150 | 1 | 76 | 1 | 226 | 2 | | | | | | | | |
| | Rural | 19,968 | 2,812 | 22,780 | 3,962 | 1,550 | 15 | 20,006 | 25 | 8,318 | 12 | 28,324 | 39 | | | | | | | | |
| | Total | 20,104 | 2,948 | 23,052 | 4,018 | 1,576 | 15 | 20,156 | 24 | 8,394 | 10 | 28,550 | 34 | | | | | | | | |
| Matambo | Urban | 441 | 200 | 641 | 88 | 128 | 6 | 451 | 11 | 225 | 6 | 876 | 17 | | | | | | | | |
| | Rural | 24,422 | 8,927 | 33,349 | 4,706 | 6,426 | 22 | 24,523 | 60 | 9,090 | 22 | 33,613 | 83 | | | | | | | | |
| | Total | 24,863 | 9,127 | 33,990 | 4,794 | 6,554 | 21 | 24,974 | 56 | 9,215 | 21 | 34,259 | 77 | | | | | | | | |
| Padada | Urban | 1,860 | 1,860 | 3,720 | 364 | 364 | 14 | 1,860 | 20 | 1,894 | 14 | 6,095 | 44 | | | | | | | | |
| | Rural | 4,146 | 1,824 | 5,970 | 851 | 374 | 8 | 4,202 | 31 | 1,894 | 8 | 6,095 | 44 | | | | | | | | |
| | Total | 6,006 | 3,684 | 9,690 | 1,215 | 748 | 9 | 6,064 | 36 | 3,788 | 22 | 12,190 | 58 | | | | | | | | |
| Santa Cruz | Urban | 5,562 | 4,110 | 9,672 | 806 | 1,897 | 38 | 5,568 | 27 | 4,151 | 20 | 9,720 | 47 | | | | | | | | |
| | Rural | 16,612 | 8,230 | 24,842 | 3,296 | 1,633 | 34 | 16,630 | 41 | 8,396 | 21 | 25,026 | 62 | | | | | | | | |
| | Total | 22,174 | 12,340 | 34,514 | 4,102 | 3,526 | 72 | 22,198 | 36 | 12,547 | 21 | 34,745 | 59 | | | | | | | | |
| Santa Maria | Urban | 1,533 | 963 | 2,496 | 297 | 484 | 6 | 1,554 | 23 | 1,053 | 16 | 2,607 | 39 | | | | | | | | |
| | Rural | 14,052 | 9,302 | 23,354 | 2,697 | 4,483 | 10 | 14,111 | 39 | 9,504 | 26 | 23,615 | 65 | | | | | | | | |
| | Total | 15,585 | 10,265 | 25,651 | 2,994 | 4,966 | 10 | 15,665 | 36 | 10,558 | 25 | 26,232 | 61 | | | | | | | | |
| Surangani | Urban | 1,987 | 1,987 | 3,974 | 376 | 376 | 4 | 1,987 | 72 | 1,987 | 72 | 3,974 | 72 | | | | | | | | |
| | Rural | 4,200 | 5,642 | 9,842 | 782 | 1,051 | 20 | 4,213 | 29 | 5,923 | 41 | 10,136 | 70 | | | | | | | | |
| | Total | 6,187 | 7,629 | 13,784 | 1,158 | 1,427 | 24 | 6,200 | 25 | 7,910 | 46 | 14,110 | 71 | | | | | | | | |
| Sulop | Urban | 2,265 | 1,909 | 4,174 | 556 | 824 | 22 | 2,289 | 40 | 1,864 | 32 | 4,152 | 72 | | | | | | | | |
| | Rural | 10,767 | 4,411 | 15,178 | 891 | 3,066 | 11 | 10,856 | 53 | 4,558 | 22 | 15,414 | 75 | | | | | | | | |
| | Total | 13,032 | 6,320 | 19,352 | 1,259 | 3,890 | 13 | 13,144 | 50 | 6,422 | 24 | 19,566 | 74 | | | | | | | | |
| PVAASP Study Area | Urban | 30,928 | 20,329 | 51,257 | 3,995 | 10,120 | 14 | 31,145 | 21 | 20,962 | 14 | 52,107 | 34 | | | | | | | | |
| | Rural | 245,878 | 82,444 | 328,322 | 48,563 | 16,160 | 18 | 246,650 | 45 | 85,025 | 16 | 331,675 | 61 | | | | | | | | |
| | Total | 276,806 | 102,773 | 379,579 | 52,558 | 26,280 | 32 | 277,795 | 40 | 105,987 | 15 | 387,782 | 55 | | | | | | | | |

4.2 Sanitation and Sewerage

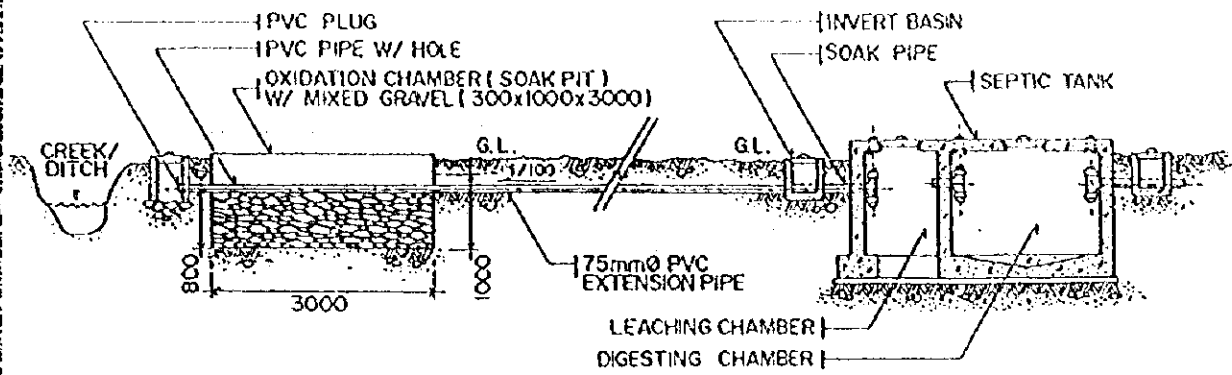
4.2.2 Types of Facilities and Definition of Service Level Standard



Note: All Dimensions are in Meters.

FIGURE 4.2.1
STANDARD STRUCTURE OF PRIVATE TOILET FACILITY

SOURCE : DEPARTMENT OF HEALTH



LAYOUT PLAN OF HIGH GROUND WATER SITE

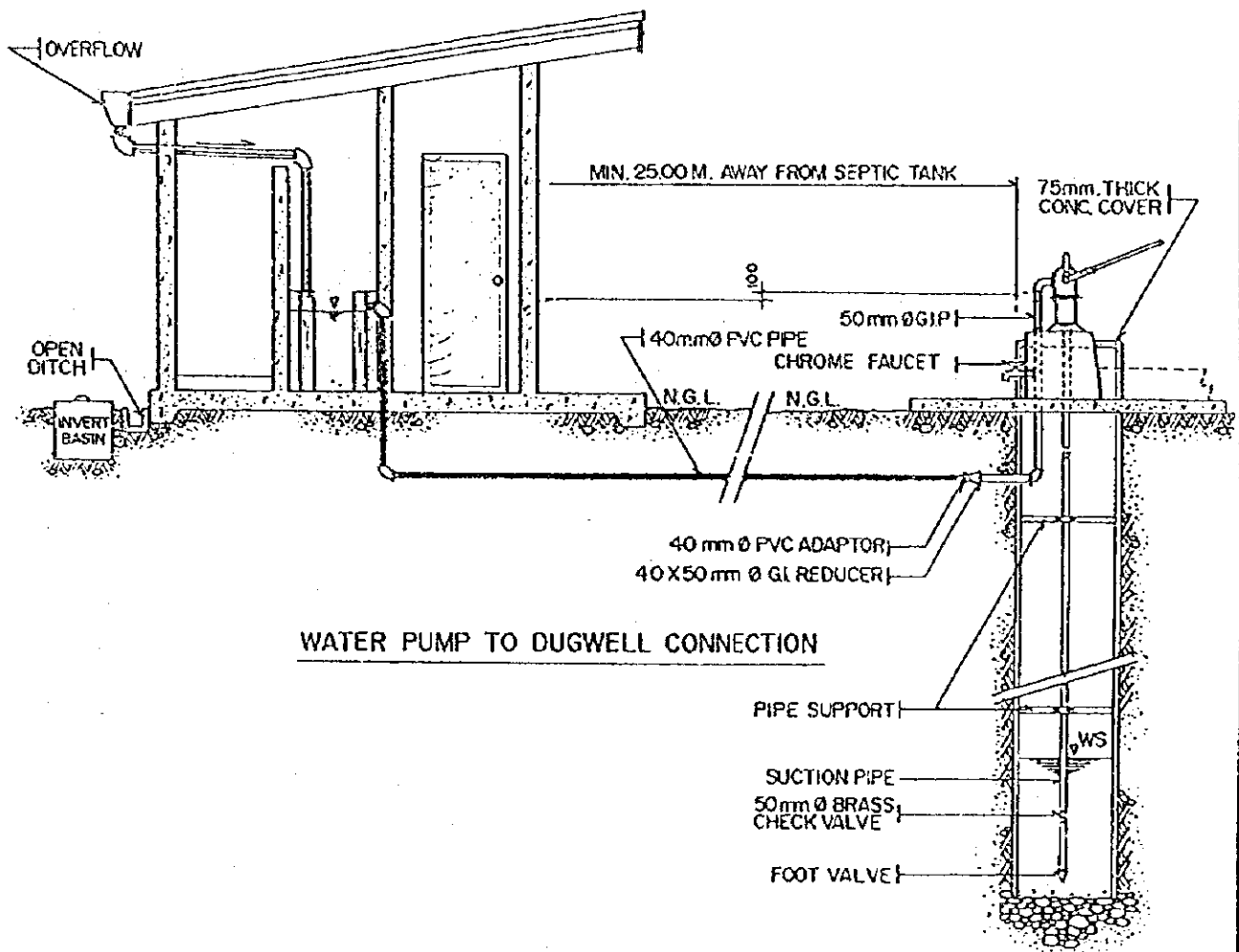


FIGURE 4.2.2
STANDARD STRUCTURE OF SCHOOL TOILET FACILITY

SOURCE : JICA - DPWH RURAL ENVIRONMENTAL SANITATION PROJECT .

4.2.3 Sanitation Facilities and Service Coverage

Table 4.2.1 Sanitation Facilities and Service Coverage of Household Toilets by Type, by Municipality, Urban and Rural 1997

| Name of Municipalities | Area | No. of Households (1997) | Households Served by Sanitary Toilets | | | | | | | | Underserved/Unserviced Hills | | | |
|-----------------------------|-------|--------------------------|---------------------------------------|----|------------|----|--------|----|---------|----|------------------------------|----|-------------|----|
| | | | Flush Toilet | | Pour Flush | | VIP | | Total | | Unsanitary | | No Facility | |
| | | | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % |
| Bansalan | Urban | 1,395 | 32 | 2 | 861 | 62 | 103 | 7 | 996 | 71 | 153 | 11 | 246 | 18 |
| | Rural | 8,705 | 82 | 1 | 6,716 | 77 | 973 | 11 | 7,771 | 89 | 531 | 6 | 403 | 5 |
| | Total | 10,100 | 114 | 1 | 7,577 | 75 | 1,076 | 11 | 8,767 | 87 | 684 | 7 | 649 | 6 |
| Digos (Capital) | Urban | 8,513 | 2,278 | 27 | 4,813 | 57 | 197 | 2 | 7,288 | 86 | 509 | 6 | 716 | 8 |
| | Rural | 13,687 | 397 | 3 | 11,685 | 85 | 1,361 | 10 | 13,443 | 98 | 238 | 2 | 6 | 0 |
| | Total | 22,200 | 2,675 | 12 | 16,498 | 74 | 1,558 | 7 | 20,731 | 93 | 747 | 3 | 722 | 3 |
| Don Marcelino | Urban | 2,154 | 42 | 2 | 767 | 36 | 29 | 1 | 838 | 39 | 636 | 30 | 680 | 32 |
| | Rural | 3,838 | 13 | 0 | 1,972 | 51 | 950 | 25 | 2,935 | 76 | 472 | 12 | 431 | 11 |
| | Total | 5,992 | 55 | 1 | 2,739 | 46 | 979 | 16 | 3,773 | 63 | 1,108 | 18 | 1,111 | 19 |
| Hagonoy | Urban | 1,358 | 38 | 3 | 602 | 44 | 166 | 12 | 806 | 59 | 193 | 14 | 359 | 26 |
| | Rural | 7,304 | 38 | 1 | 5,091 | 70 | 1,040 | 14 | 6,169 | 84 | 627 | 9 | 508 | 7 |
| | Total | 8,662 | 76 | 1 | 5,693 | 66 | 1,206 | 14 | 6,975 | 81 | 820 | 9 | 867 | 10 |
| Jose Abad Santos (Trinidad) | Urban | 992 | 28 | 3 | 471 | 47 | 195 | 20 | 694 | 70 | 7 | 1 | 291 | 29 |
| | Rural | 8,474 | 34 | 0 | 4,693 | 55 | 1,129 | 13 | 5,861 | 69 | 1,198 | 14 | 1,415 | 17 |
| | Total | 9,466 | 62 | 1 | 5,169 | 55 | 1,324 | 14 | 6,555 | 69 | 1,205 | 13 | 1,706 | 18 |
| Kiblawan | Urban | 1,232 | 42 | 3 | 553 | 45 | 186 | 15 | 781 | 63 | 209 | 17 | 242 | 20 |
| | Rural | 6,155 | 33 | 1 | 3,988 | 65 | 1,130 | 18 | 5,151 | 84 | 581 | 9 | 423 | 7 |
| | Total | 7,387 | 75 | 1 | 4,541 | 61 | 1,316 | 18 | 5,932 | 80 | 790 | 11 | 665 | 9 |
| Magsaysay | Urban | 1,298 | 26 | 2 | 604 | 47 | 128 | 10 | 758 | 58 | 184 | 14 | 356 | 27 |
| | Rural | 7,150 | 31 | 0 | 4,424 | 62 | 1,208 | 17 | 5,663 | 79 | 756 | 11 | 731 | 10 |
| | Total | 8,448 | 57 | 1 | 5,028 | 60 | 1,336 | 16 | 6,421 | 76 | 940 | 11 | 1,087 | 13 |
| Malalag | Urban | 948 | 30 | 3 | 658 | 69 | 145 | 15 | 833 | 88 | 45 | 5 | 70 | 7 |
| | Rural | 5,308 | 42 | 1 | 4,282 | 81 | 850 | 16 | 5,174 | 97 | 95 | 2 | 39 | 1 |
| | Total | 6,256 | 72 | 1 | 4,940 | 79 | 995 | 16 | 6,007 | 96 | 140 | 2 | 109 | 2 |
| Malita | Urban | 2,499 | 110 | 4 | 1,409 | 56 | 202 | 8 | 1,716 | 69 | 357 | 14 | 426 | 17 |
| | Rural | 14,310 | 278 | 2 | 10,411 | 73 | 1,525 | 11 | 12,214 | 85 | 1,110 | 8 | 986 | 7 |
| | Total | 16,809 | 388 | 2 | 11,815 | 70 | 1,727 | 10 | 13,930 | 83 | 1,467 | 9 | 1,412 | 8 |
| Matanao | Urban | 804 | 174 | 22 | 247 | 31 | 171 | 21 | 592 | 74 | 39 | 5 | 173 | 22 |
| | Rural | 7,826 | 48 | 1 | 4,867 | 62 | 1,150 | 15 | 6,065 | 77 | 1,031 | 13 | 730 | 9 |
| | Total | 8,630 | 222 | 3 | 5,114 | 59 | 1,321 | 15 | 6,657 | 77 | 1,070 | 12 | 903 | 10 |
| Padada | Urban | 1,819 | 120 | 7 | 542 | 30 | 84 | 5 | 746 | 41 | 336 | 18 | 737 | 41 |
| | Rural | 2,814 | 45 | 2 | 2,545 | 90 | 90 | 3 | 2,680 | 95 | 128 | 5 | 6 | 0 |
| | Total | 4,633 | 165 | 4 | 3,087 | 67 | 174 | 4 | 3,426 | 74 | 464 | 10 | 743 | 16 |
| Santa Cruz | Urban | 4,076 | 220 | 5 | 1,553 | 38 | 356 | 9 | 2,129 | 52 | 870 | 21 | 1,077 | 26 |
| | Rural | 8,001 | 73 | 1 | 5,643 | 71 | 1,341 | 17 | 7,057 | 88 | 392 | 5 | 552 | 7 |
| | Total | 12,077 | 293 | 2 | 7,196 | 60 | 1,697 | 14 | 9,186 | 76 | 1,262 | 10 | 1,629 | 13 |
| Santa Maria | Urban | 1,306 | 40 | 3 | 738 | 57 | 91 | 7 | 869 | 67 | 82 | 6 | 355 | 27 |
| | Rural | 6,960 | 37 | 1 | 4,693 | 67 | 1,116 | 16 | 5,846 | 84 | 544 | 8 | 570 | 8 |
| | Total | 8,266 | 77 | 1 | 5,431 | 66 | 1,207 | 15 | 6,715 | 81 | 626 | 8 | 925 | 11 |
| Sarangani | Urban | 519 | 16 | 3 | 256 | 49 | 153 | 29 | 425 | 82 | 11 | 2 | 83 | 16 |
| | Rural | 2,690 | 12 | 0 | 786 | 29 | 525 | 20 | 1,323 | 49 | 745 | 28 | 622 | 23 |
| | Total | 3,209 | 28 | 1 | 1,042 | 32 | 678 | 21 | 1,748 | 54 | 756 | 24 | 705 | 22 |
| Sulop | Urban | 1,177 | 116 | 10 | 499 | 42 | 112 | 10 | 727 | 62 | 195 | 17 | 255 | 22 |
| | Rural | 4,155 | 22 | 1 | 1,543 | 37 | 1,026 | 25 | 2,591 | 62 | 860 | 21 | 704 | 17 |
| | Total | 5,332 | 138 | 3 | 2,042 | 38 | 1,138 | 21 | 3,318 | 62 | 1,055 | 20 | 959 | 18 |
| PW4SP Study Area | Urban | 30,090 | 3,312 | 11 | 14,568 | 48 | 2,318 | 8 | 20,198 | 67 | 3,826 | 13 | 6,066 | 20 |
| | Rural | 107,377 | 1,185 | 1 | 73,344 | 68 | 15,414 | 14 | 89,943 | 84 | 9,308 | 9 | 8,126 | 8 |
| | Total | 137,467 | 4,497 | 3 | 87,912 | 64 | 17,732 | 13 | 110,141 | 80 | 13,134 | 10 | 14,192 | 10 |

Table 4.2.2 Number of Student and School Toilet Facilities by Municipality

| Name of Municipality | | Number of School | Number of Student | Number of Toilets | | |
|-----------------------------|---------|------------------|-------------------|-------------------|------------|-------|
| | | | | Sanitary | Unsanitary | Total |
| Bansalan | Public | 27 | 10,287 | 90 | 72 | 162 |
| | Private | 4 | 2,158 | 18 | 6 | 24 |
| | Total | 31 | 12,445 | 108 | 78 | 186 |
| Digos (Capital) | Public | 37 | 26,738 | 156 | 96 | 252 |
| | Private | 7 | 2,936 | 48 | 12 | 60 |
| | Total | 44 | 29,674 | 204 | 108 | 312 |
| Don Marcelino | Public | 21 | 5,561 | 66 | 84 | 150 |
| | Private | | | | | |
| | Total | 21 | 5,561 | 66 | 84 | 150 |
| Hagonoy | Public | 22 | 9,066 | 84 | 78 | 162 |
| | Private | 1 | 516 | 6 | 6 | 12 |
| | Total | 23 | 9,582 | 90 | 84 | 174 |
| Jose Abad Santos (Trinidad) | Public | 22 | 6,339 | 72 | 66 | 138 |
| | Private | 1 | 221 | 6 | 6 | 12 |
| | Total | 23 | 6,560 | 78 | 72 | 150 |
| Kiblawan | Public | 27 | 6,650 | 60 | 102 | 162 |
| | Private | 3 | 1,194 | 12 | 12 | 24 |
| | Total | 30 | 7,844 | 72 | 114 | 186 |
| Magsaysay | Public | 24 | 9,749 | 84 | 72 | 156 |
| | Private | 3 | 1,224 | 18 | 12 | 30 |
| | Total | 27 | 10,973 | 102 | 84 | 186 |
| Malalag | Public | 16 | 6,766 | 66 | 54 | 120 |
| | Private | 1 | 225 | 6 | 6 | 12 |
| | Total | 17 | 6,991 | 72 | 60 | 132 |
| Malita | Public | 52 | 16,878 | 228 | 132 | 360 |
| | Private | 2 | 834 | 24 | 6 | 30 |
| | Total | 54 | 17,712 | 252 | 138 | 390 |
| Matanao | Public | 34 | 10,270 | 108 | 120 | 228 |
| | Private | 3 | 835 | 24 | 12 | 36 |
| | Total | 37 | 11,105 | 132 | 132 | 264 |
| Padada | Public | 9 | 4,236 | 48 | 24 | 72 |
| | Private | 3 | 953 | 24 | 6 | 30 |
| | Total | 12 | 5,189 | 72 | 30 | 102 |
| Santa Cruz | Public | 32 | 15,498 | 156 | 84 | 240 |
| | Private | 1 | 518 | 6 | 6 | 12 |
| | Total | 33 | 16,016 | 162 | 90 | 252 |
| Santa Maria | Public | 31 | 9,744 | 132 | 90 | 222 |
| | Private | 4 | 866 | 36 | 12 | 48 |
| | Total | 35 | 10,610 | 168 | 102 | 270 |
| Sarangani | Public | 23 | 7,290 | 78 | 72 | 150 |
| | Private | | | | | |
| | Total | 23 | 7,290 | 78 | 72 | 150 |
| Sulop | Public | 19 | 6,515 | 66 | 72 | 138 |
| | Private | 1 | 375 | 6 | 6 | 12 |
| | Total | 20 | 6,890 | 72 | 78 | 150 |
| PW4SP Study Area | Public | 396 | 151,587 | 1,494 | 1,218 | 2,712 |
| | Private | 34 | 12,855 | 234 | 108 | 342 |
| | Total | 430 | 164,442 | 1,728 | 1,326 | 3,054 |

Table 4.2.3 Number of Public Toilets Facilities

| Name of Municipality | Public Markets | | | Bus/Jeepney Terminals | | | Parks/Playground | | | Total Number of Toilets |
|-----------------------------|-------------------------|---------------------------|-----------|-------------------------|---------------------------|-----------|-------------------------|---------------------------|-----------|-------------------------|
| | No. of Sanitary Toilets | No. of Unsanitary Toilets | Sub-total | No. of Sanitary Toilets | No. of Unsanitary Toilets | Sub-total | No. of Sanitary Toilets | No. of Unsanitary Toilets | Sub-total | |
| Bansalan | 1 | | 1 | | | | 1 | | 1 | 2 |
| Digos (Capital) | 2 | | 2 | | | | | | | 2 |
| Don Marcelino | 1 | | 1 | | | | | | | 1 |
| Hagonoy | 1 | | 1 | | | | | | | 1 |
| Jose Abad Santos (Trinidad) | 1 | | 1 | | | | | | | 1 |
| Kiblawan | 1 | | 1 | | | | | | | 1 |
| Magsaysay | 1 | | 1 | | | | | | | 1 |
| Malalag | 1 | | 1 | | | | | | | 1 |
| Mahita | 1 | 2 | 3 | | | | | | | 3 |
| Matanao | 1 | 4 | 5 | | | | | | | 5 |
| Padada | 1 | | 1 | | | | | | | 1 |
| Santa Cruz | 1 | 1 | 2 | | | | | | | 2 |
| Santa Maria | 1 | 1 | 2 | | | | | | | 2 |
| Sarangani | 1 | | 1 | | | | | | | 1 |
| Sulop | 1 | | 1 | | | | 1 | | 1 | 2 |
| PW4SP Study Area | 16 | 8 | 24 | | | | 2 | | 2 | 26 |