

## Typical CD Work

### **Community Organizing Handbook for Water Supply and Sanitation**

Community organizing for water supply and sanitation projects is aimed at forming user groups through a process that integrates the hardware (technical aspects) and software (social aspects) components of a water supply and sanitation project.

People's participation, which can be gauged against the extent to which they themselves are involved in the decision-making processes, their willingness to stake local resources, (both in cash and in kind) and the extent to which trainings have improved the knowledge, skills and attitudes of the people are some of the indicators of a good community organizing work.

The Community organizing process is developing a partnership with the community. The Community organizer is simply a catalyst in the community's efforts to build their self-confidence to operate, maintain and sustain their water supply and sanitation service.

### **The CO Framework**

The CO Handbook is one of the tools that a community worker may use as a guide in organizing user's groups for community-managed water supply and sanitation facilities. It is presented in three (3) major stages following the community-organizing framework. These stages are a) Formation of Organization; b) Development of Organization; and c) Consolidation of Organization.

The process contains a chronology of activities that starts with the deployment of community organizer and ends up with his/her exit from the community.

Except for steps 9 and 10 of Stage II and Step 20 of Stage III which need not be undertaken for a Level I, all the rest applies to Levels I and II water supply projects. Level I water supply projects refer to point source facility catering to a cluster of ten to fifteen households while level II refers to a waterworks that has a distribution system such as multiple tapstands.

The *Formation of Organization* stage covers activities intended to enlist community participation and make community understand the concepts, processes and importance of organizing a group that will become responsible for eliciting maximum participation for WATSAN activities.

The *Development of Organization* stage covers activities intended to build capability of water users' organization, which include trainings and full participation in both technical and social activities. It also includes the CO worker's sharing and transferring of organization development and community organizing technology to the leaders of the water users' association. In this way, the community will be able to increase their capability for self-management.

The *Consolidation of Organization* stage consists of activities intended to "tie loose ends." This is to ensure that at the exit of the CO worker, the water users' association can sustain its operations without an external catalyst.

The last part of the Handbook is a compilation of useful tips in recording the minutes of the community meetings, contents of a spot map, sample tapstand membership form and

tapstand membership list, characteristics of a CO worker and community leaders and others. All these are appended as additional guides to enhance the organization process and facilitate the attainment of the CO objective.

### **Community Organizer**

The community organization worker as a catalyst is one who believes that the people are the main actors in the processes and that his/her role is that of facilitating the community organizing process; improving the skills and knowledge of the community; and that he/she has to withdraw as soon as the people are ready to manage their affairs.

### **Objectives of the CO Work**

The General Objective of the CO work is to form a community-based water user's association that will operate, maintain and sustain their water supply and sanitation facilities.

### **Stages of CO Work**

Each of the three stages of CO work as contained in the framework is distinctly characterized by various activities needed to ensure that the organization will continue to function even after the exit of the CO worker.

*Phase I* is characterized by the formal entry of the CO worker to the community. This is marked by courtesy call first to the barangay leaders and then to the community. These activities require thorough understanding of the nature of the project.

The CO worker needs various tools to undertake these activities. A chart preferably in the local dialect that explains the concept of the project and the roles of the various stakeholders is very important. The community profile is one tool that also needs to be validated by the community themselves. The profile serves as a CO tool in facilitating community decisions.

*Phase II* is characterized by a series of trainings intended to provide adult learning processes to the water users' association. This includes practical and workable approaches needed to synchronize activities and provide appropriate mix of technical and social knowledge and skills to the water users.

*Phase III* begins when the organization is formalized, water system potability is ensured, legal documents are executed and facility is turned-over to the water users' association for their operation and maintenance. This phase ends when the community organizer exits from the community, leaving behind an organization with positive indicators for sustainability.

## **1. ENTRY STRATEGIES**

### **CO DEPLOYMENT**

|                    |   |
|--------------------|---|
| Objective          | : Indorse the CO worker to the community by provincial and municipal level implementors |
| Expected Result    | : CO worker is introduced to the barangay officials and the community                   |
| Suggested Strategy | : Community meeting   |
| Facilitator        | : Barangay Captain  |
| Co-facilitator     | : Municipal Level Implementor   |

Agenda in the first orientation meeting and courtesy call to barangay council:

- Title of the project
- Objectives
- Stakeholders and their roles, responsibilities and accountabilities
- Funding and counterparting
- Project features or components
- How the project will be executed
- Timetable
- Inputs and outputs (largely trainings)
- Role of the intermediaries (NGOs)
- Solicit/request for CO volunteers to participate in profiling and spot mapping

### **VALIDATION OF COMMUNITY PROFILE AND SPOT MAPPING**

- Objective : To establish socio-economic, political and technical information about community directly or indirectly related to water and sanitation.
- Expected Results : Validated secondary data from the community
- Suggested Strategies :
- Home visits
  - Focus group discussion
  - Visit to RHUs, MPDO, MHO, local school
  - Community meeting

### **CONTENTS OF THE SPOT MAP**

- Natural features (creeks, river, lakes, mountains, water sources)
- Man-made structure (houses, buildings, bridges, roads, schools, cemetery, halls, markets, water system facilities)
- Technical data ( distance, north orientation, elevations, scale, date prepared, source of information, persons/agencies involved, names of places, boundaries, legend, index to adjoining sheets, coordinates)

## **2. PRESENTATION OF VALIDATED PROFILE TO THE COMMUNITY**

- Objective : To further enrich and refine data in the profile
- Expected Results :
- Profile validated by the community
  - Surfacing of thoughts on:
    - How project will be implemented on the site
    - How the facility will be designed and constructed
    - How the community perceived their role in the project
  - Solicit counterpart
  - Determine/recommend long list of potential core group members

- Facilitator : CO worker
- Audience : Key informants (farmers, church leaders, teachers, etc.)

## **3. DEVELOPMENT OF CRITERIA FOR SELECTION OF CORE GROUP**

- Objectives : To enlist people interested to work actively that will assist in CO activities

- Expected Results : Core group members elected
- Role and function of core group drawn
  - Adhoc committees formed and function's drawn
  - Committee chairman selected
  - Plan of action done

#### **IDEAL SELECTION CRITERIA FOR CORE GROUP MEMBERS**

- Must have the time and commitment to do community development activities in their locality
- Proven leadership skills
- Direct exposure and experience in community development project/activities
- Have some basic knowledge and/or skills in community organizing
- Good moral standing
- No criminal record
- Should be one of the beneficiaries
- With good interpersonal relationship with the community
- Should be literate

#### **ROLES AND FUNCTIONS OF THE WATER CORE GROUP**

- Initiates the planning and implementation of action on water related activities
- Preparation of water project feasibility study/design community survey and spot map to further validate the importance of the project to the community at large
- Mobilize community resources specifically: the time, skills and efforts of the people
- Resources of the local agency, i.e., money, technical know-how, equipment, machines
- Disseminate information, keeps the community informed about the status of the water project
- Hears and considers suggestions of people with regards to the appropriate activities of the project
- Facilitates the expansion of water core group into Barangay/Rural Waterworks Association.

#### **COMPOSITION OF THE CORE GROUP**

- Technical persons who can be trained on the technical aspects of the project
- Individual who are trusted and respected by community
- Those who have a strong liking to work for people
- Those who have a spirit of volunteerism
- Those who are resourceful
- Individuals who are understanding and patient enough to go with the pace of the community
- Together with the community, they should be able to identify the:
  - Objectives of the group
  - Define roles and responsibilities
  - Clear expectations to members and group as a whole

#### **ADHOC COMMITTEES CO-TERMINUS WITH THE CORE GROUP**

- Education and recruitment

- Monitoring, evaluation and control
- Coordination and manpower
- Documentation (to include preparation of legal documents)

#### **FUNCTIONS OF THE COMMITTEES**

- a. Education and recruitment
  - Project information drive
  - Advocacy on water supply, sanitation, health care and hygiene
- b. Monitoring, evaluation and control
  - Inspects and accepts hardware, tools and equipment
  - Acts as property custodian
  - Monitor the evaluation
  - Initiate action planning relative to construction activities
- c. Coordination and manpower
  - Coordinate resources from stakeholders
  - Do follow-ups and issue reminders
  - planning and manpower scheduling in terms of number and distribution
  - Coordinate technical activities in project site
- d. Documentation
  - Facilitate the issuance of legal documents such as right of way permit, deed of donation, certification water source site, etc.

#### **4. ASSIST IN SITE SELECTION AND FEASIBILITY STUDY**

- Objectives : To identify potential water source sites
- Expected Results : Water source site for development identified (or prospecting for wells)
- Suggested Strategy : Technical data gathered

#### **5. PRESENTATION OF TECHNICAL FINDINGS**

- Objectives : To come up with recommendations on the technical study
- Expected Results : Decision by the community on the technical findings
- : Water samples collected from agreed upon water source site (for spring only)
- Suggested Strategy : Meeting of the core group
- Facilitator : LGU Technical Team
- CO-facilitator : CO worker

By the end of Phase I of Community organizing work, the following milestones must have been achieved:

- Water Core Group formed
- Adhoc Committees formed and chairman named
- Water source site identified and initial studies done
- Community profile and spot map completed and validated

While at this stage, there is no way yet of gauging the certainty of making the project succeed in terms of a community-managed facility, a thorough understanding by the beneficiaries of the project features, stockholders, tasks, inputs, outputs and other important information about the project which is done formally as the opening salvo of the CO to the

community and, later, on a more informal manner, as the CO integrates to the community is one of the most critical part of this phase.

As community organizing progresses, the deepening sessions of the CO worker in reinforcing project concepts such as strategies for community initiatives towards addressing key issues affecting their community that are directly or indirectly related to water are reinforcing mechanisms in providing impetus to the development of an informal water users' organization, as infant as a water core group.

#### 6. HUMAN RESOURCE DEVELOPMENT TRAINING

- Objective : To build a strong and cohesive team from among the core group members and barangay officials (if appropriate)
- Expected Results : Trained core group members on Human Resource Development
- Facilitator : CO worker
- Co-facilitator : Core group members

#### 7. PRESENTATION OF TECHNICAL DESIGN

- Objective : Generate community decision on appropriate technology to be used
- Expected Results : Generate community decision on appropriate technology to be used
- Suggested Strategy : Community meeting to discuss  
- Initial findings on technical feasibility study  
- Presentation of technology options
- Facilitator : Technical Team

#### 8. FACILITATION ON LEGAL WORKS AND DOCUMENTS

- Objective : Prepare necessary legal documents
- Expected Results : Legal documents required in WATSAN projects prepared
- Facilitator : Committee Chairman
- CO-facilitator : CO Worker

#### LIST OF DOCUMENTS REQUIRED IN IMPLEMENTING WATSAN PROJECTS

- Barangay Resolution desiring to avail of a water facility to be submitted to the LGU
- Building permit of WATSAN facility, from LGU
- Waiver form DENR (if water system components such as the source, tank, pipelines are situated in areas other than private lands) to use the site(s) for community development
- Right of way permit from private land owners, specifically for spring sites and pipeline routes
- Deeds of donation from private landowners for water tank and tapstand sites
- Certificate of water quality source to be developed and tapped, from DOH
- Certificate of water quality produced through the water system facility, from DOH
- Letter of acknowledgment from the municipal mayor endorsing the water system management to the water users' association formed
- Accreditation pertinent papers (needed for the accreditation of RWSAs/BWSAs at the LGU level)

- Water rights
- Water permit
- Drilling permit

9. **PRESENTATION OF DRAFT TECHNICAL DESIGN**  
(Skip This Activity If Level I)

Objective : To inform the community of the results of the feasibility study conducted

Expected Results:

- Location of major components such as well drilling site, transmission and distribution pipelines
- Tanks and tapstands are identified
- Community acceptance of design
- Local counterpart generated

Suggested Strategies:

- Community meeting
- Site visit to proposed structures/facilities' location

**INFORMATION TO BE PRESENTED TO THE COMMUNITY**

- Role of technical people
- Contents of typical water system technical plan
- Presentation of design specifications and explanation of plan contents /drawings in layman's terms
- Presentation of program of work (POW) , bill of materials and cost estimates
- Validation of data gathered and used in the designing
- Solicit ideas, opinions, comments and preferences
- Come-up with compromises, and if appropriate determine local counterpart

Note: If system is Level II, spring source, dispersed tapstands and dispersed household clusters, technical information is limited to the number of tapstands that can be provided and the approximate location of tapstands relative to the cluster.

10. **MOBILIZATION OF COMMITTEE ON DOCUMENTATION**  
(skip this activity if Level I)

Objective : To facilitate additional legal work requirement for tapstand, pipeline and other major system components  
: To ensure a formal listing of tapstand membership

Expected Results : Completed legal documentation requirement membership per tapstand known

Facilitator : Committee Chairman, Committee on Documentation and Education and Membership

CO-facilitator : CO worker

## 11. CONFIRMATION OF MEMBERSHIP BY TAPSTAND

|                    |   |   |
|--------------------|---|---|
| Objective          | : | To confirm final membership by tapstand<br>To undertake information campaign on the importance of grouping and houserules formulation |
| Expected Results   | : | To select tapstand leader<br>Final listing of membership per tapstand<br>Formulated tapstand houserules<br>Tapstand leader selected   |
| Suggested Strategy | : | Undertake meeting per tapstand  |
| Facilitator        | : | CO worker   |
| CO-facilitator     | : | Chairman, Committee on Education and Recruitment  |

## DISCUSSION POINTS IN FORMULATING TAPSTAND HOUSERULES

- a. Getting water:
  - How will water be fetched?
  - When will water be fetched?
  - Who can fetch water?
- b. Monitoring
  - List down who fetches and how much volume of water was taken
- c. Water tariff due the specific tapstand
- d. Sanitation around the tapstand and around the cluster
- e. Beautification and physical development in the tapstand site
- f. Financial management regarding water tariffs

## 12. PRESENTATION OF FINAL TECHNICAL DESIGN

|                    |   |  |
|--------------------|---|--|
| Objective          | : | To present and approve the final technical design                    |
| Expected Results   | : | Finalized counterpart agreement<br>Construction scheduling developed |
| Suggested Strategy | : | Meeting among tapstand leaders, core group and barangay council      |

## 13. TRAINING ON HYGIENE, SANITATION AND HEALTH CARE

|                     |   |   |
|---------------------|---|---|
| Objective           | : | Conduct of training on health and hygiene   |
| Expected Results    | : | Awareness on community health aspects   |
| Suggested Strategy  | : | Community meeting, or<br>Meeting by tapstand grouping   |
| Organizer           | : | CO Worker, community and rural sanitary inspector   |
| Training Management | : | LGU   |
| Audience            | : | Core Group, Barangay Officials, Barangay Health Workers, Rural Sanitary Inspectors, and Barangay Nutrition Scholars |

## 14. SOURCE FOR EXCRETA DISPOSAL MATERIALS AND/OR FACILITIES

|                  |   |  |
|------------------|---|--|
| Objective        | : | To make available to the community facilities for excreta disposal (if conditions and culture warrant)             |
| Expected Results | : | Materials/facilities for excreta disposal constructed individually by members of the community in their households |



Suggested Strategy : Core group members together with CO worker make representations with LGUs to source materials or facilities  
Facilitator : Core group members  
CO-facilitator : CO worker

#### 15. ORGANIZATIONAL MANAGEMENT TRAINING

Organizer : CO and the community  
Training Management : LGU  
Audience : tapstand leaders, core group and barangay officials

#### 16. PRE-CONSTRUCTION CONFERENCE

Objective : To generate work plan and tasking for the construction activities  
Expected Results : Activities and roles identified  
: Commitment to participate generated  
Suggested Strategy : Hold a community meeting  
Facilitator : Technical team  
Co-facilitator : CO worker

#### AGENDA IN THE PRE-CONSTRUCTION CONFERENCE

- Presentation of schedule of work and tasking
- Determine quantities of resources needed
- Labor arrangements
- Salaries/wages, if any that will be incurred
- Mobilization of committees
- Arrangement on materials storage

#### 17. MOBILIZATION FOR DELIVERY OF MATERIALS

Objective : To ensure that materials delivered at the community are all accounted for  
Expected Results : Materials delivered all accounted for and in accordance to the agreed upon specifications in the technical design  
Suggested Strategy : Specific committee to handle delivery, and storage of materials , and, if need be, disposition of materials  
Facilitator : Committee to be agreed upon by the core group  
Co-facilitator : CO worker

#### 18. ACTION PLANNING FOR CONSTRUCTION

Objective : To spell out what to expect during the construction processes  
Expected Results : Smooth implementation of construction activities  
Facilitator : CO worker  
Co-facilitator : Technical Team  
Suggested Strategy : Core group meeting

#### STEPS TO BE UNDERTAKEN:

- Identify activities related to construction

- Define activity schedule and resources required
- Identify the type of manpower skills required per activity
- Monitoring and documentation of major water system components
- Progress reporting, evaluation and action planning
- Monitoring and documentation on construction of major water system components
- Repeat cycle until completion

**19. DEVELOPMENT OF EXIT PLAN**

|                    |   |  |
|--------------------|---|--|
| Objective          | : | To plan for the transfer of responsibility from CO worker to core group members              |
| Expected Results   | : | Core group informed of activities ahead and the expected time of withdrawal of the CO worker |
|                    | : | An exit plan containing task list and specific person responsible                            |
|                    | : | Organizational development program developed   |
| Suggested Strategy | : | Core group meeting   |
| Facilitator        | : | CO worker  |
| Co-facilitator     | : | Technical Team   |
| Audience           | : | Community members  |

At the end of the Development of Organization Phase, the following milestone must have been achieved:

- Basic organizational development training such as value formation, leadership and team building and sanitation, health care and hygiene education must be done
- CO exit plan jointly developed by the CO together with the community
- All legal documents completed
- Pre-construction conference done
- Materials for construction delivered and accepted by the community
- Organizational strengthening such as involvement of a greater number of community members participating in mobilization activities and increased awareness on key issues through information exchange

The success of the phase rests on the extent the community had participated in the activities and learned from the processes as inputs to the community's capability for self-management. On the other hand, one of the most crucial factors to participation rests on the depth and broadness of their understanding of the project concept, features, processes, stakeholders, tasks, and responsibilities coupled with the need for water supply facility, a condition validated in the first orientation meeting done by the CO upon entry to the community.

The inputs that will be provided by the CO and the technical team will provide the necessary honing skills for the core group and tapstand leaders to have the confidence to accept more challenges in the next phase. These challenges are contained in the Exit Plan, which was formulated by the local stakeholders. The Plan will be implemented in Phase III stage to signal the weaning process of the community from the CO worker.

**20. PRESENTATION, COMPARISON & COLLATION OF TAPSTAND HOUSERULES**  
(skip this activity if Level I)

|          |                  |   |   |
|----------|------------------|---|---|
| activity | Objectives       | : | Collate similar houserules formulated in the previous |
|          | Expected Results | : | Collated houserules                                   |

- |                    |   |   |
|--------------------|---|---|
|                    | : | Identified house rules<br>appropriate for by-laws |
| Suggested Strategy | : | Meeting of tapstand leaders                       |
| Facilitator        | : | CO worker   |
| Co-facilitator     | : | Core Group Member                                 |
- 21. DRAFTING OF CONSTITUTION AND BY-LAWS**
- |                    |   |   |
|--------------------|---|---|
| Objective          | : | To develop a set of policies and by-laws that will govern the operation of the organization |
| Expected Results   | : | Constitution and by-laws ready for ratification   |
| Suggested Strategy | : | Meeting of core group and tapstand leaders  |
- 22. RATIFICATION OF CONSTITUTION, BY-LAWS AND POLICIES**
- |                  |   |   |
|------------------|---|---|
| Facilitator      | : | CO Worker                                 |
| Co-facilitator   | : | Core Group Member                         |
| Expected Results | : | Constitution ratified<br>Officers elected |
- 23. FACILITY/SYSTEM TEST RUN**
- The community participates in ocular operation and test run of facility installed
- |             |   |                |
|-------------|---|----------------|
| Facilitator | : | Technical Team |
|-------------|---|----------------|
- 24. WATER QUALITY TEST**
- |                    |   |   |
|--------------------|---|---|
| Objective          | : | To ensure potability of water from facility   |
| Expected Result    | : | Water facility is to provide potable water to community                               |
| Suggested Strategy | : | Collect water sample from tapstand<br>Submit sample to DOH for test and certification |
- 25. TURN-OVER OF FACILITY/SYSTEM**
- Officers elected organize and manage facility turnover ceremony
- 26. OPERATION, MAINTENANCE AND REPAIR TRAINING**
- |          |   |   |
|----------|---|---|
| Trainer  | : | Technical team  |
| Trainees | : | Community-appointed Plumber, Meter Reader (if there is a meter installed), Tapstand leader and RWSA/BWSA officers |
- 27. FINANCIAL MANAGEMENT TRAINING**
- |          |   |   |
|----------|---|---|
| Trainer  | : | NGO, LGU or Water District                        |
| Trainees | : | Bookkeeper, Tapstand Leader and RWSA/BWSA officer |
- 28. RWSA/BWSA REGISTRATION AND ACCREDITATION**
- |                |   |                   |
|----------------|---|-------------------|
| Facilitator    | : | RWSA/BWSA officer |
| Co-facilitator | : | CO worker         |

Registration of BWSA/RWSA to appropriate government agencies is done. Options on where to register shall be presented and decided upon by the organization.

Possible Options:

In the absence of a clear national policy on B/RWSA registration, the following Registering Agencies could be presented as options:

- a. Securities and Exchange Commission
- b. Bureau of Rural Workers
- c. Local Waterworks Utilities Administration
- d. Department of Social Welfare and Development
- e. Cooperatives Development Authority

Accreditation of BWSA/RWSA is done through the municipal local government unit.

## 29. FORMAL EXIT OF THE CO WORKER

|                    |   |   |
|--------------------|---|---|
| Facilitator        | : | RWSA Officer  |
| Co-facilitator     | : | CO worker   |
| Suggested Strategy | : | Hold a community meeting  |
| Agenda             | : | Assessment of CO Exit Plan  |
|                    | : | Planning for the operation and management of water facility                         |
|                    | : | Scheduling of CO visits   |
|                    | : | Scheduling of RWSA/BWSA and CO formal linking with other organizations and agencies |
|                    | : | Formal turn-over of CO responsibility to RWSA/BWSA                                  |

At the end of the Consolidation Phase, the following milestones are achieved:

- Facility is turned-over to RWSA/BWSA and is functioning as intended and has its set of officers, constitution and by-laws and policies
- Plan for operation, maintenance and repair of system is installed

At the end of the community organizing process, the degree of capability of RWSA/BWSA in the operation and maintenance of water supply facility and maintaining their organizational health can be gauged on the extent of participation of the members in resolving problems and making decisions. The extent of focus of team building and leadership inputs is crucial in how the members of the RWSAs/BWSAs are willing to make and allow some compromises among each other. On the other hand, the technical soundness of the design and execution of the construction ensures the long-term sustainability of the system.

By this time, the CO has exited but maintains monitoring visits until he/she is fully confident that the organization is strong enough to take decisions, plan and implement their WATSAN related activities and knows where to access support (in terms of financial, institutional and technical) when needed.

Source: *Water Supply and Sanitation Program Management Office  
Department of the Interior and Local Government*

## 10 COST ESTIMATES FOR FUTURE SECTOR DEVELOPMENT

### 10.2 Assumption for Cost Estimates

#### 10.2.1 Unit Construction Cost

##### (1) Calculation method

The base information in previous PW4SP, such as bill of quantities and unit cost of respective component facilities was fully utilized, which was referred to the standards of relevant sector agencies. Escalation rates experienced between 1995 and 1997 in terms of major construction materials and equipment rental were studied using NSO statistics (wholesale price index). Market prices of these items were also canvassed to compare with calculated prices in 1997 from those in 1995 in application of the escalation rates.

In general, escalated prices meet canvassed prices in most of the materials. Escalation rates between 1995 and 1997 were employed in round figures. Some of them (water closet, etc.) were, however, replaced by current price due to considerable increase in the last two years.

The Table 10.2.1 shows the prices of the major materials by facility.

Table 10.2.1 Price of Major Materials by Facility

|   | Water Supply |      |       | Sanitation |            |         | Projection by major materials |       |       | Canvassed/collected price |       |         | Remarks<br>Compared with (2), (3)                                     |
|---|--------------|------|-------|------------|------------|---------|-------------------------------|-------|-------|---------------------------|-------|---------|---|
|   | L-I          | L-II | L-III | ST/PT      | Flush type | VIP/Pit | NSO wholesale price index     |       | Price |                           | (2)   | (3) CIA |   |
|   |              |      |       |            |            |         | 1995                          | 1997  | 1995  | (1) 1997                  |       |         |   |
| 1. Sand, stone, gravel<br>Sand<br>Gravel                          | *            | *    | *     | *          | *          | *       | 311.6                         | 343.5 | 304   | 335                       | 330   | 350     | Almost same with (2),(3)  |
| 2. Cement   | *            | *    | *     | *          | *          | *       | 197.4                         | 200.1 | 117   | 119                       | 126   | 105     | - do -  |
| 3. Fuel and Lubricant   | *            | *    | *     | *          | *          | *       | 601.6                         | 694.0 | 1,100 | 1,269                     | 1,306 |         | - do -  |
| 4. Metal pipe<br>100m/m x 3m,<br>casing<br>100m/m x 3m,<br>screen | *            | *    | *     | *          | *          | *       | 208.7                         | 211.5 | 2,625 | 2,660                     | 2,763 |         | Price of casing is almost same with (2), screen is 20% lower than (2) |
| 5. PVC pipe<br>63m/m pipe w/socket<br>1 1/2" elbow                | *            | *    | *     | *          | *          | *       | 199.2                         | 221.1 | 813   | 902                       | 882   | 715     | Price of PVC pipe is almost same with (2) and/or 25% higher than (3)  |
| 6. Reinforcing steel<br>12m/m x 6m<br>10m/m x 6m                  | *            | *    | *     | *          | *          | *       | 201.4                         | 207.4 | 68    | 70                        |       | 70      | Same with (3)   |
| 7. Lumber   |              |      |       | *          | *          | *       | 268.5                         | 277.4 | 49    | 50                        |       | 49      |   |
| 8. Paint<br>Enamel, QDE   |              |      |       | *          | *          | *       | 128.0                         | 132.8 | 266   | 276                       |       | 275     | Same with (3)   |
| 9. Machinery and equipm   | *            | *    | *     | *          | *          | *       | 254.8                         | 254.8 |       |                           |       |         |   |

L-I: Deep well/shallow well, L-II: Mjor materials are same as those of L-I spring development,  
 ST: School toilet, PT: Public toilet, Flush type: Flush water sealed w/septic tank and Pour flush w/ double latrine,  
 CIA: Construction Industry Authority of the Philippines

Table 10.2.2 (a) Unit Cost of Level I (Gravel Packed Deep Well - 40m Depth)

(Cost: Peso)

| Description   | Quantity | Unit | Unit Cost | Cost           |
|---|----------|------|-----------|----------------|
| <b>A. Mobilization/Demobilization/Site Preparation</b>                          |          | L.S. |           | 15,000         |
| <b>B. Drilling of Well &amp; Installation of Steel Casing/Screen</b>            |          |      |           |                |
| 1. Materials  |          |      |           |                |
| (1) 100mm x 3m Steel Casing with coupling                                       | 11       | pcs. | 2,894     | 31,834         |
| (2) 100mm x 3m Steel Casing with one end closed                                 | 1        | pc.  | 2,997     | 2,997          |
| (3) 100mm x 3m Low Carbon Steel Screen  | 2        | pcs. | 4,755     | 9,510          |
| (4) Casing Centralizer  | 2        | set  | 1,925     | 3,850          |
| 2. Labor, Fuel, Lubricant and others  |          |      |           |                |
| Well Drilling for 40 m depth at 200mm borehole                                  | 40       | m    | 2,460     | 98,400         |
| 3. Borehole Logging   | 1        | no   | 5,000     | 5,000          |
| 4. Freight Cost (11% of Materials)  |          | L.S. |           | 5,301          |
| <b>Sub-Total of B</b>   |          |      |           | <b>156,892</b> |
| <b>C. Well Development and Pumping Test</b>                                     |          |      |           |                |
| Well Development  | 12       | hr.  | 2,353     | 28,236         |
| Pumping Test  | 6        | hr.  | 1,472     | 8,832          |
| <b>Sub-Total of C</b>   |          |      |           | <b>37,068</b>  |
| <b>D. Gravel Packing, Installation of Handpump and Construction of Platform</b> |          |      |           |                |
| 1. Materials  |          |      |           |                |
| (1) Improved Deep Well Cylinder Pump (Malawi Type)                              | 1        | set  | 9,922     | 9,922          |
| (2) 63mm x 6m Riser Pipe and Pump Rod   | 6        | pcs. | 1,880     | 11,280         |
| (3) #10 Sieved Gravel   | 0.7      | cu.m | 959       | 671            |
| (4) Coarse Sand   | 1        | cu.m | 335       | 335            |
| (5) Cement for Sanitary Seal  | 4        | bags | 128       | 512            |
| (6) Pump Base and Platform  |          |      |           |                |
| 1) Cement   | 4        | bags | 128       | 512            |
| 2) Gravel   | 2        | cu.m | 424       | 848            |
| 3) Sand   | 1        | cu.m | 335       | 335            |
| 4) Plywood (1,200mm x 2,400mm x 6mm)  | 1        | pc.  | 275       | 275            |
| 5) Form Lumber (50mm x 75mm x 1,800mm)  | 6        | pcs. | 49        | 294            |
| 6) Nail   | 1        | kg.  | 35        | 35             |
| <b>Sub-Total of D-1</b>   |          |      |           | <b>25,019</b>  |
| 2. Labor (40% of D-1)   |          |      |           | 10,008         |
| 3. Freight Cost (11% of Materials)  |          | L.S. |           | 2,752          |
| <b>Sub-Total of D</b>   |          |      |           | <b>37,779</b>  |
| <b>E. Indirect Cost</b>   |          |      |           |                |
| Profit (10% of A, B, C & D)   |          |      |           | 24,674         |
| Overhead Expense (13% of A,B,C & D)   |          |      |           | 32,076         |
| VAT (10% of Labor, Profit & Overhead Expense)                                   |          |      |           | 16,516         |
| <b>Sub-Total of E</b>   |          |      |           | <b>41,190</b>  |
| <b>Total of Construction Cost (A+B+C+D+E)</b>                                   |          |      |           | <b>259,693</b> |
| <b>F. Estimated Government Expenses</b>   |          |      |           |                |
| 1. Preliminary & Detailed Engineering Cost                                      |          | L.S. |           | 3,300          |
| 2. Construction Supervision   |          | L.S. |           | 2,200          |
| 3. Water Quality Analysis   |          | L.S. |           | 1,244          |
| <b>Sub-Total of F</b>   |          |      |           | <b>6,744</b>   |
| <b>GRAND TOTAL</b>  |          |      |           | <b>266,437</b> |
| <b>SAY</b>  |          |      |           | <b>266,400</b> |

Note: L.S. - Lump Sum

Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodology Manual 1996

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.2 (b) Unit Cost of Level I (Natural Gravel packed Deep Well - 40m Depth)  
(Cost: Peso)

| Description   | Quantity | Unit | Unit Cost | Cost           |
|---|----------|------|-----------|----------------|
| <b>A. Mobilization/Demobilization</b>   |          | L.S. |           | 15,000         |
| <b>B. Drilling of Well &amp; Installation of Steel Casing/Screen</b>            |          |      |           |                |
| 1. Materials  |          |      |           |                |
| (1) 100mm x 3m Steel Casing with coupling                                       | 11       | pcs. | 2,894     | 31,834         |
| (2) 100mm x 3m Steel Casing with one end closed                                 | 1        | pc.  | 2,997     | 2,997          |
| (3) 100mm x 3m Low Carbon Steel Screen  | 2        | pcs. | 4,755     | 9,510          |
| (4) Casing Centralizer  | 0        | set  | 1,925     | 0              |
| 2. Labor, Fuel, Lubricant and others  |          |      |           |                |
| Well Drilling for 40 m depth at 150mm borehole                                  | 40       | m    | 1,534     | 61,360         |
| 3. Borehole Logging   | 1        | no   | 5,000     | 5,000          |
| 4. Freight Cost (11% of Materials)  |          | L.S. |           | 4,878          |
| <b>Sub-Total of B</b>   |          |      |           | <b>115,579</b> |
| <b>C. Well Development and Pumping Test</b>                                     |          |      |           |                |
| Well Development  | 6        | hr.  | 2,353     | 14,118         |
| Pumping Test  | 6        | hr.  | 1,472     | 8,832          |
| <b>Sub-Total of C</b>   |          |      |           | <b>22,950</b>  |
| <b>D. Gravel Packing, Installation of Handpump and Construction of Platform</b> |          |      |           |                |
| 1. Materials  |          |      |           |                |
| (1) Improved Deep Well Cylinder Pump (Malawi Type)                              | 1        | set  | 9,922     | 9,922          |
| (2) 63mm x 6m Riser Pipe and Pump Rod   | 6        | pcs. | 1,880     | 11,280         |
| (3) #10 Sieved Gravel   | 0        | cu.m | 959       | 0              |
| (4) Coarse Sand   | 1        | cu.m | 335       | 335            |
| (5) Cement for Sanitary Seal  | 3        | bags | 128       | 384            |
| (6) Pump Base and Platform  |          |      |           |                |
| 1) Cement   | 4        | bags | 128       | 512            |
| 2) Gravel   | 2        | cu.m | 424       | 848            |
| 3) Sand   | 1        | cu.m | 335       | 335            |
| 4) Plywood (1,200mm x 2,400mm x 6mm)  | 1        | pc.  | 275       | 275            |
| 5) Form Lumber (50mm x 75mm x 1,800mm)  | 6        | pcs. | 49        | 294            |
| 6) Nail   | 1        | kg.  | 35        | 35             |
| <b>Sub-Total of D-1</b>   |          |      |           | <b>24,220</b>  |
| 2. Labor (40% of D-1.)  |          |      |           | 9,688          |
| 3. Freight Cost (11% of Materials)  |          | L.S. |           | 2,664          |
| <b>Sub-Total of D</b>   |          |      |           | <b>36,572</b>  |
| <b>E. Indirect Cost</b>   |          |      |           |                |
| Profit (10% of A, B, C & D)   |          |      |           | 19,010         |
| Overhead Expense (13% of A,B,C & D)   |          |      |           | 24,713         |
| VAT (10% of Labor, Profit & Overhead Expense)                                   |          |      |           | 11,477         |
| <b>Sub-Total of E</b>   |          |      |           | <b>30,487</b>  |
| <b>Total of Construction Cost (A+B+C+D+E)</b>                                   |          |      |           | <b>206,470</b> |
| <b>F. Estimated Government Expenses</b>   |          |      |           |                |
| 1. Preliminary & Detailed Engineering Cost                                      |          | L.S. |           | 3,300          |
| 2. Construction Supervision   |          | L.S. |           | 2,200          |
| 3. Water Quality Analysis   |          | L.S. |           | 1,244          |
| <b>Sub-Total of F</b>   |          |      |           | <b>6,744</b>   |
| <b>GRAND TOTAL</b>  |          |      |           | <b>213,214</b> |
| <b>SAY</b>  |          |      |           | <b>213,200</b> |

Note: L.S. - Lump Sum

Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodology Manual 1996

Unit Cost: Adjusted to 1997 Price Level



Table 10.2.3 (a) Unit Cost of Level I (Gravel Packed Deep Well - 80m Depth)

(Cost: Peso)

| Description   | Quantity | Unit | Unit Cost | Cost           |
|---|----------|------|-----------|----------------|
| <b>A. Mobilization/Demobilization/Site Preparation</b>                          |          | L.S. |           | 15,000         |
| <b>B. Drilling of Well &amp; Installation of Steel Casing/Screen</b>            |          |      |           |                |
| 1. Materials  |          |      |           |                |
| (1) 100mm x 3m Steel Casing with coupling                                       | 24       | pcs. | 2,894     | 69,456         |
| (2) 100mm x 3m Steel Casing with one end closed                                 | 1        | pc.  | 2,997     | 2,997          |
| (3) 100mm x 3m Low Carbon Steel Screen  | 2        | pcs. | 4,755     | 9,510          |
| (4) Casing Centralizer  | 2        | set  | 1,925     | 3,850          |
| 2. Labor, Fuel, Lubricant and others  |          |      |           |                |
| Well Drilling for 40 m depth at 200mm borehole                                  | 80       | m    | 2,460     | 196,800        |
| 3. Borehole Logging   | 1        | no   | 5,000     | 5,000          |
| 4. Freight Cost (11% of Materials)  |          | L.S. |           | 9,439          |
| <b>Sub-Total of B</b>   |          |      |           | <b>297,052</b> |
| <b>C. Well Development and Pumping Test</b>                                     |          |      |           |                |
| Well Development  | 12       | hr.  | 2,353     | 28,236         |
| Pumping Test  | 6        | hr.  | 1,472     | 8,832          |
| <b>Sub-Total of C</b>   |          |      |           | <b>37,068</b>  |
| <b>D. Gravel Packing, Installation of Handpump and Construction of Platform</b> |          |      |           |                |
| 1. Materials  |          |      |           |                |
| (1) Improved Deep Well Cylinder Pump (Malawi Type)                              | 1        | set  | 9,922     | 9,922          |
| (2) 63mm x 6m Riser Pipe and Pump Rod   | 12       | pcs. | 1,880     | 22,560         |
| (3) #10 Sieved Gravel   | 1.6      | cu.m | 959       | 1,534          |
| (4) Coarse Sand   | 1        | cu.m | 335       | 335            |
| (5) Cement for Sanitary Seal  | 4        | bags | 128       | 512            |
| (6) Pump Base and Platform  |          |      |           |                |
| 1) Cement   | 4        | bags | 128       | 512            |
| 2) Gravel   | 2        | cu.m | 424       | 848            |
| 3) Sand   | 1        | cu.m | 335       | 335            |
| 4) Plywood (1,200mm x 2,400mm x 6mm)  | 1        | pc.  | 275       | 275            |
| 5) Form Lumber (50mm x 75mm x 1,800mm)  | 6        | pcs. | 49        | 294            |
| 6) Nail   | 1        | kg.  | 35        | 35             |
| <b>Sub-Total of D-1</b>   |          |      |           | <b>37,162</b>  |
| 2. Labor (40% of D-1.)  |          |      |           | 14,865         |
| 3. Freight Cost (11% of Materials)  |          | L.S. |           | 4,088          |
| <b>Sub-Total of D</b>   |          |      |           | <b>56,115</b>  |
| <b>E. Indirect Cost</b>   |          |      |           |                |
| Profit (10% of A, B, C & D)   |          |      |           | 40,524         |
| Overhead Expense (13% of A,B,C & D)   |          |      |           | 52,681         |
| VAT (10% of Labor, Profit & Overhead Expense)                                   |          |      |           | 30,487         |
| <b>Sub-Total of E</b>   |          |      |           | <b>71,011</b>  |
| <b>Total of Construction Cost (A+B+C+D+E)</b>                                   |          |      |           | <b>448,010</b> |
| <b>F. Estimated Government Expenses</b>   |          |      |           |                |
| 1. Preliminary & Detailed Engineering Cost                                      |          | L.S. |           | 3,300          |
| 2. Construction Supervision   |          | L.S. |           | 2,200          |
| 3. Water Quality Analysis   |          | L.S. |           | 1,244          |
| <b>Sub-Total of F</b>   |          |      |           | <b>6,744</b>   |
| <b>GRAND TOTAL</b>  |          |      |           | <b>454,754</b> |
| <b>SAY</b>  |          |      |           | <b>454,800</b> |

Note: L.S. - Lump Sum

Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodology Manual 1996

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.3 (b) Unit Cost of Level I (Natural Gravel Packed Deep Well - 80m Depth)

(Cost: Peso)

| Description   | Quantity | Unit | Unit Cost | Cost    |
|---|----------|------|-----------|---------|
| <b>A. Mobilization/Demobilization/Site Preparation</b>                          |          | L.S. |           | 15,000  |
| <b>B. Drilling of Well &amp; Installation of Steel Casing/Screen</b>            |          |      |           |         |
| 1. Materials  |          |      |           |         |
| (1) 100mm x 3m Steel Casing with coupling                                       | 24       | pcs. | 2,894     | 69,456  |
| (2) 100mm x 3m Steel Casing with one end closed                                 | 1        | pc.  | 2,997     | 2,997   |
| (3) 100mm x 3m Low Carbon Steel Screen  | 2        | pcs. | 4,755     | 9,510   |
| (4) Casing Centralizer  | 0        | set  | 1,925     | 0       |
| 2. Labor, Fuel, Lubricant and others  |          |      |           |         |
| Well Drilling for 80 m depth at 150mm borehole                                  | 80       | m    | 1,534     | 122,720 |
| 3. Borehole Logging   | 1        | no   | 5,000     | 5,000   |
| 4. Freight Cost (11% of Materials)  |          | L.S. |           | 9,016   |
| <b>Sub-Total of B</b>   |          |      |           | 218,699 |
| <b>C. Well Development and Pumping Test</b>                                     |          |      |           |         |
| Well Development  | 6        | hr.  | 2,353     | 14,118  |
| Pumping Test  | 6        | hr.  | 1,472     | 8,832   |
| <b>Sub-Total of C</b>   |          |      |           | 22,950  |
| <b>D. Gravel Packing, Installation of Handpump and Construction of Platform</b> |          |      |           |         |
| 1. Materials  |          |      |           |         |
| (1) Improved Deep Well Cylinder Pump (Malawi Type)                              | 1        | set  | 9,922     | 9,922   |
| (2) 63mm x 6m Riser Pipe and Pump Rod   | 8        | pcs. | 1,880     | 15,040  |
| (3) #10 Sieved Gravel   | 0        | cu.m | 959       | 0       |
| (4) Coarse Sand   | 1        | cu.m | 335       | 335     |
| (5) Cement for Sanitary Seal  | 3        | bags | 128       | 384     |
| (6) Pump Base and Platform  |          |      |           |         |
| 1) Cement   | 4        | bags | 128       | 512     |
| 2) Gravel   | 2        | cu.m | 424       | 848     |
| 3) Sand   | 1        | cu.m | 335       | 335     |
| 4) Plywood (1,200mm x 2,400mm x 6mm)  | 1        | pc.  | 275       | 275     |
| 5) Form Lumber (50mm x 75mm x 1,800mm)  | 6        | pcs. | 49        | 294     |
| 6) Nail   | 1        | kg.  | 35        | 35      |
| <b>Sub-Total of D-1</b>   |          |      |           | 27,980  |
| 2. Labor (40% of D-1.)  |          |      |           | 11,192  |
| 3. Freight Cost (11% of Materials)  |          | L.S. |           | 3,078   |
| <b>Sub-Total of D</b>   |          |      |           | 42,250  |
| <b>E. Indirect Cost</b>   |          |      |           |         |
| Profit (10% of A, B, C & D)   |          |      |           | 29,890  |
| Overhead Expense (13% of A,B,C & D)   |          |      |           | 38,857  |
| VAT (10% of Labor, Profit & Overhead Expense)                                   |          |      |           | 20,266  |
| <b>Sub-Total of E</b>   |          |      |           | 50,156  |
| <b>Total of Construction Cost (A+B+C+D+E)</b>                                   |          |      |           | 334,937 |
| <b>F. Estimated Government Expenses</b>   |          |      |           |         |
| 1. Preliminary & Detailed Engineering Cost                                      |          | L.S. |           | 3,300   |
| 2. Construction Supervision   |          | L.S. |           | 2,200   |
| 3. Water Quality Analysis   |          | L.S. |           | 1,244   |
| <b>Sub-Total of F</b>   |          |      |           | 6,744   |
| <b>GRAND TOTAL</b>  |          |      |           | 341,681 |
| <b>SAY</b>  |          |      |           | 341,700 |

Note: L.S. - Lump Sum

Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodology Manual 1996

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.4 (a) Unit Cost of Level I (Gravel Packed Deep Well - 120m Depth)

(Cost: Peso)

| Description   | Quantity | Unit | Unit Cost | Cost           |
|---|----------|------|-----------|----------------|
| <b>A. Mobilization/Demobilization/Site Preparation</b>                          |          | L.S. |           | 15,000         |
| <b>B. Drilling of Well &amp; Installation of Steel Casing/Screen</b>            |          |      |           |                |
| 1. Materials  |          |      |           |                |
| (1) 100mm x 3m Steel Casing with coupling                                       | 37       | pcs. | 2,894     | 107,078        |
| (2) 100mm x 3m Steel Casing with one end closed                                 | 1        | pc.  | 2,997     | 2,997          |
| (3) 100mm x 3m Low Carbon Steel Screen  | 2        | pcs. | 4,755     | 9,510          |
| (4) Casing Centralizer  | 2        | set  | 1,925     | 3,850          |
| 2. Labor, Fuel, Lubricant and others  |          |      |           |                |
| Well Drilling for 120 m depth at 200mm borehole                                 | 120      | m    | 2,460     | 295,200        |
| 3. Borehole Logging   | 1        | no   | 5,000     | 5,000          |
| 4. Freight Cost (11% of Materials)  |          | L.S. |           | 13,578         |
| <b>Sub-Total of B</b>   |          |      |           | <b>437,213</b> |
| <b>C. Well Development and Pumping Test</b>                                     |          |      |           |                |
| Well Development  | 12       | hr.  | 2,353     | 28,236         |
| Pumping Test  | 6        | hr.  | 1,472     | 8,832          |
| <b>Sub-Total of C</b>   |          |      |           | <b>37,068</b>  |
| <b>D. Gravel Packing, Installation of Handpump and Construction of Platform</b> |          |      |           |                |
| 1. Materials  |          |      |           |                |
| (1) Improved Deep Well Cylinder Pump (Malawi Type)                              | 1        | set  | 9,922     | 9,922          |
| (2) 63mm x 6m Riser Pipe and Pump Rod   | 15       | pcs. | 1,880     | 28,200         |
| (3) #10 Sieved Gravel   | 2.5      | cu.m | 959       | 2,398          |
| (4) Coarse Sand   | 1        | cu.m | 335       | 335            |
| (5) Cement for Sanitary Seal  | 4        | bags | 128       | 512            |
| (6) Pump Base and Platform  |          |      |           |                |
| 1) Cement   | 4        | bags | 128       | 512            |
| 2) Gravel   | 2        | cu.m | 424       | 848            |
| 3) Sand   | 1        | cu.m | 335       | 335            |
| 4) Plywood (1,200mm x 2,400mm x 6mm)  | 1        | pc.  | 275       | 275            |
| 5) Form Lumber (50mm x 75mm x 1,800mm)  | 6        | pcs. | 49        | 294            |
| 6) Nail   | 1        | kg.  | 35        | 35             |
| <b>Sub-Total of D-1</b>   |          |      |           | <b>43,666</b>  |
| 2. Labor (40% of D-1)   |          |      |           | 17,466         |
| 3. Freight Cost (11% of Materials)  |          | L.S. |           | 4,803          |
| <b>Sub-Total of D</b>   |          |      |           | <b>65,935</b>  |
| <b>E. Indirect Cost</b>   |          |      |           |                |
| Profit (10% of A, B, C & D)   |          |      |           | 55,522         |
| Overhead Expense (13% of A,B,C & D)   |          |      |           | 72,178         |
| VAT (10% of Labor, Profit & Overhead Expense)                                   |          |      |           | 44,037         |
| <b>Sub-Total of E</b>   |          |      |           | <b>99,559</b>  |
| <b>Total of Construction Cost (A+B+C+D+E)</b>                                   |          |      |           | <b>626,539</b> |
| <b>F. Estimated Government Expenses</b>   |          |      |           |                |
| 1. Preliminary & Detailed Engineering Cost                                      |          | L.S. |           | 3,300          |
| 2. Construction Supervision   |          | L.S. |           | 2,200          |
| 3. Water Quality Analysis   |          | L.S. |           | 1,244          |
| <b>Sub-Total of F</b>   |          |      |           | <b>6,744</b>   |
| <b>GRAND TOTAL</b>  |          |      |           | <b>633,283</b> |
| <b>SAY</b>  |          |      |           | <b>633,300</b> |

Note: L.S. - Lump Sum

Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodology Manual 1996

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.4 (b) Unit Cost of Level I (Natural Gravel Packed Deep Well - 120m Depth)  
(Cost: Peso)

| Description   | Quantity | Unit | Unit Cost | Cost           |
|---|----------|------|-----------|----------------|
| <b>A. Mobilization/Demobilization/Site Preparation</b>                          |          | L.S. |           | 15,000         |
| <b>B. Drilling of Well &amp; Installation of Steel Casing/Screen</b>            |          |      |           |                |
| 1. Materials  |          |      |           |                |
| (1) 100mm x 3m Steel Casing with coupling                                       | 37       | pcs. | 2,894     | 107,078        |
| (2) 100mm x 3m Steel Casing with one end closed                                 | 1        | pc.  | 2,997     | 2,997          |
| (3) 100mm x 3m Low Carbon Steel Screen  | 2        | pcs. | 4,755     | 9,510          |
| (4) Casing Centralizer  | 0        | set  | 1,925     | 0              |
| 2. Labor, Fuel, Lubricant and others  |          |      |           |                |
| Well Drilling for 120 m depth at 150mm borehole                                 | 120      | m    | 1,534     | 184,080        |
| 3. Borehole Logging   | 1        | no   | 5,000     | 5,000          |
| 4. Freight Cost (11% of Materials)  |          | L.S. |           | 13,154         |
| <b>Sub-Total of B</b>   |          |      |           | <b>321,819</b> |
| <b>C. Well Development and Pumping Test</b>                                     |          |      |           |                |
| Well Development  | 6        | hr.  | 2,353     | 14,118         |
| Pumping Test  | 6        | hr.  | 1,472     | 8,832          |
| <b>Sub-Total of C</b>   |          |      |           | <b>22,950</b>  |
| <b>D. Gravel Packing, Installation of Handpump and Construction of Platform</b> |          |      |           |                |
| 1. Materials  |          |      |           |                |
| (1) Improved Deep Well Cylinder Pump (Malawi Type)                              | 1        | set  | 9,922     | 9,922          |
| (2) 63mm x 6m Riser Pipe and Pump Rod   | 15       | pcs. | 1,880     | 28,200         |
| (3) #10 Sieved Gravel   | 0        | cu.m | 959       | 0              |
| (4) Coarse Sand   | 1        | cu.m | 335       | 335            |
| (5) Cement for Sanitary Seal  | 3        | bags | 128       | 384            |
| (6) Pump Base and Platform  |          |      |           |                |
| 1) Cement   | 4        | bags | 128       | 512            |
| 2) Gravel   | 2        | cu.m | 424       | 848            |
| 3) Sand   | 1        | cu.m | 335       | 335            |
| 4) Plywood (1,200mm x 2,400mm x 6mm)  | 1        | pc.  | 275       | 275            |
| 5) Form Lumber (50mm x 75mm x 1,800mm)  | 6        | pcs. | 49        | 294            |
| 6) Nail   | 1        | kg.  | 35        | 35             |
| <b>Sub-Total of D-1</b>   |          |      |           | <b>41,140</b>  |
| 2. Labor (40% of D-1.)  |          |      |           | 16,456         |
| 3. Freight Cost (11% of Materials)  |          | L.S. |           | 4,525          |
| <b>Sub-Total of D</b>   |          |      |           | <b>62,121</b>  |
| <b>E. Indirect Cost</b>   |          |      |           |                |
| Profit (10% of A, B, C & D)   |          |      |           | 42,189         |
| Overhead Expense (13% of A,B,C & D)   |          |      |           | 54,846         |
| VAT (10% of Labor, Profit & Overhead Expense)                                   |          |      |           | 29,757         |
| <b>Sub-Total of E</b>   |          |      |           | <b>71,946</b>  |
| <b>Total of Construction Cost (A+B+C+D+E)</b>                                   |          |      |           | <b>479,718</b> |
| <b>F. Estimated Government Expenses</b>   |          |      |           |                |
| 1. Preliminary & Detailed Engineering Cost                                      |          | L.S. |           | 3,300          |
| 2. Construction Supervision   |          | L.S. |           | 2,200          |
| 3. Water Quality Analysis   |          | L.S. |           | 1,244          |
| <b>Sub-Total of F</b>   |          |      |           | <b>6,744</b>   |
| <b>GRAND TOTAL</b>  |          |      |           | <b>486,462</b> |
| <b>SAY</b>  |          |      |           | <b>486,500</b> |

Note: L.S. - Lump Sum

Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodology Manual 1996

Unit Cost: Adjusted to 1997 Price Level

**Table 10.2.5 Unit Cost of Level I (Deep Well Rehabilitation)**

(Cost: Peso)

| Description                                 | Quantity | Unit | Unit Cost | Cost                    |
|---|----------|------|-----------|-------------------------|
| <b>A. Mobilization/Demobilization</b>       |          | L.S. |           | <b>5,000</b>            |
| <b>B. Well Rehabilitation</b>               |          |      |           |                         |
| 1. Materials                                |          |      |           |                         |
| (1) Cylinder Pump Set                       | 1        | set  | 9,922     | 9,922                   |
| (2) Cement for Surface Sealing              | 4        | bags | 128       | 512                     |
| (3) Pump Base and Platform                  |          |      |           |                         |
| 1) Cement                                   | 4        | bags | 128       | 512                     |
| 2) Gravel                                   | 2        | cu.m | 424       | 848                     |
| 3) Sand                                     | 1        | cu.m | 335       | 335                     |
| 4) Plywood (4' x 8' x 1/4")                 | 1        | pc.  | 275       | 275                     |
| 5) Form Lumber (2" x 3" x 6")               | 6        | pcs. | 49        | 294                     |
| 6) Nail                                     | 1        | kg.  | 35        | 35                      |
|   |          |      |           | <b>Sub-Total of B-1</b> |
|   |          |      |           | 12,733                  |
| 2. Labor (40% of B-1)                       |          |      |           | 5,093                   |
| 3. Freight Cost (11% of Materials)          |          |      |           | 1,401                   |
|   |          |      |           | <b>Sub-Total of B</b>   |
|   |          |      |           | 19,227                  |
| <b>C. Well Development</b>                  |          | L.S. |           | <b>28,000</b>           |
| <b>D. Indirect Cost</b>                     |          |      |           |                         |
| Profit (10% of A, B & C)                    |          |      |           | 5,223                   |
| Overhead Expense (13% of A,B & C)           |          |      |           | 6,790                   |
| VAT (10% of Profit & Labor)                 |          |      |           | 3,832                   |
|   |          |      |           | <b>Sub-Total of D</b>   |
|   |          |      |           | 15,845                  |
| <b>Total of Construction Cost (A+B+C+D)</b> |          |      |           | <b>68,072</b>           |
| <b>E. Estimated Government Expenses</b>     |          |      |           |                         |
| 1. Preliminary & Detailed Engineering Cost  |          | L.S. |           | 1,200                   |
| 2. Supervision                              |          | L.S. |           | 720                     |
| 3. Water Quality Analysis                   |          | L.S. |           | 1,244                   |
|   |          |      |           | <b>Sub-Total of E</b>   |
|   |          |      |           | 3,164                   |
| <b>GRAND TOTAL</b>                          |          |      |           | <b>71,236</b>           |
| <b>SAY</b>                                  |          |      |           | <b>71,200</b>           |

Note: L.S. - Lump Sum

Source: DPWH standard price in 1994

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.6 Unit Cost of Level I (Shallow Well - 18m Depth)

(Cost: Peso)

| Description   | Quantity | Unit | Unit Cost | Cost   |
|---|----------|------|-----------|--------|
| <b>A. Mobilization/Demobilization</b>   |          | L.S. |           | 3,000  |
| <b>B. Drilling of Well &amp; Installation of Steel Casing/Screen</b>            |          |      |           |        |
| 1. Materials  |          |      |           |        |
| (1) 63mm x 6m PVC Pipe with socket  | 2        | pcs. | 896       | 1,792  |
| (2) 63mm x 3m PVC Pipe with plug  | 1        | pc.  | 452       | 452    |
| (3) 63mm PVC Socket   | 1        | pc.  | 99        | 99     |
| (4) 63mm x 3m PVC Screen  | 1        | pc.  | 1,433     | 1,433  |
| (5) Casing Centralizer  | 2        | set  | 725       | 1,450  |
| 2. Labor, Fuel, Lubricant and others  |          |      |           |        |
| Well Drilling for 18 m depth at 150mm borehole                                  | 18       | m    | 1,534     | 27,612 |
| 3. Freight Cost (11% of Materials)  |          | L.S. |           | 415    |
| <b>Sub-Total of B</b>   |          |      |           | 33,253 |
| <b>C. Well Development</b>  | 4        | hr.  | 1,482     | 5,928  |
| <b>D. Gravel Packing, Installation of Handpump and Construction of Platform</b> |          |      |           |        |
| 1. Materials  |          |      |           |        |
| (1) 50mm Jetmatic Handpump  | 1        | set  | 2,623     | 2,623  |
| (2) 50mm Riser Pipe and Foot Valve  | 1        | pc.  | 110       | 110    |
| (3) #10 Sieved Gravel   | 0.1      | cu.m | 959       | 96     |
| (4) Coarse Sand   | 0.07     | cu.m | 335       | 23     |
| (5) Cement for Sanitary Seal  | 4        | bag  | 128       | 512    |
| (6) Pump Base and Platform  |          |      |           |        |
| 1) Cement   | 4        | bags | 128       | 512    |
| 2) Gravel   | 1        | cu.m | 424       | 424    |
| 3) Sand   | 1        | cu.m | 335       | 335    |
| 4) Plywood (1,200mm x 2,400mm x 6mm)  | 1        | pc.  | 275       | 275    |
| 5) Form Lumber (50mm x 75mm x 1,800 mm)   | 1        | pc.  | 49        | 49     |
| 6) Nail   | 1        | kg.  | 35        | 35     |
| <b>Sub-Total of D-1</b>   |          |      |           | 4,994  |
| 2. Labor (40% of D-1.)  |          |      |           | 1,998  |
| 3. Freight Cost (11% of Materials)  |          | L.S. |           | 549    |
| <b>Sub-Total of D</b>   |          |      |           | 7,541  |
| <b>E. Indirect Cost</b>   |          |      |           |        |
| Profit (10% of A to D)  |          |      |           | 4,972  |
| Overhead Expense (13% of A to D)  |          |      |           | 6,464  |
| VAT (10% of Profit & Overhead Expense)  |          |      |           | 1,144  |
| <b>Sub-Total of E</b>   |          |      |           | 6,116  |
| <b>Total of Construction Cost (A+B+C+D+E)</b>                                   |          |      |           | 55,838 |
| <b>F. Estimated Government Expenses</b>   |          |      |           |        |
| 1. Preliminary & Detailed Engineering Cost                                      |          | L.S. |           | 2,200  |
| 2. Construction Supervision   |          | L.S. |           | 1,650  |
| 3. Water Quality Analysis   |          | L.S. |           | 1,244  |
| <b>Sub-Total of F</b>   |          |      |           | 5,094  |
| <b>GRAND TOTAL</b>  |          |      |           | 60,932 |
| <b>SAY</b>  |          |      |           | 60,900 |

Note: L.S. - Lump Sum

Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodology Manual 1996

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.7 Unit Cost of Level I (Spring Development)

(Cost: Pcs)

| Description  | Quantity | Unit | Unit Cost | Cost    |
|--|----------|------|-----------|---------|
| <b>A. Mobilization/Demobilization</b>                    |          | L.S. |           | 3,600   |
| <b>B. Construction of Spring Box</b>                     |          |      |           |         |
| 1. Materials   |          | L.S. |           | 39,900  |
| 2. Labor (35% of 1.)                                     |          | L.S. |           | 13,965  |
| 3. Freight Cost (11% of Materials)                       |          | L.S. |           | 4,389   |
| <b>Sub-Total of B</b>                                    |          |      |           | 58,254  |
| <b>C. Installation of Pipelines &amp; Fittings</b>       |          |      |           |         |
| 1. Transmission Main                                     |          |      |           |         |
| (1) Materials  |          |      |           |         |
| 1) 63mm dia. PVC Pipe (Class 12.5 with push type socket) | 330      | pcs. | 896       | 295,680 |
| 2) 63mm dia. Tee   | 1        | no.  | 97        | 97      |
| 3) Solvent Cement  | 26       | cans | 50        | 1,300   |
| 4) 63mm dia. Elbow (90 deg.)                             | 3        | nos. | 83        | 249     |
| 5) 63mm dia. Elbow (45 deg.)                             | 1        | pc.  | 82        | 82      |
| 6) 50mm dia. Gate Valve                                  | 2        | pcs. | 841       | 1,682   |
| 7) 50mm dia. x 1m Stand Pipe                             | 1        | pc.  | 165       | 165     |
| 8) 63mm x 50mm GI Nipple                                 | 1        | pc.  | 115       | 115     |
| 9) 50mm dia. Union Patente                               | 3        | pcs. | 179       | 537     |
| 10) 63mm x 50mm dia. Reducing Socket                     | 2        | pcs. | 106       | 212     |
| 11) 50mm dia. GI Elbow (90 deg.)                         | 2        | pcs. | 74        | 148     |
| 12) 63mm x 50mm dia. Socket Adaptor                      | 2        | pcs. | 156       | 312     |
| 13) 50mm dia. GI Gate Valve                              | 2        | pcs. | 739       | 1,478   |
| 14) 13mm dia. Brass Faucet                               | 2        | pcs. | 45        | 90      |
| <b>Sub-Total of Materials</b>                            |          |      |           | 302,057 |
| (2) Labor (35% of Material Cost)                         |          | L.S. |           | 105,720 |
| (3) Freight Cost (11% of Materials)                      |          | L.S. |           | 33,226  |
| <b>Sub-Total of C</b>                                    |          |      |           | 441,003 |
| <b>D. Indirect Cost</b>                                  |          |      |           |         |
| 1. Transmission Main                                     |          |      |           |         |
| (1) Profit (10% of C)                                    |          |      |           | 44,100  |
| (2) Overhead Expense (13% of C)                          |          |      |           | 57,330  |
| (3) VAT (10% of Profit, Overhead Expense and Labor)      |          |      |           | 20,715  |
| 2. Source Facilities                                     |          |      |           |         |
| (1) Profit (10% of A, B)                                 |          |      |           | 18,556  |
| (2) Overhead Expense (13% of A, B)                       |          |      |           | 6,185   |
| (3) VAT (10% of Profit, Overhead Expense and Labor)      |          |      |           | 3,871   |
| <b>Sub-Total of D</b>                                    |          |      |           | 150,757 |
| <b>Total Construction Cost (A+B+C+D)</b>                 |          |      |           | 653,614 |
| <b>E. Estimated Government Expenses</b>                  |          |      |           |         |
| 1. Preliminary & Detailed Engineering and RWSA Formation |          |      |           | 2,200   |
| 2. Supervision   |          |      |           | 13,200  |
| 3. Water Quality Analysis                                |          |      |           | 1,244   |
| <b>Sub-Total of E</b>                                    |          |      |           | 16,644  |
| <b>GRAND TOTAL</b>                                       |          |      |           | 670,258 |
| <b>SAY</b>   |          |      |           | 670,300 |

Note: L.S. - Lump Sum

Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodology Manual 1996

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.8 Unit Cost of Level II (600 Service Population)

sheet 1 of 2 (Cost: Peso)

| Description  | Quantity | Unit | Unit Cost | Cost    |
|--|----------|------|-----------|---------|
| <b>A. Mobilization/Demobilization</b>                      |          | L.S. |           | 5,000   |
| <b>B. Construction of Spring Box</b>                       |          |      |           |         |
| 1. Materials   |          | L.S. |           | 39,900  |
| 2. Labor (35% of 1.)                                       |          | L.S. |           | 13,965  |
| 3. Freight Cost (11% of Materials)                         |          | L.S. |           | 4,389   |
| <b>Sub-Total of B</b>                                      |          |      |           | 58,254  |
| <b>C. Installation of Pipelines &amp; Fittings</b>         |          |      |           |         |
| <b>1. Transmission Main</b>                                |          |      |           |         |
| (1) Materials  |          |      |           |         |
| 1) 63mm dia. PVC Pipe (Class 12.5 with pusher type socket) | 500      | pcs. | 896       | 448,000 |
| 2) 63mm dia. Tee   | 1        | no.  | 97        | 97      |
| 3) Solvent Cement  | 40       | cans | 50        | 2,000   |
| 4) 63mm dia. x 50mm Nipple                                 | 3        | nos. | 149       | 447     |
| 5) 63mm dia. Union Patente                                 | 1        | pc.  | 190       | 190     |
| 6) 63mm dia. x 50mm dia. Reducing Socket                   | 2        | pcs. | 115       | 230     |
| 7) 63mm dia. Elbow (90 deg.)                               | 1        | pc.  | 83        | 83      |
| 8) 63mm dia. Elbow (45 deg.)                               | 1        | pc.  | 82        | 82      |
| 9) 63mm dia. Gate Valve                                    | 3        | pcs. | 841       | 2,523   |
| <b>Sub-Total of Materials</b>                              |          |      |           | 453,652 |
| (2) Labor (35% of Material Cost)                           |          | L.S. |           | 158,778 |
| (3) Freight Cost (11% of Materials)                        |          | L.S. |           | 49,902  |
| <b>Sub-Total of Transmission Main</b>                      |          |      |           | 662,332 |
| <b>2. Distribution Pipeline</b>                            |          |      |           |         |
| (1) Materials  |          |      |           |         |
| 1) 50mm dia. PVC Pipe (Class 12.5 with pusher type socket) | 20       | pcs. | 496       | 9,920   |
| 2) 38mm dia. PVC Pipe (Class 12.5 with pusher type socket) | 30       | pcs. | 330       | 9,900   |
| 3) 20mm dia. PVC Pipe (Class 40 with pusher type socket)   | 10       | pcs. | 110       | 1,100   |
| 4) 13mm dia. x 1 m Stand Pipe                              | 10       | pcs. | 103       | 1,030   |
| 5) Solvent Cement  | 4        | cans | 50        | 200     |
| 6) Fittings  |          |      |           |         |
| a. 50mm dia. x 150mm PVC Nipple                            | 3        | pcs. | 137       | 411     |
| b. 32mm dia. x 150mm PVC Nipple                            | 3        | pcs. | 83        | 249     |
| c. 13mm dia. x 150mm GI Nipple                             | 40       | pcs. | 27        | 1,080   |
| d. 50mm dia. Union Patente                                 | 1        | pcs. | 179       | 179     |
| e. 32mm dia. Union Patente                                 | 2        | pcs. | 78        | 156     |
| f. 13mm dia. Union Patente                                 | 10       | pcs. | 27        | 270     |
| g. 50mm dia. x 32mm dia. Reducing Socket                   | 6        | pcs. | 99        | 594     |
| h. 32mm dia. x 20mm dia. Reducing Socket                   | 10       | pcs. | 77        | 770     |
| i. 20mm dia. x 13mm dia. Reducing Socket                   | 10       | pcs. | 60        | 600     |
| j. 50mm dia. PVC Elbow (90 deg.)                           | 2        | pcs. | 74        | 148     |
| k. 13mm dia. GI Elbow (90 deg.)                            | 20       | pcs. | 14        | 280     |
| l. 20mm dia. x 13mm dia. Socket Adaptor                    | 10       | pcs. | 45        | 450     |
| m. 50mm dia. GI Gate Valve                                 | 2        | pcs. | 739       | 1,478   |
| n. 32mm dia. GI Gate Valve                                 | 2        | pcs. | 418       | 836     |
| o. 13mm dia. GI Gate Valve                                 | 24       | pcs. | 253       | 6,072   |
| p. 13mm dia. Brass Faucet                                  | 24       | pcs. | 45        | 1,080   |
| q. 50mm dia. Tee   | 4        | pcs. | 143       | 572     |
| r. 32mm dia. Tee   | 6        | pcs. | 121       | 726     |
| s. Water Meter   | 24       | pcs. | 826       | 19,824  |
| t. Water Meter Box   | 24       | pcs. | 1,212     | 29,088  |
| <b>Sub-Total of Materials</b>                              |          |      |           | 87,013  |
| (2) Labor (35% of Material Cost)                           |          |      |           | 30,455  |
| (3) Freight Cost (11% of Materials)                        |          | L.S. |           | 9,571   |
| <b>Sub-Total of Distribution Pipeline</b>                  |          |      |           | 127,039 |
| <b>Sub-Total of C</b>                                      |          |      |           | 789,371 |



**Table 10.2.8 Unit Cost of Level II (600 Service Population) (Cont'd.)**

Sheet 2 of 2

(Cost: Peso)

| Description  | Quantity | Unit | Unit Cost | Cost             |
|--|----------|------|-----------|------------------|
| <b>D. Indirect Cost</b>                                  |          |      |           |                  |
| 1. Transmission Main                                     |          |      |           |                  |
| (1) Profit (10% of C-1)                                  |          |      |           | 66,233           |
| (2) Overhead Expense (13% of C-1)                        |          |      |           | 86,103           |
| (3) VAT (10% of Profit, Overhead Expense and Labor)      |          |      |           | 31,111           |
| 2. Source Facilities and Distribution Pipeline           |          |      |           |                  |
| (1) Profit (10% of A, B, C-2)                            |          |      |           | 19,029           |
| (2) Overhead Expense (13% of A,B and C-2)                |          |      |           | 24,738           |
| (3) VAT (10% of Profit, Overhead Expense and Labor)      |          |      |           | 8,819            |
| <b>Sub-Total of D</b>                                    |          |      |           | <b>236,033</b>   |
| <b>Total Construction Cost (A+B+C+D)</b>                 |          |      |           | <b>1,088,658</b> |
| <b>E. Estimated Government Expenses</b>                  |          |      |           |                  |
| 1. Preliminary & Detailed Engineering and RWSA Formation |          |      |           | 2,200            |
| 2. Supervision   |          |      |           | 13,200           |
| 3. Water Quality Analysis                                |          |      |           | 1,244            |
| <b>Sub-Total of E</b>                                    |          |      |           | <b>16,644</b>    |
| <b>Total Estimated Cost</b>                              |          |      |           | <b>1,105,302</b> |
| <b>Unit Cost per Person Served</b>                       |          |      |           | <b>1,842</b>     |
|  |          |      |           | <b>1,800</b>     |

Note: L.S. - Lump Sum

Source: DPWH standard price in 1994, LWUA Water Supply Feasibility Study Methodology Manual 1996

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.9 Unit Cost of Level III (5,000 Service Population)

(Cost: Peso)

| Description  | Quantity | Unit | Unit Cost | Cost              |
|--|----------|------|-----------|-------------------|
| <b>A. Mobilization/Demobilization</b>                |          | L.S. |           | 330,000           |
| <b>B. Source Development and Storage</b>             |          |      |           |                   |
| 1. Deep Well   | 1        | No.  | 1,770,000 | 1,770,000         |
| 2. Deep Well Pump                                    | 1        | No.  | 632,000   | 632,000           |
| 3. Chlorinator House & Equipment                     | 1        | L.S. |           | 480,000           |
| 4. Storage Tank (250 cu.m)                           | 1        | No.  | 1,200,000 | 1,200,000         |
| <b>Sub-Total of B</b>                                |          |      |           | <b>4,082,000</b>  |
| <b>C. Transmission Main</b>                          |          |      |           |                   |
| 1. 160mm dia.  | 500      | L.M. | 1,234     | 617,000           |
| <b>Sub-Total of C</b>                                |          |      |           | <b>617,000</b>    |
| <b>D. Distribution Main</b>                          |          |      |           |                   |
| 1. 160mm dia.  | 1,000    | L.M. | 1,234     | 1,234,000         |
| 2. 110mm dia.  | 3,000    | L.M. | 1,019     | 3,057,000         |
| 3. 90mm dia.   | 3,000    | L.M. | 639       | 1,917,000         |
| 4. 75mm dia.   | 5,000    | L.M. | 595       | 2,975,000         |
| <b>Sub-Total of D</b>                                |          |      |           | <b>9,183,000</b>  |
| <b>E. Service Connections</b>                        | 1,000    | Nos. | 2,138     | 2,138,000         |
| <b>F. Miscellaneous</b>                              |          |      |           |                   |
| 1. Vehicle   | 1        | No.  | 606,000   | 606,000           |
| 2. Office & Workshop Bldg.                           | 1        | No.  | 606,000   | 606,000           |
| 3. Office Equipment                                  |          | L.S. |           | 110,000           |
| 4. Tools and Spare Parts                             |          | L.S. |           | 110,000           |
| <b>Sub-Total of F</b>                                |          |      |           | <b>1,432,000</b>  |
| <b>Total Direct Cost (A+B+C+D+E+F)</b>               |          |      |           | <b>17,782,000</b> |
| <b>G. Indirect Cost (25% of Direct Cost)</b>         |          |      |           | <b>4,445,500</b>  |
| <b>Total Estimated Cost</b>                          |          |      |           | <b>22,227,500</b> |
| <b>Unit Cost per Person Served</b>                   |          |      |           |                   |
| <b>For New Construction</b>                          |          |      |           | <b>4,446</b>      |
| <b>For Expansion of Existing System (Exclude F.)</b> |          |      |           | <b>4,400</b>      |
|  |          |      |           | <b>4,088</b>      |
|  |          |      |           | <b>4,100</b>      |

Note: L.S. - Lump Sum

Cost of spring development includes additional transmission main, but it shall be confirmed by survey in the implementation stage.

Source: LWUA standard price in 1994

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.10 Unit Cost of Level III (10,000 Service Population)

(Cost: Peso)

| Description  | Quantity | Unit | Unit Cost | Cost              |
|--|----------|------|-----------|-------------------|
| <b>A. Mobilization/Demobilization</b>                |          | L.S. |           | 330,000           |
| <b>B. Source Development and Storage</b>             |          |      |           |                   |
| 1. Deep Well   | 1        | No.  | 1,770,000 | 1,770,000         |
| 2. Deep Well Pump                                    | 1        | No.  | 632,000   | 632,000           |
| 3. Chlorinator House & Equipment                     | 1        | L.S. |           | 480,000           |
| 4. Storage Tank (250 cu.m)                           | 1        | No.  | 1,200,000 | 1,200,000         |
| <b>Sub-Total of B</b>                                |          |      |           | <b>4,082,000</b>  |
| <b>C. Transmission Main</b>                          |          |      |           |                   |
| 1. 160mm dia.  | 500      | L.M. | 1,234     | 617,000           |
| <b>Sub-Total of C</b>                                |          |      |           | <b>617,000</b>    |
| <b>D. Distribution Main</b>                          |          |      |           |                   |
| 1. 160mm dia.  | 2,000    | L.M. | 1,234     | 2,468,000         |
| 2. 110mm dia.  | 5,000    | L.M. | 1,019     | 5,095,000         |
| 3. 90mm dia.   | 6,000    | L.M. | 639       | 3,834,000         |
| 4. 75mm dia.   | 8,000    | L.M. | 595       | 4,760,000         |
| <b>Sub-Total of D</b>                                |          |      |           | <b>16,157,000</b> |
| <b>E. Service Connections</b>                        | 2,000    | Nos. |           | 3,880,000         |
| <b>F. Miscellaneous</b>                              |          |      |           |                   |
| 1. Vehicle   | 1        | No.  | 606,000   | 606,000           |
| 2. Office & Workshop Bldg.                           | 1        | No.  | 606,000   | 606,000           |
| 3. Office Equipment                                  |          | L.S. |           | 110,000           |
| 4. Tools and Spare Parts                             |          | L.S. |           | 110,000           |
| <b>Sub-Total of F</b>                                |          |      |           | <b>1,432,000</b>  |
| <b>Total Direct Cost (A+B+C+D+E+F)</b>               |          |      |           | <b>26,498,000</b> |
| <b>G. Indirect Cost (25% of Direct Cost)</b>         |          |      |           | <b>6,624,500</b>  |
| <b>Total Estimated Cost</b>                          |          |      |           | <b>33,122,500</b> |
| <b>Unit Cost per Person Served</b>                   |          |      |           |                   |
| <b>For New Construction</b>                          |          |      |           | 3,312             |
| <b>For Expansion of Existing System (Exclude F.)</b> |          |      |           | 3,300             |
|  |          |      |           | 3,133             |
|  |          |      |           | 3,100             |

Note: L.S. - Lump Sum

Cost of spring development includes additional transmission main, but it shall be confirmed by survey in the implementation stage.

Source: LWUA standard price in 1994

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.11 Unit Cost of Level III (15,000 Service Population)

(Cost: Peso)

| Description  | Quantity | Unit | Unit Cost | Cost              |
|--|----------|------|-----------|-------------------|
| <b>A. Mobilization/Demobilization</b>                |          | L.S. |           | 330,000           |
| <b>B. Source Development and Storage</b>             |          |      |           |                   |
| 1. Deep Well   | 2        | No.  | 1,770,000 | 3,540,000         |
| 2. Deep Well Pump                                    | 2        | No.  | 632,000   | 1,264,000         |
| 3. Chlorinator House & Equipment                     | 2        | L.S. |           | 480,000           |
| 4. Storage Tank (250 cu.m)                           | 2        | No.  | 1,200,000 | 1,200,000         |
| <b>Sub-Total of B</b>                                |          |      |           | <b>6,484,000</b>  |
| <b>C. Transmission Main</b>                          |          |      |           |                   |
| 1. 160mm dia.  | 1,000    | L.M. | 1,234     | 1,234,000         |
| <b>Sub-Total of C</b>                                |          |      |           | <b>1,234,000</b>  |
| <b>D. Distribution Main</b>                          |          |      |           |                   |
| 1. 160mm dia.  | 3,000    | L.M. | 1,234     | 3,702,000         |
| 2. 110mm dia.  | 7,000    | L.M. | 1,019     | 7,133,000         |
| 3. 90mm dia.   | 9,000    | L.M. | 639       | 5,751,000         |
| 4. 75mm dia.   | 11,000   | L.M. | 595       | 6,545,000         |
| <b>Sub-Total of D</b>                                |          |      |           | <b>23,131,000</b> |
| <b>E. Service Connections</b>                        | 3,000    | Nos. |           | 5,820,000         |
| <b>F. Miscellaneous</b>                              |          |      |           |                   |
| 1. Vehicle   | 1        | No.  | 606,000   | 606,000           |
| 2. Office & Workshop Bldg.                           | 1        | No.  | 606,000   | 606,000           |
| 3. Office Equipment                                  |          | L.S. |           | 110,000           |
| 4. Tools and Spare Parts                             |          | L.S. |           | 110,000           |
| <b>Sub-Total of F</b>                                |          |      |           | <b>1,432,000</b>  |
| <b>Total Direct Cost (A+B+C+D+E+F)</b>               |          |      |           | <b>38,431,000</b> |
| <b>G. Indirect Cost (25% of Direct Cost)</b>         |          |      |           | 9,607,750         |
| <b>Total Estimated Cost</b>                          |          |      |           | <b>48,038,750</b> |
| <b>Unit Cost per Person Served</b>                   |          |      |           |                   |
| <b>For New Construction</b>                          |          |      |           | 3,203             |
| <b>For Expansion of Existing System (Exclude F.)</b> |          |      |           | 3,200             |
|  |          |      |           | 3,083             |
|  |          |      |           | <b>3,100</b>      |

Note: L.S. - Lump Sum

Cost of spring development includes additional transmission main, but it shall be confirmed by survey in the implementation stage.

Source: LWUA standard price in 1994

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.12 Unit Cost of Flush Water Sealed with Septic Tank Toilet

(Cost: Peso)

| Description   | Quantity | Unit   | Unit Cost | Cost          |
|---|----------|--------|-----------|---------------|
| <b>A. Demolition</b>  |          | L.S.   |           | 1,000         |
| <b>B. Earthwork</b>   |          |        |           |               |
| 1. Materials  |          |        |           |               |
| (1) Gravel Fill   | 1        | cu.m.  | 424       | 424           |
| Sub-Total of B-1  |          |        |           | 424           |
| 2. Labor  |          |        |           |               |
| (1) Excavation  | 6        | cu.m.  | 131       | 786           |
| (2) Backfill  | 2        | cu.m.  | 119       | 238           |
| (3) Gravel Fill   | 1        | cu.m.  | 155       | 155           |
| Sub-Total of B-2  |          |        |           | 1,179         |
| <b>Sub-Total of B</b>   |          |        |           | <b>1,603</b>  |
| <b>C. Concrete Work</b>   |          |        |           |               |
| 1. Materials  |          |        |           |               |
| Slab on wood planks   |          |        |           |               |
| (1) 16 - 2" x 8" x 6' Coco Lumber                                 | 128      | bd.ft  | 8         | 1,024         |
| (2) 10mm dia x 6.0m Rebar   | 3        | pcs.   | 54        | 162           |
| (3) #16 Tie Wire  | 0.5      | kg.    | 54        | 27            |
| (4) Cement  | 10       | bags   | 128       | 1,280         |
| (5) Sand  | 1.5      | cu.m.  | 335       | 503           |
| (6) Gravel  | 2        | cu.m.  | 424       | 848           |
| (7) Stone Lining with Mortar                                      |          | L.S.   |           | 1,115         |
| Sub-Total of C-1  |          |        |           | 4,959         |
| 2. Labor (30% of C-1)   |          |        |           | 1,488         |
| <b>Sub-Total of C</b>   |          |        |           | <b>6,447</b>  |
| <b>D. Carpentry Work</b>  |          |        |           |               |
| 1. Materials  |          |        |           |               |
| (1) Nipa  | 60       | pcs.   | 2         | 120           |
| (2) 1.5m x 1.8m, amakan   | 3        | pcs.   | 70        | 210           |
| (3) 2x 3 x 10' Coco Lumber  | 20       | bd.ft  | 10        | 200           |
| (4) 2 x 2 x 10' Coco Lumber                                       | 33.3     | bd.ft  | 10        | 333           |
| (5) 3" dia. Bamboo  | 3        | lights | 20        | 60            |
| (6) Assorted CWN  | 4        | kgs.   | 40        | 160           |
| (7) Rattan wire   | 20       | pcs.   | 1         | 20            |
| Sub-Total of C-1  |          |        |           | 1,103         |
| 2. Labor (30% of C-1)   |          |        |           | 331           |
| <b>Sub-Total of C</b>   |          |        |           | <b>1,434</b>  |
| <b>E. Plumbing</b>  |          |        |           |               |
| 1. Materials  |          |        |           |               |
| (1) Water Closet  | 1        | set    | 4,500     | 4,500         |
| (2) Water line and sanitary fixtures                              |          | L.S.   |           | 1,500         |
| Sub-Total of E-1  |          |        |           | 6,000         |
| 2. Labor (30% of E-1)   |          |        |           | 1,800         |
| <b>Sub-Total of E</b>   |          |        |           | <b>7,800</b>  |
| <b>F. Transportation Cost</b><br>(excluding indigenous materials) |          | L.S.   |           | 500           |
| <b>G. Indirect Cost</b>   |          |        |           |               |
| Profit (10% of A - F)   |          |        |           | 1,878         |
| VAT (10% of Profit & Labor)                                       |          |        |           | 668           |
| <b>Sub-Total of F</b>   |          |        |           | <b>2,546</b>  |
| <b>Total of Construction Cost</b><br><b>(A+B+C+D+E+F+G)</b>       |          |        |           | <b>21,330</b> |
|   |          |        |           | <b>21,300</b> |

Source: DOH standard price in 1993

Cost adjusted to 1997 Price Level

Table 10.2.13 Unit Cost of Pour Flush with Double Pit Latrine

(Cost: Peso)

| Description   | Quantity | Unit   | Unit Cost | Cost          |
|---|----------|--------|-----------|---------------|
| <b>A. Earthwork</b>   |          |        |           |               |
| 1. Materials  |          |        |           |               |
| (1) Gravel Fill   | 1        | cu.m.  | 424       | 424           |
| Sub-Total of A-1  |          |        |           | 424           |
| 2. Labor  |          |        |           |               |
| (1) Excavation  | 6        | cu.m.  | 131       | 786           |
| (2) Backfill  | 2        | cu.m.  | 119       | 238           |
| (3) Gravel Fill   | 1        | cu.m.  | 155       | 155           |
| Sub-Total of A-2  |          |        |           | 1,179         |
| <b>Sub-Total of A</b>   |          |        |           | <b>1,603</b>  |
| <b>B. Concrete Work</b>   |          |        |           |               |
| 1. Materials  |          |        |           |               |
| Slab on wood planks   |          |        |           |               |
| (1) 16 - 2" x 8" x 6' Coco Lumber                                 | 128      | bd.ft  | 8         | 1,024         |
| (2) 10mm dia x 6.0m Rebar   | 3        | pcs.   | 54        | 162           |
| (3) #16 Tie Wire  | 0.5      | kg.    | 54        | 27            |
| (4) Cement  | 10       | bags   | 128       | 1,280         |
| (5) Sand  | 1.5      | cu.m.  | 335       | 503           |
| (6) Gravel  | 2        | cu.m.  | 424       | 848           |
| (7) Stone Lining with Mortar                                      |          | L.S.   |           | 1,115         |
| Sub-Total of B-1  |          |        |           | 4,959         |
| 2. Labor (25% of B-1)   |          |        |           | 1,240         |
| <b>Sub-Total of B</b>   |          |        |           | <b>6,199</b>  |
| <b>C. Carpentry Work</b>  |          |        |           |               |
| 1. Materials  |          |        |           |               |
| (1) Nipa  | 60       | pcs    | 2         | 120           |
| (2) 1.5m x 1.8m, amakan   | 3        | pcs    | 70        | 210           |
| (3) 2x 3 x 10' Coco Lumber  | 20       | bdft   | 10        | 200           |
| (4) 2 x 2 x 10' Coco Lumber                                       | 33.3     | bdft   | 10        | 333           |
| (5) 3" dia. Bamboo  | 3        | lights | 20        | 60            |
| (6) Assorted CWN  | 4        | kgs.   | 40        | 160           |
| (7) Rattan wire   | 20       | pcs    | 1         | 20            |
| (8) Pale (medium)   | 1        | pc.    | 190       | 190           |
| (9) 3" dia. PVC x 3m  | 1        | pc.    | 180       | 180           |
| (10) 3" dia. PVC Elbow  | 2        | pcs    | 15        | 30            |
| (11) PVC solvent  | 1        | pint   | 50        | 50            |
| (12) Ga. 31 x 8' plain Gi sht.                                    | 1        | sht.   | 200       | 200           |
| Sub-Total of C-1  |          |        |           | 1,753         |
| 2. Labor (25% of C-1)   |          |        |           | 438           |
| <b>Sub-Total of C</b>   |          |        |           | <b>2,191</b>  |
| <b>D. Plumbing</b>  |          |        |           |               |
| 1. Material   |          |        |           |               |
| (1) Toilet Bowl-Squat Type  | 1        | pc.    | 603       | 603           |
| (2) 75mm dia x 6.0m PVC Pipe                                      | 1        | pc.    | 142       | 142           |
| Sub-Total of D-1  |          |        |           | 745           |
| 2. Labor (25% of D-1)   |          |        |           | 186           |
| <b>Sub-Total of D</b>   |          |        |           | <b>931</b>    |
| <b>E. Transportation Cost</b><br>(excluding indigenous materials) |          | L.S.   |           | 300           |
| <b>F. Indirect Cost</b>   |          |        |           |               |
| Profit (10% of A - D)   |          |        |           | 1,311         |
| VAT (10% of Profit & Labor)                                       |          |        |           | 435           |
| <b>Sub-Total of F</b>   |          |        |           | <b>1,746</b>  |
| <b>Total Construction Cost</b><br>(A+B+C+D+E+F)                   |          |        |           | <b>12,970</b> |
|   |          |        | Say       | <b>13,000</b> |

Note: L.S. - Lump Sum

Source: DOH standard price in 1993

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.14 Unit Construction Cost of Ventilated Improved Pit Latrine

(Cost: Peso)

| Description   | Quantity | Unit   | Unit Cost | Cost         |
|---|----------|--------|-----------|--------------|
| <b>A. Earthwork</b>   |          |        |           |              |
| 1. Materials  |          |        |           |              |
| (1) Gravel Fill   | 0.5      | cu.m.  | 424       | 212          |
| Sub-Total of A-1  |          |        |           | 212          |
| 2. Labor  |          |        |           |              |
| (1) Excavation  | 3        | cu.m.  | 131       | 393          |
| (2) Backfill  | 1        | cu.m.  | 119       | 119          |
| (3) Gravel Fill   | 0.5      | cu.m.  | 155       | 78           |
| Sub-Total of A-2  |          |        |           | 590          |
| <b>Sub-Total of A</b>   |          |        |           | <b>802</b>   |
| <b>B. Concrete Work</b>   |          |        |           |              |
| 1. Materials  |          |        |           |              |
| Slab on wood planks   |          |        |           |              |
| (1) 8 - 2" x 8" x 6' Coco Lumber                                  | 64       | bd.ft  | 8         | 512          |
| (2) 10mm dia x 6.0m Rebar   | 2        | pcs.   | 54        | 108          |
| (3) #16 Tie Wire  | 0.5      | kg.    | 54        | 27           |
| (4) Cement  | 4        | bags   | 128       | 512          |
| (5) Sand  | 0.5      | cu.m   | 335       | 168          |
| (6) Gravel  | 0.5      | cu.m   | 424       | 212          |
| (7) Stone Lining with Mortar                                      |          | L.S.   |           | 1,075        |
| Sub-total of B-1  |          |        |           | 2,614        |
| 2. Labor (25% of B-1)   |          |        |           | 653          |
| <b>Sub-Total of B</b>   |          |        |           | <b>3,267</b> |
| <b>C. Carpentry Work</b>  |          |        |           |              |
| 1. Materials  |          |        |           |              |
| (1) Nipa  | 60       | pcs    | 2         | 120          |
| (2) 1.5m x 1.8m, amakan   | 3        | pcs    | 70        | 210          |
| (3) 2x 3 x 10' Coco Lumber  | 20       | bdft   | 10        | 200          |
| (4) 2 x 2 x 10' Coco Lumber                                       | 33.3     | bdft   | 10        | 333          |
| (5) 3" dia. Bamboo  | 3        | lights | 20        | 60           |
| (6) Assorted CWN  | 4        | kgs.   | 40        | 160          |
| (7) Rattan wire   | 20       | pcs    | 1         | 20           |
| (8) 3 x 3" hinges   | 2        | pc.    | 30        | 60           |
| Sub-Total of C-1  |          |        |           | 1,163        |
| 2. Labor (25% of C-1)   |          |        |           | 291          |
| <b>Sub-Total of C</b>   |          |        |           | <b>1,454</b> |
| <b>D. Plumbing</b>  |          |        |           |              |
| 1. Material   |          |        |           |              |
| (1) 50mm dia. PVC Pipe  | 1        | pc.    | 71        | 71           |
| (2) Fly Screen  |          | LS.    |           | 55           |
| Sub-Total of D-1  |          |        |           | 126          |
| 2. Labor (25% of D-1)   |          |        |           | 38           |
| <b>Sub-Total of D</b>   |          |        |           | <b>164</b>   |
| <b>E. Transportation Cost</b><br>(excluding indigenous materials) |          | L.S.   |           | 150          |
| <b>F. Indirect Cost</b>   |          |        |           |              |
| Profit (10% of A - E)   |          |        |           | 584          |
| VAT (10% of Profit & Labor)                                       |          |        |           | 216          |
| <b>Sub-Total of F</b>   |          |        |           | <b>800</b>   |
| <b>Total Construction Cost</b><br>(A+B+C+D+E+F)                   |          |        | Say       | <b>6,636</b> |
|   |          |        |           | <b>6,600</b> |

Note: L.S. - Lump Sum

Source: DOH standard price in 1993

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.15 Unit Construction Cost of Pit Latrine

(Cost: Peso)

| Description   | Quantity | Unit   | Unit Cost | Cost         |
|---|----------|--------|-----------|--------------|
| <b>A. Earthwork</b>   |          |        |           |              |
| 1. Materials  |          |        |           |              |
| (1) Gravel Fill   | 0.3      | cu.m.  | 424       | 127          |
| Sub-Total of A-1  |          |        |           | 127          |
| 2. Labor  |          |        |           |              |
| (1) Excavation  | 2        | cu.m.  | 131       | 262          |
| (2) Backfill  | 0.6      | cu.m.  | 119       | 71           |
| (3) Gravel Fill   | 0.3      | cu.m.  | 155       | 47           |
| Sub-Total of A-2  |          |        |           | 380          |
| <b>Sub-Total of A</b>   |          |        |           | <b>507</b>   |
| <b>B. Concrete Work</b>   |          |        |           |              |
| 1. Materials  |          |        |           |              |
| Slab on wood planks   |          |        |           |              |
| (1) 8 - 2" x 8" x 6' Coco Lumber                                  | 38       | bd.ft  | 8         | 304          |
| (2) 10mm dia x 6.0m Rebar   | 1        | pcs.   | 54        | 54           |
| (3) #16 Tie Wire  | 0.5      | kg.    | 54        | 27           |
| (4) Cement  | 3        | bags   | 128       | 384          |
| (5) Sand  | 0.3      | cu.m   | 335       | 101          |
| (6) Gravel  | 0.3      | cu.m   | 424       | 127          |
| (7) Stone Lining with Mortar                                      |          | L.S.   |           | 650          |
| Sub-total of B-1  |          |        |           | 1,647        |
| 2. Labor (25% of B-1)   |          |        |           | 412          |
| <b>Sub-Total of B</b>   |          |        |           | <b>2,059</b> |
| <b>C. Carpentry Work</b>  |          |        |           |              |
| 1. Materials  |          |        |           |              |
| (1) Nipa  | 30       | pcs.   | 2         | 60           |
| (2) 1.0m x 1.8m, amakan   | 3        | pcs.   | 70        | 210          |
| (3) 2x 3 x 10' Coco Lumber  | 14       | bd.ft  | 10        | 140          |
| (4) 2 x 2 x 10' Coco Lumber                                       | 24       | bd.ft  | 10        | 240          |
| (5) 3" dia. Bamboo  | 3        | lights | 20        | 60           |
| (6) Assorted CWN  | 3        | kgs.   | 40        | 120          |
| (7) Rattan wire   | 14       | pcs.   | 1         | 14           |
| (8) 3 x 3" hinges   | 2        | pcs.   | 30        | 60           |
| Sub-Total of C-1  |          |        |           | 904          |
| 2. Labor (25% of C-1)   |          |        |           | 226          |
| <b>Sub-Total of C</b>   |          |        |           | <b>1,130</b> |
| <b>D. Transportation Cost</b><br>(excluding indigenous materials) |          | L.S.   |           | 150          |
| <b>E. Indirect Cost</b>   |          |        |           |              |
| Profit (10% of A -D)  |          |        |           | 370          |
| VAT (10% of Profit & Labor)                                       |          |        |           | 154          |
| <b>Sub-Total of E</b>   |          |        |           | <b>524</b>   |
| <b>Total Construction Cost</b><br>(A+B+C+D+E)                     |          |        |           | <b>4,370</b> |
|   |          |        | Say       | <b>4,400</b> |

Note: L.S. - Lump Sum

Source: DOH standard price in 1993

Unit Cost: Adjusted to 1997 Price Level



Table 10.2.16 Unit Cost of School Toilet

Sheet 1 of 5

(Cost: Peso)

| Description                               | Quantity | Unit   | Unit Cost | Cost          |
|---|----------|--------|-----------|---------------|
| <b>A. Mobilization and Demobilization</b> |          | L.S.   |           | 5,500         |
| <b>B. Earthwork</b>                       |          |        |           |               |
| 1. Materials                              |          |        |           |               |
| (1) Gravel Fill                           | 3.00     | cu.m   | 424       | 1,272         |
| Sub-Total of B-1                          |          |        |           | 1,272         |
| 2. Labor                                  |          |        |           |               |
| (1) Excavation                            | 15.88    | cu.m   | 131       | 2,080         |
| (2) Backfill                              | 4.97     | cu.m   | 119       | 591           |
| (3) Gravel Fill                           | 3.00     | cu.m   | 155       | 465           |
| Sub-Total of B-2                          |          |        |           | 3,137         |
| <b>Sub-Total of B</b>                     |          |        |           | <b>4,409</b>  |
| <b>C. Concrete Work</b>                   |          |        |           |               |
| 1. Materials                              |          |        |           |               |
| (1) Cement                                | 61.00    | bags   | 128       | 7,808         |
| (2) Sand                                  | 4.00     | cu.m   | 335       | 1,340         |
| (3) Gravel                                | 8.00     | cu.m   | 424       | 3,392         |
| (4) Rcbar: 12mm dia x 6m                  | 38.00    | pcs.   | 74        | 2,812         |
| 10mm dia x 6m                             | 57.00    | pcs.   | 54        | 3,078         |
| (5) #16 Tie Wire                          | 8.00     | kgs.   | 54        | 432           |
| (6) Formworks:                            |          |        |           |               |
| 1/4" Plywood                              | 6.00     | pcs.   | 446       | 2,676         |
| 2"x2"x10" (Coco Lumber)                   | 200.00   | bd.ft. | 8         | 1,600         |
| Sub-Total of C-1                          |          |        |           | 23,138        |
| 2. Labor (30% of C-1)                     |          | L.S.   |           | 6,941         |
| <b>Sub-Total of C</b>                     |          |        |           | <b>30,079</b> |
| <b>D. Masonry Work</b>                    |          |        |           |               |
| 1. Materials                              |          |        |           |               |
| (1) 6" CHB                                | 800.00   | pcs.   | 6         | 4,800         |
| (2) 4" CHB                                | 260.00   | pcs.   | 5         | 1,300         |
| (3) Cement                                | 97.00    | bags   | 128       | 12,416        |
| (5) Sand                                  | 10.00    | cu.m   | 335       | 3,350         |
| (6) Rcbar: 12mm dia x 6m                  | 30.00    | pcs.   | 74        | 2,220         |
| 10mm dia x 6m                             | 11.00    | pcs.   | 54        | 594           |
| (7) #16 Tie Wire                          | 4.00     | kgs.   | 54        | 216           |
| (8) Scaffolding:                          |          |        |           |               |
| 2"x4"x8" = 10 pcs. (Coco Lumber)          | 53.33    | bf.    | 8         | 427           |
| Sub-Total of D-1                          |          |        |           | 25,323        |
| 2. Labor (30% of D-1)                     |          | L.S.   |           | 7,597         |
| <b>Sub-Total of D</b>                     |          |        |           | <b>32,920</b> |
| <b>E. Roofing Work</b>                    |          |        |           |               |
| 1. Materials                              |          |        |           |               |
| (1) GA #26 Corr. GI (1 = 10')             | 20.00    | pcs.   | 290       | 5,800         |
| (2) GA #24 Pln. GI Flashing               | 3.00     | pcs.   | 280       | 840           |
| (3) GA #24 Pln. GI Gutter (Pre-Fab)       | 9.00     | pcs.   | 280       | 2,520         |
| (4) Umbrella Nails 2 - 1/2"               | 12.00    | kgs.   | 46        | 552           |
| (5) Rafter - 2"x5"x18' = 5 pcs.           | 75.00    | bf.    | 33        | 2,475         |
| (6) Purlins - 2"x2"x12' = 18 pcs.         | 72.00    | bf.    | 33        | 2,376         |
| (7) WD Cleats - 2"x2"x10" = 6 pcs.        | 20.00    | bf.    | 33        | 660           |

Table 10.2.16 Unit Cost of School Toilet

Sheet 2 of 5

(Cost: Peso)

| Description  | Quantity | Unit | Unit Cost | Cost   |
|--|----------|------|-----------|--------|
| (8) Nailers - 2"x2"x1012' = 30 pcs.                                    | 120.00   | bf.  | 33        | 3,960  |
| - 2"x2"x10' = 36 pcs.  | 120.00   | bf.  | 33        | 3,960  |
| (9) Fascia Board   |          |      |           |        |
| 1"x12"x12' = 4 pcs.  | 48.00    | bf.  | 33        | 1,584  |
| 1"x12"x18' = 2 pcs.  | 36.00    | bf.  | 33        | 1,188  |
| (10) Wood Plate  |          |      |           |        |
| 2"x4"x20' = 2 pcs.   | 26.66    | bf.  | 33        | 880    |
| (11) 1/4" Thk. Mar. Plywood 4'x8'                                      | 14.00    | pcs. | 30        | 420    |
| (12) C.W.N. Assorted   | 15.00    | kgs. | 30        | 450    |
| (13) 3" dia x 3m Downspout (PVC)                                       | 3.00     | pcs. | 85        | 255    |
| (14) 3" dia Elbow (PVC)  | 2.00     | pcs. | 15        | 30     |
| (15) 3" dia Coupling (PVC)   | 1.00     | pcs. | 14        | 14     |
| (16) Ceiling Vent  |          |      |           |        |
| 1"x1"x8' = 4 pcs.  | 2.67     | bf.  | 27        | 72     |
| (17) Screen (1/8"x1/8")  | 1.00     | yd.  | 85        | 85     |
| Sub-Total of E-1   |          |      |           | 28,121 |
| 2. Labor (30% of E-1)  |          | L.S. |           | 8,436  |
| Sub-Total of E   |          |      |           | 36,557 |
| <b>F. Carpentry Work</b>   |          |      |           |        |
| 1. Materials   |          |      |           |        |
| (1) D - 1 Hollow Core Tanguile<br>Flush Type Door w/ Louver (.80x2.20) | 2.00     | sets | 1,514     | 3,028  |
| (2) D - 2 Hollow Core Tanguile<br>Flush Type Door (.60x2.10)           | 1.00     | sets | 1,136     | 1,136  |
| (3) D - 3 Louver Door (.60x1.40)                                       | 5.00     | sets | 947       | 4,735  |
| (4) Door Jamb (Apitong)  |          |      |           |        |
| 2"x6"x14" = 1 pc.  | 14.00    | bf.  | 33        | 462    |
| 2"x6"x10" = 2 pcs.   | 20.00    | bf.  | 33        | 660    |
| 2"x6"x10" = 1 pc.  | 18.00    | bf.  | 33        | 594    |
| 2"x4"x12" = 5 pcs.   | 40.00    | bf.  | 33        | 1,320  |
| (7) Wooden Jalousie Window<br>With 5 Blades (.40x.50)                  | 14.00    | set  | 316       | 4,424  |
| (8) Window Jamb (Apitong)  |          |      |           |        |
| 2"x6"x16" = 5 pcs.   | 80.00    | bf.  | 33        | 2,640  |
| 2"x6"x14" = 1 pc.  | 14.00    | bf.  | 33        | 462    |
| 2"x6"x10" = 1 pc.  | 10.00    | bf.  | 33        | 330    |
| (9) Cabinet  |          |      |           |        |
| 3/4"x4'x8' = 1 pc. (plyboard)  | 1.00     | pc.  | 821       | 821    |
| Sub-Total of F-1   |          |      |           | 20,612 |
| 2. Labor (30% of F-1)  |          | L.S. |           | 6,184  |
| Sub-Total of F   |          |      |           | 26,796 |
| <b>G. Tile Work</b>  |          |      |           |        |
| 1. Materials   |          |      |           |        |
| (1) 4 - 1/4"x4 - 1/4" Glazed Tiles                                     | 1,950.00 | pcs. | 4         | 7,800  |
| (2) 0.10x0.20m Floor Tiles   | 900.00   | pcs. | 7         | 6,300  |
| (3) Cement   | 4.00     | bags | 128       | 512    |
| (4) White Cement   | 1.00     | bag  | 693       | 693    |
| Sub-Total of G-1   |          |      |           | 15,305 |

Table 10.2.16 Unit Cost of School Toilet

Sheet 3 of 5

(Cost: Peso)

| Description                        | Quantity | Unit  | Unit Cost | Cost   |
|------------------------------------|----------|-------|-----------|--------|
| 2. Labor (30% of G-1)              |          | L.S.  |           | 4,592  |
| <b>Sub-Total of G</b>              |          |       |           | 19,897 |
| <b>H. Plumbing Work</b>            |          |       |           |        |
| 1. Materials                       |          |       |           |        |
| (1) Toilet Bowl - Squat Type       | 3.00     | sets  | 657       | 1,971  |
| (2) Toilet Bowl-Sit Type           | 2.00     | sets  | 657       | 1,314  |
| (3) Lavatory                       | 2.00     | sets  | 3,000     | 6,000  |
| (4) 4" dia x 3m PVC San. Pipe      | 4.00     | pcs.  | 164       | 656    |
| (5) 3" dia x 3m PVC San. Pipe      | 7.00     | pcs.  | 92        | 644    |
| (6) 1 1/2" dia x 3m PVC San. Pipe  | 4.00     | pcs.  | 58        | 232    |
| (7) 2" dia. x 3m PVC San. Pipe     | 2.00     | pcs.  | 55        | 110    |
| (8) 6" x 4" Floor Drain            | 5.00     | pcs.  | 92        | 460    |
| (9) 2" dia. Elbow PVC              | 4.00     | pcs.  | 7         | 28     |
| (10) 4" dia WYB PVC                | 2.00     | pcs.  | 27        | 54     |
| (11) 4" dia. x 3" dia. WYB PVC     | 12.00    | pcs.  | 33        | 396    |
| (12) 4" dia. x 2" dia. TEE PVC     | 2.00     | pcs.  | 34        | 68     |
| (13) 4" dia. TEE PVC               | 3.00     | pcs.  | 34        | 102    |
| (14) 1 1/2" dia. WYB PVC           | 1.00     | pcs.  | 13        | 13     |
| (15) 4" dia. Clean Out PVC         | 3.00     | pcs.  | 38        | 114    |
| (16) 3" dia. Clean Out PVC         | 1.00     | pcs.  | 30        | 30     |
| (17) Faucet                        | 3.00     | pcs.  | 55        | 165    |
| (18) 3" dia. x 2" dia. WYB PVC     | 2.00     | pcs.  | 27        | 54     |
| (19) 1 1/2" dia. Elbow PVC         | 6.00     | pcs.  | 14        | 84     |
| (20) PVC Cement                    | 1.00     | can   | 133       | 133    |
| (21) 2" dia. PVC San. Pipe x 3m    | 2.00     | pcs.  | 87        | 174    |
| (22) 4" dia. x 2" dia. TEE         | 2.00     | pcs.  | 23        | 46     |
| (23) Check Valve 1 1/2"            | 1.00     | pcs.  | 200       | 200    |
| (24) 4" P-Trap                     | 5.00     | pcs.  | 72        | 360    |
| <b>Sub-Total of H-1</b>            |          |       |           | 13,408 |
| 2. Labor (30% of H-1)              |          | L.S.  |           | 4,022  |
| <b>Sub-Total of H</b>              |          |       |           | 17,430 |
| <b>I. Painting</b>                 |          |       |           |        |
| 1. Materials                       |          |       |           |        |
| (1) Acrylic, Semi Gloss            | 8.00     | gals. | 276       | 2,208  |
| (2) Concrete Sealer                | 4.00     | gals. | 218       | 872    |
| (3) Acri Color: Wood               | 4.00     | gals. | 84        | 336    |
| (4) Enamel, QDE                    | 6.00     | gals. | 282       | 1,692  |
| (5) Wood Putty                     | 1.00     | gals. | 320       | 320    |
| (6) Paint Thinner                  | 1.00     | gals. | 63        | 63     |
| (7) Tinting Color                  | 4.00     | pint  | 42        | 168    |
| (8) Sand Paper (Assorted)          | 15.00    | pcs.  | 7         | 105    |
| (9) Miscellaneous                  |          | L.S.  |           | 1,060  |
| (10) Roof Paint (green, ready-mix) | 2.00     | gals. | 298       | 596    |
| <b>Sub-Total of I-1</b>            |          |       |           | 7,420  |
| 2. Labor (30% of I-1)              |          | L.S.  |           | 2,226  |
| <b>Sub-Total of I</b>              |          |       |           | 9,646  |

Table 10.2.16 Unit Cost of School Toilet

Sheet 4 of 5

(Cost: Peso)

| Description                            | Quantity | Unit | Unit Cost | Cost          |
|--|----------|------|-----------|---------------|
| <b>J. Electrical Work</b>              |          |      |           |               |
| 1. Materials                           |          |      |           |               |
| (1) 40 Watts Fluorescent Lamp          | 2.00     | sets | 270       | 540           |
| (2) Elect. Wire TW #12                 | 24.00    | M    | 7         | 168           |
| (3) Elect. Conduit - 1/2" dia x 10"    | 4.00     | pcs. | 82        | 328           |
| (4) Entrance Cap. 1/2" dia             | 1.00     | pc.  | 30        | 30            |
| (5) Switch Outlet, Flush Type          | 2.00     | pcs. | 41        | 82            |
| (6) Utility Box 2"x3"                  | 2.00     | pcs. | 7         | 14            |
| (7) Porcelain Receptacle 2" dia        | 2.00     | pcs. | 7         | 14            |
| (8) Safety Switch 60A, 250V            | 1.00     | set  | 519       | 519           |
| (9) Electrical Tape                    | 1.00     | roll | 23        | 23            |
| Sub-Total of J-1                       |          |      |           | 1,718         |
| 2. Labor (30% of J-1)                  |          | L.S. |           | 515           |
| <b>Sub-Total of J</b>                  |          |      |           | <b>2,233</b>  |
| <b>K. Hardware</b>                     |          |      |           |               |
| 1. Materials                           |          |      |           |               |
| (1) 3"x3" Butt Hinges (Loose Pin)      | 10.00    | pcs. | 15        | 150           |
| (2) 4"x4" Butt Hinges (Loose Pin)      | 12.00    | pcs. | 19        | 228           |
| (3) Door Lockset (Schlage US)          | 3.00     | pcs. | 481       | 1,443         |
| (4) Barrel Bolt (4")                   | 5.00     | pcs. | 42        | 210           |
| (5) Cabinet Pull (4")                  | 5.00     | pcs. | 7         | 35            |
| (6) Water Storage Cover                |          |      |           |               |
| Checkered Plate 1/4" thick             |          |      |           |               |
| 1.44x0.645 w/ L bar & flat bar         | 1.00     | set  | 1,043     | 1,043         |
| 0.645x0.633 w/ L bar & flat bar        | 2.00     | set  | 588       | 1,176         |
| (7) Padlock                            | 1.00     | pcs. | 401       | 401           |
| Sub-Total of K-1                       |          |      |           | 4,686         |
| 2. Labor (30% of K-1)                  |          | L.S. |           | 1,406         |
| <b>Sub-Total of K</b>                  |          |      |           | <b>6,092</b>  |
| <b>L. Septic Tank and Sewage Basin</b> |          |      |           |               |
| 1. Materials                           |          |      |           |               |
| (1) 4" CHB                             | 180.00   | pcs. | 5         | 900           |
| (2) Cement                             | 18.00    | bags | 128       | 2,304         |
| (3) Sand                               | 1.50     | cu.m | 335       | 503           |
| (4) Gravel                             | 1.00     | cu.m | 424       | 424           |
| (5) Rebars: 10mm dia x 6m              | 29.00    | pcs. | 74        | 2,146         |
| (6) #16 Tire Wire                      | 2.00     | kgs. | 54        | 108           |
| (7) Formworks: Coco Lumber             |          |      |           |               |
| 2"x3"x10' = 12 pcs.                    | 60.00    | bf.  | 8         | 480           |
| 1/4" plywood ord. 4'x8'                | 2.00     | pcs. | 446       | 892           |
| C.W.N. (Assorted)                      | 2.00     | kgs. | 31        | 62            |
| Sub-Total of L-1                       |          |      |           | 7,819         |
| 2. Labor (30% of L-1)                  |          | L.S. |           | 2,346         |
| <b>Sub-Total of L</b>                  |          |      |           | <b>10,165</b> |

Table 10.2.16 Unit Cost of School Toilet

Sheet 5 of 5

(Cost: Peso)

| Description  | Quantity | Unit | Unit Cost | Cost    |
|--|----------|------|-----------|---------|
| <b>M. Shallow Well (18 depth)</b>  |          |      |           |         |
| <b>a. Drilling of Well &amp; Installation of Steel Casing/Screen</b>                     |          |      |           |         |
| 1. Materials   |          |      |           |         |
| (1) 63mm x 6m PVC Pipe with socket   | 2.00     | pcs. | 896       | 1,792   |
| (2) 63mm x 3m PVC Pipe with plug   | 1.00     | pc.  | 452       | 452     |
| (3) 63mm PVC Socket  | 1.00     | pc.  | 99        | 99      |
| (4) 63mm x 3m PVC Screen   | 1.00     | pc.  | 1,433     | 1,433   |
| Sub-Total of M-a-1   |          |      |           | 3,776   |
| 2. Labor, Fuel, Lubricant and others<br>Well Drilling for 18m depth at<br>150mm borehole | 18.00    | m    | 573       | 10,314  |
| Sub-Total of M-a   |          |      |           | 14,090  |
| <b>b. Well Development</b>   |          | L.S. |           | 550     |
| <b>c. Gravel Packing, Installation of Hand-Pump and Construction of Platform</b>         |          |      |           |         |
| 1. Materials   |          |      |           |         |
| (1) 50mm Jetmatic Handpump   | 1.00     | set  | 2,623     | 2,623   |
| (2) 50mm x 1m GI Pipe (Sch. 40)  | 1.00     | pc.  | 82        | 82      |
| (3) #10 Sieved Gravel  | 0.10     | cu.m | 959       | 96      |
| (4) Coarse Sand  | 0.07     | cu.m | 474       | 33      |
| (5) Cement for Sanitary Seal   | 1.00     | bag  | 128       | 128     |
| (6) Pump Base and Platform   |          |      |           |         |
| 1) Cement  | 4.00     | bags | 128       | 512     |
| 2) Gravel  | 1.00     | cu.m | 424       | 424     |
| 3) Sand  | 1.00     | cu.m | 335       | 335     |
| 4) Plywood (1,200mm x 2,400mm x 6mm)   | 1.00     | pc.  | 446       | 446     |
| 5) Form Lumber (50mmx75mmx1,800mm)   | 1.00     | pc.  | 49        | 49      |
| 6) Nail  | 1.00     | kg.  | 31        | 31      |
| Sub-Total of M-c-1   |          |      |           | 4,759   |
| 2. Labor (40% of M-c-1)  |          | L.S. |           | 1,904   |
| Sub-Total of M-c   |          |      |           | 6,663   |
| Sub-Total of M   |          |      |           | 21,303  |
| <b>N. Freight Cost (11% of Materials for A - M excluding sand and gravel)</b>            |          | L.S. |           | 16,081  |
| <b>O. Indirect Cost</b>  |          |      |           |         |
| Profit (10% of A - N)  |          |      |           | 23,911  |
| VAT (10% of Profit & Labor)  |          |      |           | 7,322   |
| Sub-Total of O   |          |      |           | 31,233  |
| <b>Total of Construction Cost (A to O)</b>   |          |      |           | 270,340 |
| <b>P. Estimated Government Expenses</b>  |          |      |           |         |
| 1. Preliminary & Detailed Engineering Cost   |          | L.S. |           | 2,200   |
| 2. Construction Supervision  |          | L.S. |           | 1,600   |
| Sub-Total of P   |          |      |           | 3,800   |
| <b>GRAND TOTAL</b>   |          |      |           | 274,140 |
|  |          |      | Say       | 274,100 |

Source: DOH standard price in 1993.

Unit Cost: Adjusted to 1997 Price Level

Table 10.2.17 Unit Cost of Public Toilet

Sheet 1 of 5

(Cost: Pcs)

| Description  | Quantity | Unit   | Unit Cost | Cost          |
|--|----------|--------|-----------|---------------|
| <b>A. Mobilization and Demobilization</b><br>(2.4% of B - M) |          | L.S.   |           | 6,800         |
| <b>B. Earthwork</b>  |          |        |           |               |
| 1. Materials   |          |        |           |               |
| (1) Gravel Fill  | 3.00     | cu.m   | 424       | 1,272         |
| Sub-Total of B-1   |          |        |           | 1,272         |
| 2. Labor   |          |        |           |               |
| (1) Excavation   | 15.88    | cu.m   | 131       | 2,080         |
| (2) Backfill   | 4.97     | cu.m   | 119       | 591           |
| (3) Gravel Fill  | 3.00     | cu.m   | 155       | 465           |
| Sub-Total of B-2   |          |        |           | 3,137         |
| <b>Sub-Total of B</b>  |          |        |           | <b>4,409</b>  |
| <b>C. Concrete Work</b>                                      |          |        |           |               |
| 1. Materials   |          |        |           |               |
| (1) Cement   | 61.00    | bags   | 128       | 7,808         |
| (2) Sand   | 4.00     | cu.m   | 335       | 1,340         |
| (3) Gravel   | 8.00     | cu.m   | 424       | 3,392         |
| (4) Rebars: 12mm dia x 6m                                    | 38.00    | pcs.   | 74        | 2,812         |
| 10mm dia x 6m  | 57.00    | pcs.   | 52        | 2,964         |
| (5) #16 Tie Wire   | 8.00     | kgs.   | 52        | 416           |
| (6) Formworks:   |          |        |           |               |
| 1/4" Plywood   | 6.00     | pcs.   | 446       | 2,676         |
| 2"x2"x10" (Coco Lumber)                                      | 200.00   | bd.ft. | 8         | 1,600         |
| Sub-Total of C-1   |          |        |           | 23,008        |
| 2. Labor (30% of C-1)  |          |        |           | 6,902         |
| <b>Sub-Total of C</b>  |          |        |           | <b>29,910</b> |
| <b>D. Masonry Work</b>                                       |          |        |           |               |
| 1. Materials   |          |        |           |               |
| (1) 6" CHB   | 800.00   | pcs.   | 6         | 4,800         |
| (2) 4" CHB   | 260.00   | pcs.   | 5         | 1,300         |
| (3) Cement   | 97.00    | bags   | 128       | 12,416        |
| (5) Sand   | 10.00    | cu.m   | 335       | 3,350         |
| (6) Rebars: 12mm dia x 6m                                    | 30.00    | pcs.   | 74        | 2,220         |
| 10mm dia x 6m  | 11.00    | pcs.   | 54        | 594           |
| (7) #16 Tie Wire   | 4.00     | kgs.   | 54        | 216           |
| (8) Scaffolding:   |          |        |           |               |
| 2"x4"x8" = 10 pcs. (Coco Lumber)                             | 53.33    | bf.    | 8         | 427           |
| Sub-Total of D-1   |          |        |           | 25,323        |
| 2. Labor (30% of D-1)  |          |        |           | 7,597         |
| <b>Sub-Total of D</b>  |          |        |           | <b>32,920</b> |
| <b>E. Roofing Work</b>                                       |          |        |           |               |
| 1. Materials   |          |        |           |               |
| (1) GA #26 Corr. GI (1 = 10')                                | 20.00    | pcs.   | 290       | 5,800         |
| (2) GA #24 Pln. GI Flashing                                  | 3.00     | pcs.   | 280       | 840           |
| (3) GA #24 Pln. GI Gutter (Pre-Fab)                          | 9.00     | pcs.   | 280       | 2,520         |
| (4) Umbrella Nails 2 - 1/2"                                  | 12.00    | kgs.   | 46        | 552           |
| (5) Rafter - 2"x5"x18' = 5 pcs.                              | 75.00    | bf.    | 33        | 2,475         |

Table 10.2.17 Unit Cost of Public Toilet

Sheet 2 of 5

(Cost: Peso)

| Description  | Quantity | Unit | Unit Cost | Cost   |
|--|----------|------|-----------|--------|
| (6) Purlins - 2"x2"x12' = 18 pcs.                                      | 72.00    | bf.  | 33        | 2,376  |
| (7) WD Cleats - 2"x2"x10" = 6 pcs.                                     | 20.00    | bf.  | 33        | 660    |
| (8) Nailers - 2"x2"x1012' = 30 pcs.                                    | 120.00   | bf.  | 33        | 3,960  |
| - 2"x2"x10' = 36 pcs.  | 120.00   | bf.  | 33        | 3,960  |
| (9) Fascia Board   |          |      |           |        |
| 1"x12"x12' = 4 pcs.  | 48.00    | bf.  | 33        | 1,584  |
| 1"x12"x18' = 2 pcs.  | 36.00    | bf.  | 33        | 1,188  |
| (10) Wood Plate  |          |      |           |        |
| 2"x4"x20' = 2 pcs.   | 26.66    | bf.  | 33        | 880    |
| (11) 1/4" Thk. Mar. Plywood 4'x8'                                      | 14.00    | pcs. | 479       | 6,706  |
| (12) C.W.N. Assorted   | 15.00    | kgs. | 30        | 450    |
| (13) 3" dia x 3m Downspout (PVC)                                       | 3.00     | pcs. | 85        | 255    |
| (14) 3" dia Elbow (PVC)  | 2.00     | pcs. | 15        | 30     |
| (15) 3" dia Coupling (PVC)   | 1.00     | pcs. | 14        | 14     |
| (16) Ceiling Vent, 1"x1"x8', 4 pcs.                                    | 2.67     | bf.  | 27        | 72     |
| (17) Screen (1/8"x1/8")  | 1.00     | yd.  | 85        | 85     |
| Sub-Total of E-1   |          |      |           | 34,407 |
| 2. Labor (30% of E-1)  |          |      |           | 10,322 |
| Sub-Total of E   |          |      |           | 44,729 |
| <b>F. Carpentry Work</b>   |          |      |           |        |
| 1. Materials   |          |      |           |        |
| (1) D - 1 Hollow Core Tanguile<br>Flush Type Door w/ Louver (.80x2.20) | 2.00     | sets | 1,514     | 3,028  |
| (2) D - 2 Hollow Core Tanguile<br>Flush Type Door (.60x2.10)           | 1.00     | sets | 1,136     | 1,136  |
| (3) D - 3 Louver Door (.60x1.40)                                       | 5.00     | sets | 947       | 4,735  |
| (4) Door Jambs (Apitong)   |          |      |           |        |
| 2"x6"x14" = 1 pc.  | 14.00    | bf.  | 33        | 462    |
| 2"x6"x10" = 2 pcs.   | 20.00    | bf.  | 33        | 660    |
| 2"x6"x10" = 1 pc.  | 18.00    | bf.  | 33        | 594    |
| 2"x4"x12" = 5 pcs.   | 40.00    | bf.  | 33        | 1,320  |
| (7) Wooden Jalousie Window<br>With 5 Blades (.40x.50)                  | 14.00    | set  |           | 4,172  |
| (8) Window Jambs (Apitong)   |          |      |           |        |
| 2"x6"x16" = 5 pcs.   | 80.00    | bf.  | 33        | 2,640  |
| 2"x6"x14" = 1 pc.  | 14.00    | bf.  | 33        | 462    |
| 2"x6"x10" = 1 pc.  | 10.00    | bf.  | 33        | 330    |
| (9) Cabinet<br>3/4"x4'x8' = 1 pc. (plyboard)                           | 1.00     | pc.  | 821       | 821    |
| Sub-Total of F-1   |          |      |           | 20,360 |
| 2. Labor (30% of F-1)  |          |      |           | 6,108  |
| Sub-Total of F   |          |      |           | 26,468 |
| <b>G. Tile Work</b>  |          |      |           |        |
| 1. Materials   |          |      |           |        |
| (1) 4 - 1/4"x4 - 1/4" Glazed Tiles                                     | 1,950    | pcs. | 4         | 7,800  |
| (2) 0.10x0.20m Floor Tiles   | 900.00   | pcs. | 7         | 6,300  |
| (3) Cement   | 4.00     | bags | 128       | 512    |

Table 10.2.17 Unit Cost of Public Toilet

Sheet 3 of 5

(Cost: Peso)

| Description                                 | Quantity | Unit  | Unit Cost | Cost   |
|---|----------|-------|-----------|--------|
| (4) White Cement                            | 1.00     | bag   | 693       | 693    |
| (5) Tiles Fittings                          |          | L.S.  |           | 5,280  |
| Sub-Total of G-1                            |          |       |           | 20,585 |
| 2. Labor (30% of G-1)                       |          |       |           | 6,176  |
| Sub-Total of G                              |          |       |           | 26,761 |
| <b>H. Plumbing Work</b>                     |          |       |           |        |
| 1. Materials                                |          |       |           |        |
| (1) Urinal                                  | 3.00     | sets  | 1,171     | 3,513  |
| (2) Toilet Bowl - Squat Type                | 6.00     | sets  | 657       | 3,942  |
| (3) 4" dia x 3m PVC San. Pipe               | 6.00     | pcs.  | 164       | 984    |
| (4) 3" dia x 3m PVC San. Pipe               | 4.00     | pcs.  | 92        | 368    |
| (5) 2" dia x 3m PVC San. Pipe               | 3.00     | pcs.  | 55        | 165    |
| (6) 3/4" dia x 6m G.I. Pipe Sch. 40         | 5.00     | pcs.  | 269       | 1,345  |
| (7) 1/2" dia x 6m G.I. Pipe Sch. 40         | 1.00     | pcs.  | 197       | 197    |
| (8) 4"x4" WYE PVC                           | 1.00     | pcs.  | 27        | 27     |
| (9) 3" dia Elbow PVC                        | 10.00    | pcs.  | 33        | 330    |
| (10) 3" dia 45 degrees Bend PVC             | 2.00     | pcs.  | 27        | 54     |
| (11) 2" dia Elbow PVC                       | 6.00     | pcs.  | 7         | 42     |
| (12) 2" dia 45 degrees Bend PVC             | 2.00     | pcs.  | 22        | 44     |
| (13) 1/2" dia Elbow G.I.                    | 5.00     | pcs.  | 11        | 55     |
| (14) 4" dia 3" dia WYE PVC                  | 8.00     | pcs.  | 44        | 352    |
| (15) 3/4" dia TEE G.I.                      | 7.00     | pcs.  | 44        | 308    |
| (16) 1/2" dia TEE G.I.                      | 5.00     | pcs.  | 22        | 110    |
| (17) 4" dia x 2" dia TEE PVC                | 6.00     | pcs.  | 44        | 264    |
| (18) 4" dia Clean Out PVC                   | 3.00     | pcs.  | 38        | 114    |
| (19) 2" dia Clean Out PVC                   | 1.00     | pcs.  | 27        | 27     |
| (20) Faucet                                 | 10.00    | pcs.  | 55        | 550    |
| (21) 3" dia x 2" dia Elbow Reducer PVC      | 1.00     | pcs.  | 30        | 30     |
| (22) 3" dia x 2" dia WYE PVC                | 3.00     | pcs.  | 27        | 81     |
| (23) 2" dia x 2" dia WYE PVC                | 3.00     | pcs.  | 16        | 48     |
| (24) PVC Cement                             | 1.00     | can   | 133       | 133    |
| (25) 4" dia x 2" dia WYE PVC                | 2.00     | pcs.  | 44        | 88     |
| (26) Gate Valve 3/4" dia                    | 1.00     | pcs.  | 133       | 133    |
| (27) Gate Valve 1/2" dia                    | 1.00     | pcs.  | 105       | 105    |
| (28) Water Meter 3/4" dia                   | 1.00     | pcs.  | 1,390     | 1,390  |
| (29) 3/4" dia x 1/2" dia Elbow Reducer G.I. | 1.00     | pcs.  | 15        | 15     |
| Sub-Total of H-1                            |          |       |           | 14,814 |
| 2. Labor (30% of H-1)                       |          |       |           | 4,444  |
| Sub-Total of H                              |          |       |           | 19,258 |
| <b>I. Painting</b>                          |          |       |           |        |
| 1. Materials                                |          |       |           |        |
| (1) Acrylic, Semi Gloss                     | 8.00     | gals. | 276       | 2,208  |
| (2) Concrete Sealer                         | 4.00     | gals. | 218       | 872    |
| (3) Acri Color: Wood                        | 4.00     | gals. | 84        | 336    |
| (4) Enamel, QDE                             | 6.00     | gals. | 282       | 1,692  |
| (5) Wood Putty                              | 1.00     | gals. | 320       | 320    |
| (6) Paint Thinner                           | 1.00     | gals. | 63        | 63     |



Table 10.2.17 Unit Cost of Public Toilet

Sheet 4 of 5

(Cost: Peso)

| Description   | Quantity | Unit  | Unit Cost | Cost         |
|---|----------|-------|-----------|--------------|
| (7) Tinting Color   | 4.00     | pint  | 42        | 168          |
| (8) Sand Paper (Assorted)   | 15.00    | pcs.  | 7         | 105          |
| (9) Miscellaneous   |          | L.S.  |           | 1,066        |
| (10) Roof Paint (green, ready-mix)  | 2.00     | gals. | 298       | 596          |
| Sub-Total of I-1  |          |       |           | 7,426        |
| 2. Labor (30% of I-1)   |          |       |           | 2,228        |
| <b>Sub-Total of I</b>   |          |       |           | <b>9,654</b> |
| <b>J. Electrical Work</b>   |          |       |           |              |
| 1. Materials  |          |       |           |              |
| (1) 40 Watts Fluorescent Lamp   | 2.00     | sets  | 270       | 540          |
| (2) Elect. Wire TW #12  | 24.00    | M     | 7         | 168          |
| (3) Elect. Conduit - 1/2" dia x 10"   | 4.00     | pcs.  | 82        | 328          |
| (4) Entrance Cap. 1/2" dia  | 1.00     | pc.   | 30        | 30           |
| (5) Switch Outlet, Flush Type   | 2.00     | pcs.  | 41        | 82           |
| (6) Utility Box 2"x3"   | 2.00     | pcs.  | 7         | 14           |
| (7) Porcelain Receptacle 2" dia   | 2.00     | pcs.  | 7         | 14           |
| (8) Safety Switch 60A, 250V   | 1.00     | set   | 519       | 519          |
| (9) Electrical Tape   | 1.00     | roll  | 23        | 23           |
| Sub-Total of J-1  |          |       |           | 1,718        |
| 2. Labor (30% of J-1)   |          |       |           | 515          |
| <b>Sub-Total of J</b>   |          |       |           | <b>2,233</b> |
| <b>K. Hardware</b>  |          |       |           |              |
| 1. Materials  |          |       |           |              |
| (1) 3"x3" Butt Hinges (Loose Pin)   | 10.00    | pcs.  | 15        | 150          |
| (2) 4"x4" Butt Hinges (Loose Pin)   | 12.00    | pcs.  | 19        | 228          |
| (3) Door Lockset (Schlage US)   | 3.00     | pcs.  | 481       | 1,443        |
| (4) Barrel Bolt (4")  | 5.00     | pcs.  | 42        | 210          |
| (5) Cabinet Pull (4")   | 5.00     | pcs.  | 7         | 35           |
| (6) Water Storage Cover<br>Checkered Plate 1/4" thick<br>1.44x0.633 w/ L bar & flat bar | 1.00     | set   | 1,043     | 1,043        |
| (7) 0.645x0.633 w/ L bar & flat bar   | 2.00     | set   | 588       | 1,176        |
| (8) Padlock   | 1.00     | pcs.  | 401       | 401          |
| Sub-Total of K-1  |          |       |           | 4,686        |
| 2. Labor (30% of K-1)   |          |       |           | 1,406        |
| <b>Sub-Total of K</b>   |          |       |           | <b>6,092</b> |
| <b>L. Septic Tank and Sewage Basin</b>  |          |       |           |              |
| 1. Materials  |          |       |           |              |
| (1) 4" CHB  | 180.00   | pcs.  | 5         | 900          |
| (2) Cement  | 18.00    | bags  | 128       | 2,304        |
| (3) Sand  | 1.50     | cu.m  | 335       | 503          |
| (4) Gravel  | 1.00     | cu.m  | 424       | 424          |
| (5) Rebars: 10mm dia x 6m   | 29.00    | pcs.  | 74        | 2,146        |
| (6) #16 Tire Wire   | 2.00     | kgs.  | 54        | 108          |

Table 10.2.17 Unit Cost of Public Toilet

Sheet 5 of 5

(Cost: Peso)

| Description   | Quantity | Unit | Unit Cost | Cost    |
|---|----------|------|-----------|---------|
| (7) Formworks: Coco Lumber<br>2"x3"x10' = 12 pcs.                                 | 60.00    | bf.  | 8         | 480     |
| 1/4" plywood ord. 4'x8'   | 2.00     | pcs. | 446       | 892     |
| C.W.N. (Assorted)   | 2.00     | kgs. | 31        | 62      |
| Sub-Total of L-1  |          |      |           | 7,819   |
| 2. Labor (30% of L-1)   |          |      |           | 2,346   |
| Sub-Total of L  |          |      |           | 10,165  |
| <b>M. Concrete Water Tank (Elevated)</b>  |          |      |           |         |
| 1. Earth Work   |          |      |           |         |
| (1) Materials   |          |      |           |         |
| 1) Gravel Fill  | 1.00     | cu.m | 424       | 424     |
| Sub-Total of M-1 (1)  |          |      |           | 424     |
| (2) Labor   |          |      |           |         |
| 1) Excavation   | 14.70    | cu.m | 131       | 1,926   |
| 2) Backfill   | 13.08    | cu.m | 119       | 1,557   |
| 3) Gravel Fill  | 1.00     | cu.m | 155       | 155     |
| Sub-Total of M-1 (2)  |          |      |           | 3,637   |
| Sub-Total of M-1  |          |      |           | 4,061   |
| 2. Materials  |          |      |           |         |
| (1) Cement  | 62.00    | bags | 128       | 7,936   |
| (2) Sand  | 4.50     | cu.m | 335       | 1,508   |
| (3) Gravel  | 8.00     | cu.m | 424       | 3,392   |
| (4) Rebars: 12mm dia x 6m   | 160.00   | pcs. | 54        | 8,640   |
| (5) #16 Tie Wire  | 4.00     | kgs. | 54        | 216     |
| (6) Formworks:  |          |      |           |         |
| 1/4" plywood  | 12.00    | pcs. | 446       | 5,352   |
| 2"x3"x16' = 60 pcs.   | 480.00   | bf.  | 8         | 3,840   |
| (7) C.W.N. (Assorted)   | 5.00     | kgs. | 31        | 155     |
| Sub-Total of M-2  |          |      |           | 43,222  |
| 3. Labor (30% of M-2)   |          |      |           | 12,967  |
| Sub-Total of M  |          |      |           | 60,250  |
| <b>N. Freight Cost (11% of Materials for A - M<br/>excluding sand and gravel)</b> |          |      |           | 20,841  |
| <b>O. Indirect Cost</b>   |          |      |           |         |
| Profit (10% of A - M)   |          |      |           | 30,049  |
| VAT (10% of Profit & Labor)   |          |      |           | 9,783   |
| Sub-Total of O  |          |      |           | 39,832  |
| <b>Total of Construction Cost<br/>(A to O)</b>                                    |          |      |           | 340,321 |
| <b>P. Estimated Government Expenses</b>   |          |      |           |         |
| 1. Preliminary & Detailed Engineering Cost  |          | L.S. |           | 2,200   |
| 2. Construction Supervision   |          | L.S. |           | 1,600   |
| Sub-Total of P  |          |      |           | 3,800   |
| <b>GRAND TOTAL</b>  |          |      |           | 344,121 |
|   |          |      | Say       | 344,100 |

Source: DOH standard price in 1993.

Unit Cost: Adjusted to 1997 Price Level

## 10.2.2 Unit Cost of Equipment

Unit cost (CIF Manila) of equipment was referred to the market price in 1997 as follows.

### (1) Medium size rotary drilling rig

Type: Truck-mounted top head drive mud circulation type

Rated drilling capacity: 150 m depth for  $\phi$ 250 mm bore hole

Equipment composition:

One unit of truck-mounted drilling rig

Each one set of operating accessories, drilling tools, casing tools and fishing tools

One set of spare parts (equivalent to 10% of above equipment/tool cost)

Unit cost: Peso 32,314,000 per set

### (2) Medium size percussion drilling equipment

Type: Truck-mounted cable percussion type

Rated drilling capacity: 150 m depth for  $\phi$ 250 mm bore hole

Equipment composition:

One unit of truck-mounted drilling rig

Each one set of operating accessories, drilling tools, pipe handling tools and fishing tools

One set of spare parts (equivalent to 10% of above equipment/tool cost)

Unit cost: Peso 25,582,000 per set

### (3) Well rehabilitation equipment

Equipment composition:

One unit of diesel engine driven air compressor (7.5 kg/sq.cm, 500 liter/min.)

One set of air hose and hose fittings

Unit cost: Peso 280,000 per set

### (4) Service truck

Type: Diesel engine driven 4 tons truck equipped with crane

Unit cost: Peso 1,200,000 per unit

### (5) Support vehicle

Type: Diesel engine driven pick-up truck with electric winch

Unit cost: Peso 590,000 per unit

(6) Refuse collection truck

Type: Closed type compactor truck with 5 cu.m of payload capacity

Unit cost: Peso 2,057,000 per unit including spare parts

(7) Maintenance tools

One set of maintenance tools for O&M of Level I facility shall be provided to respective municipality.

Unit cost: Peso 10,000 per unit

(8) Water quality testing kits

One set of water quality testing kits for O&M of Level I facility shall be provided to respective municipality.

Type: Ammonia-nitrogen/Iron testing kit

Unit cost: Peso 15,300 per unit

### 10.2.3 Cost of Laboratory and Equipment

Required cost for new laboratory including building/facility and instruments/chemicals and additional cost for upgrading of existing laboratory are shown in Table 10.2.18 and Table 10.2.19, respectively.

Table 10.2.18 Cost for New Laboratory

| Item                          | Unit           | Unit Cost (Pesos) | Qty. | Amount (Pesos)   |
|-------------------------------|----------------|-------------------|------|------------------|
| <b>1. Building</b>            |                |                   |      |                  |
| New Building                  | m <sup>2</sup> | 15,000            | 57   | 855,000          |
| <b>2. Instruments</b>         |                |                   |      |                  |
| Turbidity meter               | set            | 35,000            | 1    | 35,000           |
| Color meter                   | set            | 9,800             | 1    | 9,800            |
| pH/Residual chlorine cheker   | set            | 15,000            | 1    | 15,000           |
| Incubator                     | set            | 100,000           | 1    | 100,000          |
| Refrigerator                  | set            | 25,000            | 2    | 50,000           |
| Sterilizer                    | set            | 50,000            | 1    | 50,000           |
| Water quality testing kits    | set            | 300,000           | 1    | 300,000          |
| Electric stove                | set            | 1,000             | 1    | 1,000            |
| Range hood                    | set            | 10,000            | 1    | 10,000           |
| Sub-total                     |                |                   |      | 570,800          |
| <b>3. Accessories</b>         |                |                   |      |                  |
| Sink                          | L.S.           |                   |      |                  |
| Working table                 | L.S.           |                   |      |                  |
| Shelf                         | L.S.           |                   |      |                  |
| Office desk                   | L.S.           |                   |      |                  |
| Chair                         | L.S.           |                   |      |                  |
| Sub-total                     |                |                   |      | 60,000           |
| <b>4. Glassware/Chemicals</b> |                |                   |      |                  |
| Glassware/Chemicals           | L.S.           |                   |      | 100,000          |
| <b>Total</b>                  |                |                   |      | <b>1,585,800</b> |

Table 10.2.19 Cost for Upgrading Laboratory

| Item                          | Unit | Unit Cost (Pesos) | Qty. | Amount (Pesos) |
|-------------------------------|------|-------------------|------|----------------|
| <b>1. Instruments</b>         |      |                   |      |                |
| Turbidity meter               | set  | 35,000            | 1    | 35,000         |
| Color meter                   | set  | 9,800             | 1    | 9,800          |
| pH/Residual chlorine cheker   | set  | 15,000            | 1    | 15,000         |
| Incubator                     | set  | 100,000           | 0    | 0              |
| Refrigerator                  | set  | 25,000            | 1    | 25,000         |
| Sterilizer                    | set  | 50,000            | 0    | 0              |
| Water quality testing kits    | set  | 300,000           | 1    | 300,000        |
| Electric stove                | set  | 1,000             | 1    | 1,000          |
| Range hood                    | set  | 10,000            | 1    | 10,000         |
| Sub-total                     |      |                   |      | 395,800        |
| <b>2. Glassware/Chemicals</b> |      |                   |      |                |
| Glassware/Chemicals           | L.S. |                   |      | 50,000         |
| <b>Total</b>                  |      |                   |      | <b>445,800</b> |

### 10.3 Cost of required Facilities and Equipment

#### 10.3.1 Cost of Required Facilities

**Table 10.3.1 Construction Cost of Water Supply Facilities Required for Phase I (2003)**

Unit: P 1,000

| Name of Municipality        | Urban Water Supply Level III | Rural Water Supply |               |               |              |             |               |                |                        | Grand Total    |                |
|-----------------------------|------------------------------|--------------------|---------------|---------------|--------------|-------------|---------------|----------------|------------------------|----------------|----------------|
|                             |                              | New System         |               |               |              |             |               |                | Level I Rehabilitation |                | Total          |
|                             |                              | Level I            |               |               |              |             | Subtotal      |                |                        |                |                |
|                             |                              | Deep Well          |               |               | Shallow Well | Spring Dev. |               |                |                        |                |                |
| 40 m                        | 80 m                         | 120 m              |               |               |              |             |               |                |                        |                |                |
| Asuncion                    | 10,066                       | 960                | 8,616         |               |              |             | 2,681         | 11,298         | 235                    | 12,493         | 22,558         |
| Braulio E. Dujali           |                              |                    | 9,922         |               |              |             | 2,681         | 12,603         | 271                    | 12,874         | 12,874         |
| Carmen                      | 18,028                       | 938                | 25,327        |               |              |             | 7,373         | 32,700         | 691                    | 34,329         | 52,356         |
| Island Garden City of Samal | 18,708                       |                    |               | 33,706        |              |             | 5,362         | 39,068         | 541                    | 39,610         | 58,318         |
| Kapalong                    |                              |                    |               |               |              |             |               |                |                        |                |                |
| New Corella                 | 14,116                       | 7,933              |               |               |              |             |               |                |                        | 7,933          | 22,049         |
| Panabo                      | 45,393                       |                    | 10,444        |               |              |             | 2,681         | 13,125         | 285                    | 13,410         | 58,803         |
| Santo Tomas                 |                              |                    |               |               |              |             |               |                |                        |                |                |
| Tagum City (Capital)        |                              |                    |               |               |              |             |               |                |                        |                |                |
| Talaingod                   |                              |                    |               |               |              |             |               |                |                        |                |                |
| <b>Provincial Total</b>     | <b>106,311</b>               | <b>9,831</b>       | <b>54,309</b> | <b>33,706</b> |              |             | <b>20,779</b> | <b>108,794</b> | <b>2,022</b>           | <b>120,647</b> | <b>226,958</b> |

**Table 10.3.2 Construction Cost of Water Supply Facilities Required for Phase II (2010)**

Unit: P 1,000

| Name of Municipality        | Urban Water Supply Level III | Rural Water Supply |               |  |              |               |               |                |                        | Grand Total    |                  |
|-----------------------------|------------------------------|--------------------|---------------|--|--------------|---------------|---------------|----------------|------------------------|----------------|------------------|
|                             |                              | New System         |               |  |              |               |               |                | Level I Rehabilitation |                | Total            |
|                             |                              | Level I            |               |  |              |               | Sub-total     |                |                        |                |                  |
|                             |                              | Deep Well          |               |  | Shallow Well | Spring Dev.   |               |                |                        |                |                  |
| 40 m                        | 80 m                         | 120 m              |               |  |              |               |               |                |                        |                |                  |
| Asuncion                    | 20,090                       | 39,165             |               |  |              |               | 2,681         | 41,846         | 1,068                  | 42,914         | 63,004           |
| Braulio E. Dujali           |                              | 18,277             |               |  |              |               | 2,681         | 20,958         | 498                    | 21,457         | 21,457           |
| Carmen                      | 23,242                       | 51,176             |               |  |              |               | 7,373         | 58,549         | 1,396                  | 59,944         | 83,186           |
| Island Garden City of Samal | 49,569                       |                    | 89,587        |  |              |               | 5,362         | 94,949         | 1,438                  | 96,388         | 145,957          |
| Kapalong                    | 38,541                       | 13,577             |               |  |              | 7,369         |               | 20,946         | 370                    | 21,316         | 59,857           |
| New Corella                 | 21,062                       | 35,617             |               |  |              | 853           |               | 36,470         | 918                    | 37,388         | 58,450           |
| Panabo                      | 177,274                      | 78,591             |               |  |              |               | 2,681         | 81,272         | 2,143                  | 83,415         | 260,689          |
| Santo Tomas                 | 86,939                       | 37,076             |               |  |              |               |               | 37,076         | 1,011                  | 38,087         | 125,026          |
| Tagum City (Capital)        | 318,780                      | 33,421             |               |  |              |               |               | 33,421         | 911                    | 34,332         | 353,112          |
| Talaingod                   |                              |                    | 7,540         |  |              | 3,959         |               | 11,498         | 121                    | 11,619         | 11,619           |
| <b>Provincial Total</b>     | <b>735,495</b>               | <b>306,900</b>     | <b>97,127</b> |  |              | <b>12,180</b> | <b>20,779</b> | <b>436,986</b> | <b>9,875</b>           | <b>446,861</b> | <b>1,182,356</b> |

Table 10.3.3 Cost of Sanitation Facilities Required for Phase I (2003)

Unit: P 1,000

| Name of Municipality    | Urban Sanitation  |              |              |                                |                                     |                       |                |                         |                              | Rural Sanitation  |               |               |                                |                                     |                       |                         |                              |
|-------------------------|-------------------|--------------|--------------|--------------------------------|-------------------------------------|-----------------------|----------------|-------------------------|------------------------------|-------------------|---------------|---------------|--------------------------------|-------------------------------------|-----------------------|-------------------------|------------------------------|
|                         | Household Toilets |              |              |                                |                                     | Public School Toilets | Public Toilets | Total Construction Cost | Total Public Investment Cost | Household Toilets |               |               |                                |                                     | Public School Toilets | Total Construction Cost | Total Public Investment Cost |
|                         | Flush             | Pour Flush   | VIP/ Dry     | Sub-total of Construction Cost | Sub-total of Public Investment Cost |                       |                |                         |                              | Flush             | Pour Flush    | VIP/ Dry      | Sub-total of Construction Cost | Sub-total of Public Investment Cost |                       |                         |                              |
| Asuncion                | 9,670             |              |              | 9,670                          |                                     |                       |                | 9,670                   |                              | 11,758            |               | 9,544         | 21,301                         |                                     | 1,371                 | 22,672                  | 1,371                        |
| Braulio E. Dujali       |                   |              |              |                                |                                     |                       | 2,065          | 2,065                   | 2,065                        |                   | 7,007         | 3,511         | 10,518                         | 350                                 | 2,193                 | 12,711                  | 2,543                        |
| Carmen                  | 11,566            | 3,289        |              | 14,855                         | 164                                 | 548                   |                | 15,403                  | 713                          | 18,339            | 20,306        |               | 38,645                         | 1,015                               | 2,467                 | 41,112                  | 3,482                        |
| Island Garden City of   | 24,410            |              |              | 24,410                         |                                     | 1,919                 | 4,817          | 31,146                  | 6,736                        | 8,094             | 57,031        |               | 65,125                         | 2,852                               | 7,949                 | 73,074                  | 10,800                       |
| Kapalong                | 11,225            |              | 139          | 11,364                         |                                     | 1,096                 | 344            | 12,804                  | 1,441                        | 20,810            | 63,063        |               | 83,873                         | 3,153                               | 5,482                 | 89,355                  | 8,635                        |
| New Corella             | 11,949            |              | 139          | 12,088                         |                                     | 1,096                 |                | 13,184                  | 1,096                        | 13,973            | 24,362        |               | 38,335                         | 1,218                               | 4,386                 | 42,720                  | 5,604                        |
| Panabo                  | 53,442            | 3,419        | 779          | 57,640                         | 171                                 | 7,401                 | 344            | 65,384                  | 7,916                        | 34,932            | 47,034        |               | 81,966                         | 2,352                               | 13,157                | 95,123                  | 15,509                       |
| Santo Tomas             | 38,361            |              |              | 38,361                         |                                     | 4,660                 | 344            | 43,365                  | 5,004                        | 16,614            | 42,991        |               | 59,605                         | 2,150                               | 8,771                 | 68,376                  | 10,921                       |
| Tagum City (Capital)    | 21,492            | 1,469        | 1,749        | 24,710                         | 73                                  | 11,238                |                | 35,948                  | 11,312                       | 31,609            | 37,128        |               | 68,737                         | 1,856                               | 9,594                 | 78,331                  | 11,450                       |
| Talaingod               |                   |              |              |                                |                                     |                       | 1,032          | 1,032                   | 1,052                        |                   | 44,902        |               | 44,902                         | 2,245                               | 1,919                 | 46,821                  | 4,164                        |
| <b>Provincial Total</b> | <b>182,115</b>    | <b>8,177</b> | <b>2,805</b> | <b>193,097</b>                 | <b>409</b>                          | <b>27,958</b>         | <b>8,947</b>   | <b>230,002</b>          | <b>37,314</b>                | <b>156,129</b>    | <b>343,82</b> | <b>13,055</b> | <b>513,008</b>                 | <b>17,191</b>                       | <b>57,287</b>         | <b>570,295</b>          | <b>74,478</b>                |

Table 10.3.4 Cost of Sanitation Facilities Required for Phase II (2010)

Unit: P 1,000

| Municipality            | Urban Sanitation  |                |          |                                |                                     |                       |                |                         |                              |                  | Rural Sanitation  |                |                |                                |                                     |                       |                         |                              |
|-------------------------|-------------------|----------------|----------|--------------------------------|-------------------------------------|-----------------------|----------------|-------------------------|------------------------------|------------------|-------------------|----------------|----------------|--------------------------------|-------------------------------------|-----------------------|-------------------------|------------------------------|
|                         | Household Toilets |                |          |                                |                                     | Public School Toilets | Public Toilets | Total Construction Cost | Total Public Investment Cost | Urban Sewerage   | Household Toilets |                |                |                                |                                     | Public School Toilets | Total Construction Cost | Total Public Investment Cost |
|                         | Flush             | Pour Flush     | VIP/ Dry | Sub-total of Construction Cost | Sub-total of Public Investment Cost |                       |                |                         |                              |                  | Flush             | Pour Flush     | VIP/ Dry       | Sub-total of Construction Cost | Sub-total of Public Investment Cost |                       |                         |                              |
| Asuncion                | 16,721            | 5,109          |          | 21,830                         | 255                                 | 822                   | 1,032          | 23,684                  | 2,110                        | 38,164           |                   | 46,904         | 46,904         | 2,345                          | 16,172                              | 63,076                | 18,517                  |                              |
| Braulio E. Dujali       |                   |                |          |                                |                                     |                       |                |                         |                              |                  |                   | 22,256         | 22,256         | 1,113                          | 8,497                               | 30,753                | 9,610                   |                              |
| Carmen                  | 22,216            | 6,916          |          | 29,132                         | 346                                 | 1,371                 | 1,032          | 31,535                  | 2,749                        | 50,355           | 14,889            | 60,164         | 75,053         | 3,008                          | 15,350                              | 90,402                | 18,358                  |                              |
| Island Garden City      | 40,790            | 12,038         |          | 52,828                         | 602                                 | 1,919                 |                | 54,746                  | 2,521                        | 94,301           |                   | 59,995         | 59,995         | 3,000                          | 20,283                              | 80,278                | 23,283                  |                              |
| Kapalong                | 24,559            | 7,696          |          | 32,255                         | 385                                 | 1,645                 | 1,032          | 34,932                  | 3,062                        | 55,546           | 1,299             | 73,814         | 75,113         | 3,691                          | 19,735                              | 94,849                | 23,426                  |                              |
| New Corella             | 20,746            | 6,396          |          | 27,142                         | 320                                 | 1,096                 | 1,032          | 29,271                  | 2,449                        | 47,187           | 11,332            | 45,578         | 56,910         | 2,279                          | 12,609                              | 69,518                | 14,888                  |                              |
| Panabo                  | 129,674           | 40,508         |          | 170,182                        | 2,025                               | 7,401                 | 688            | 178,271                 | 10,114                       | 293,606          | 15,932            | 86,021         | 101,953        | 4,301                          | 27,958                              | 129,91                | 32,259                  |                              |
| Santo Tomas             | 68,096            | 19,513         |          | 87,609                         | 976                                 | 4,112                 | 688            | 92,409                  | 5,775                        | 158,979          |                   | 63,362         | 63,362         | 3,168                          | 17,817                              | 81,179                | 20,985                  |                              |
| Tagum City (Capi-       | 240,243           | 77,025         |          | 317,268                        | 3,851                               | 13,979                | 688            | 331,935                 | 18,519                       | 538,623          | 47,861            | 20,345         | 68,206         | 1,017                          | 22,202                              | 90,408                | 23,219                  |                              |
| Talaingod               |                   |                |          |                                |                                     |                       |                |                         |                              |                  |                   | 25,077         | 25,077         | 1,254                          | 3,837                               | 28,914                | 5,091                   |                              |
| <b>Provincial Total</b> | <b>563,044</b>    | <b>175,201</b> |          | <b>738,245</b>                 | <b>8,760</b>                        | <b>32,344</b>         | <b>6,194</b>   | <b>776,783</b>          | <b>47,298</b>                | <b>1,276,763</b> | <b>91,313</b>     | <b>503,516</b> | <b>594,829</b> | <b>25,176</b>                  | <b>164,460</b>                      | <b>759,28</b>         | <b>189,636</b>          |                              |

#### 10.4 Costs of Sector Management

##### 10.4.1 Breakdown of Community Development and Training Cost

Cost of community development and training was estimated at 12% of the total construction cost of Level I & II water supply facilities and public toilets and at 3% of the total construction cost of Level III water supply systems. This was formulated based on the following:

- (1) The 12% was derived on the basis of DILG's past experience in BWSA formation; and
- (2) The 3% was derived on the basis of LWUA's past experience in the institutional strengthening needs of W.Ds.

These ratios adopted for estimating community development and training cost will allow the province to meet with its needs for community development in the sector management. The following breakdown provides a view of the components under this category.

**Table 10.4.1 Breakdown of Community Development and Training Cost**

| Component  | % Share of Cost |
|--|-----------------|
| 1. Preparation for Training Activities                           | 10              |
| 1.1 Transportation   | 1               |
| 1.2 Technical Assistance   | 1               |
| 1.3 Food   | 1               |
| 1.4 Supplies and Materials including Production of Training Kits | 6               |
| 1.5 Generation of Training Aids                                  | 1               |
| 2. Conduct of Training Activities                                | 53              |
| 2.1 Transportation   | 5               |
| 2.2 Food   | 12              |
| 2.3 Accommodation  | 33              |
| 2.4 Training Room Rental   | 1               |
| 2.5 Miscellaneous  | 2               |
| 3. Field Visits to Support BWSA Formation                        | 37              |
| 3.1 Transportation   | 5               |
| 3.2 Food   | 15              |
| 3.3 Accommodation  | 12              |
| 3.4 Field  | 4               |
| <b>Total</b>   | <b>100</b>      |



## 11. FINANCIAL ARRANGEMENTS FOR MEDIUM-TERM DEVELOPMENT PLAN

### 11.3 Additional Funding Requirements

#### Percentages for Annual Investment

Percentages of annual investment for different fields of implementation activities are assumed for each sub-sector as general indication and summarized in Table 11.3.1. Assumptions on investment timing shall be subject to change, especially for individual projects depending on fund availability and relevant conditions such as land acquisition and institutional set-up.

**Table 11.3.1 Percentages for Annual Investment**

| Sub-Sector                | Component                           | 1996 | 1997 | 1998 | 1999 | 2000 | Total |
|---------------------------|-------------------------------------|------|------|------|------|------|-------|
| Urban Water Supply        | Level III System                    |      |      |      |      |      |       |
|                           | Feasibility Study and Detail Design | 50   | 50   | 0    | 0    | 0    | 100   |
|                           | Construction & Supervision          | 0    | 20   | 30   | 30   | 20   | 100   |
|                           | Institutional Development           | 30   | 20   | 20   | 20   | 10   | 100   |
| Rural Water Supply        | Level I Facility                    |      |      |      |      |      |       |
|                           | Detail Design                       | 50   | 50   | 0    | 0    | 0    | 100   |
|                           | Construction & Supervision          | 0    | 20   | 30   | 30   | 20   | 100   |
|                           | Institutional Development           | 30   | 30   | 20   | 10   | 10   | 100   |
|                           | Level II System                     |      |      |      |      |      |       |
|                           | Detail Design                       | 100  | 0    | 0    | 0    | 0    | 100   |
|                           | Construction & Supervision          | 50   | 50   | 0    | 0    | 0    | 100   |
|                           | Institutional Development           | 50   | 50   | 0    | 0    | 0    | 100   |
| Sanitation                | Urban Household Toilet              | 12   | 22   | 22   | 22   | 22   | 100   |
|                           | Rural Household Toilet              | 12   | 22   | 22   | 22   | 22   | 100   |
|                           | Public School Toilet                | 12   | 22   | 22   | 22   | 22   | 100   |
|                           | Public Toilet                       | 12   | 22   | 22   | 22   | 22   | 100   |
|                           | Disinfection of Level I Wells       | 12   | 22   | 22   | 22   | 22   | 100   |
|                           | Detail Design                       | 100  | 0    | 0    | 0    | 0    | 100   |
|                           | Construction & Supervision          | 0    | 20   | 30   | 30   | 20   | 100   |
| Institutional Development | 30                                  | 30   | 20   | 10   | 10   | 100  |       |

Note: Institutional development includes:

1. Capacity enhancement program
2. Community management program,
3. Health and hygiene education
4. Water quality surveillance, and
5. Administrative support.

#### Urban water supply:

- Engineering services for feasibility study and detailed design will be undertaken in the first two years.

- Construction work accompanied by supervisory services will be commenced partially in 2nd year and in full operation from 3rd year to 4th year.
- Community development will take place from the first year.

Rural water supply (Level I):

- Engineering services for detailed design will be undertaken during the first two years for Level I and completed within the first year for Level II.
- Construction work accompanied by supervisory services will be partially commenced from the first year and in full operation from 2nd year for Level I, while Level II will be completed within first two years.
- Community development and training will take place from the first year for Level I, while Level II will be completed within the first two years.

Sanitation:

- Engineering services for detailed design will be completed within the first year.
- Construction work accompanied by supervisory services will be partially commenced in the first year and in full operation from 2nd year.
- Community development and training will be in full operation from the first year.

**11.4 Medium-Term Implementation Arrangements**

**11.4.2 Alternative Countermeasures**

Comprehensive Investment Need Ranking for the Municipalities

Table 11.4.1 presents the comprehensive investment need ranking for the municipalities.

**11.5 National Government Assisted Level I Water Supply and Sanitation Project**

Presented in Table 11.5.1 are the available IRA for GOP-Assisted Level I Water Supply and Rural Sanitation Project for Eligible Municipalities. Allotment of IRA for rural water supply and rural sanitation comprise of provincial available IRA and municipal available IRA.

Table 11.5.2 presents the urban sanitation project for eligible municipalities while Table 11.5.3 presents the summary of the total available IRA for GOP-assisted Level I Water Supply and Sanitation project.

Table 11.6.1 presents the investment program of GOP-assisted Level I Watersupply and Sanitation Project.

#### **O and M for Rural Water Supply**

Table 11.6.2 shows the O and M cost for Level I facilities which include the reconstruction cost, rehabilitation cost and recurrent cost per household per year for O and M. Table 11.6.3 presents the O and M cost per HH per month by facility and proportion to monthly family income while Table 11.6.4 shows the family income.

#### **O and M for Sanitation**

Table 11.6.5 presents the O and M cost for rural sanitation while Table 11.6.6 presents the O and M cost for urban sanitation.

Table 11-4.1 Comprehensive Investment Need Ranking of the Municipalities

| Name of Municipality      | Evaluation Factor  |                    |    |                  |                  |                  | Score by Sub-Sector |                    |                    |                    |                  |                  | Weighted Score by Sub-Sector |                    |                    |                  | Synthetic Investment Need Ranking |                  |                  |                      |  |
|---------------------------|--|--------------------|----|------------------|------------------|------------------|---------------------|--------------------|--------------------|--------------------|------------------|------------------|------------------------------|--------------------|--------------------|------------------|-----------------------------------|------------------|------------------|----------------------|--|
|                           | (% of Underserved and Unserved Population or Households) |                    |    | Urban Sanitation |                  |                  | Rural Sanitation    |                    |                    | Urban Water Supply |                  |                  | Rural Water Supply           |                    |                    | Urban Sanitation |                                   | Rural Sanitation |                  | Total Weighted Score |  |
|                           | Urban Water Supply                                       | Rural Water Supply |    | Urban Sanitation | Urban Sanitation | Rural Sanitation | Urban Water Supply  | Urban Water Supply | Rural Water Supply | Urban Sanitation   | Urban Sanitation | Rural Sanitation | Urban Water Supply           | Urban Water Supply | Rural Water Supply | Urban Sanitation |                                   | Urban Sanitation | Rural Sanitation |                      |  |
| Asuncion                  | N.A.   | 69                 | 24 | 9                | 1.00             | 1.00             | 1.00                | 0.20               | 0.20               | 0.20               | 0.25             | 0.25             | 0.25                         | 0.05               | 0.05               | 0.05             | 0.05                              | 0.60             | 7                |                      |  |
| Braulio E. Dujali         | N.A.   | 96                 | 35 | 100              | 0.88             | 1.00             | 1.00                | 1.00               | 1.00               | 0.40               | 0.22             | 0.25             | 0.25                         | 0.25               | 0.10               | 0.10             | 0.10                              | 0.82             | 2                |                      |  |
| Carmen                    | N.A.   | 95                 | 31 | 41               | 1.00             | 1.00             | 1.00                | 0.80               | 0.40               | 0.40               | 0.25             | 0.25             | 0.25                         | 0.20               | 0.10               | 0.10             | 0.10                              | 0.85             | 1                |                      |  |
| Island Garden City of Sam | N.A.   | 75                 | 36 | 32               | 0.97             | 1.00             | 0.80                | 0.20               | 0.40               | 0.40               | 0.24             | 0.25             | 0.25                         | 0.20               | 0.10               | 0.10             | 0.10                              | 0.79             | 3                |                      |  |
| Kapalong                  | N.A.   | 38                 | 32 | 9                | 0.56             | 0.40             | 0.20                | 0.40               | 0.14               | 0.10               | 0.10             | 0.10             | 0.10                         | 0.05               | 0.10               | 0.10             | 0.10                              | 0.39             | 9                |                      |  |
| New Corella               | N.A.   | 55                 | 35 | 22               | 0.97             | 0.80             | 0.60                | 0.80               | 0.40               | 0.40               | 0.24             | 0.20             | 0.20                         | 0.15               | 0.10               | 0.10             | 0.10                              | 0.69             | 5                |                      |  |
| Panabo                    | N.A.   | 58                 | 29 | 26               | 1.00             | 0.80             | 0.60                | 0.60               | 0.20               | 0.20               | 0.25             | 0.20             | 0.20                         | 0.15               | 0.05               | 0.05             | 0.05                              | 0.65             | 6                |                      |  |
| Santo Tomas               | N.A.   | 33                 | 33 | 23               | 0.60             | 0.40             | 0.60                | 0.60               | 0.40               | 0.40               | 0.15             | 0.10             | 0.10                         | 0.15               | 0.10               | 0.10             | 0.10                              | 0.50             | 8                |                      |  |
| Tagum City (Capital)      | N.A.   | 32                 | 23 | 6                | 0.60             | 0.40             | 0.20                | 0.20               | 0.20               | 0.20               | 0.15             | 0.10             | 0.10                         | 0.05               | 0.05               | 0.05             | 0.05                              | 0.35             | 10               |                      |  |
| Talaingod                 | N.A.   | 20                 | 59 | 100              | 0.88             | 0.20             | 1.00                | 0.80               | 0.80               | 0.20               | 0.22             | 0.05             | 0.05                         | 0.25               | 0.20               | 0.20             | 0.20                              | 0.72             | 4                |                      |  |
| <b>Provincial Total</b>   | N.A.   | 56                 | 31 | 17               |                  |                  |                     |                    |                    |                    |                  |                  |                              |                    |                    |                  |                                   |                  |                  |                      |  |

Note:

(1) Scoring to Underserved and Unserved Percentage.

2) Assumed Weight by Sub-Sector for Synthetic Evaluation by Municipality.

| Score | Range of Underserved and Unserved Percentage |             |             |             | Allocated Weight |      |
|-------|--|-------------|-------------|-------------|------------------|------|
|       | 61 < % <                                     | 51 < % < 60 | 41 < % < 50 | 31 < % < 40 | 0.25             | 0.25 |
| 1.0   | 61 < % <                                     | 51 < % < 60 | 41 < % < 50 | 31 < % < 40 | 0.25             | 0.25 |
| 0.8   | 51 < % < 60                                  | 41 < % < 50 | 31 < % < 40 | 21 < % < 30 | 0.25             | 0.25 |
| 0.6   | 41 < % < 50                                  | 31 < % < 40 | 21 < % < 30 | 11 < % < 20 | 0.25             | 0.25 |
| 0.4   | 31 < % < 40                                  | 21 < % < 30 | 11 < % < 20 | 1 < % < 10  | 0.25             | 0.25 |
| 0.2   | % < 30                                       | % < 20      | % < 10      | % < 0       | 0.25             | 0.25 |



Table 11.6.1 Investment Program of GOP-Assisted Level I Water Supply and Sanitation Project (Unit: Pesos)

| Category   | Total Amount | 1st year  | 2nd year   | 3rd year   | 4th year   | 5th year   |
|--|--------------|-----------|------------|------------|------------|------------|
| <b>A. Const. &amp; Civil Works</b>                           |              |           |            |            |            |            |
| 1. Water Supply  | 0            | 0         | 0          | 0          | 0          | 0          |
| 2. Sanitation  | 38,488,800   | 0         | 7,697,760  | 11,546,640 | 11,546,640 | 7,697,760  |
| 3. Land Acquisition  | 0            | 0         | 0          | 0          | 0          | 0          |
| <b>B. Equip./Logistic Support</b>                            | 0            | 0         | 0          | 0          | 0          | 0          |
| <b>C. Consultancy Services</b>                               |              |           |            |            |            |            |
| 1. Hydrogeological Survey                                    | 0            | 0         | 0          | 0          | 0          | 0          |
| 2. D/D and Const. Sv.  | 4,233,768    | 1,693,507 | 846,754    | 846,754    | 423,377    | 423,377    |
| <b>D. Institutional Devel.</b>                               |              |           |            |            |            |            |
| 1. Capacity Enhanc. Prog.                                    | 3,200,000    | 960,000   | 960,000    | 640,000    | 320,000    | 320,000    |
| 2. Commu. Manag. Prog.                                       | 1,303,170    | 390,951   | 390,951    | 260,634    | 130,317    | 130,317    |
| 3. Health & Hygiene Educ.                                    | 217,800      | 65,340    | 65,340     | 43,560     | 21,780     | 21,780     |
| 4. Water Quality Surveil.                                    | 0            | 0         | 0          | 0          | 0          | 0          |
| 5. NGO Assistance  | 145,200      | 43,560    | 43,560     | 29,040     | 14,520     | 14,520     |
| 6. Administrative Support                                    | 1,200,000    | 360,000   | 360,000    | 240,000    | 120,000    | 120,000    |
| <b>E. Physical Contingency</b><br>(10% of sub-total A+B+C+D) | 4,878,874    | 351,336   | 1,036,436  | 1,360,663  | 1,257,663  | 872,775    |
| <b>Total (A+B+C+D+E+F)</b>                                   | 53,667,612   | 3,864,694 | 11,400,801 | 14,967,290 | 13,834,297 | 9,600,529  |
| <b>F. Others</b>   |              |           |            |            |            |            |
| 1. Price Contingency   | 20,596,069   | 1,483,157 | 4,375,296  | 5,744,011  | 5,309,201  | 3,684,404  |
| 2. Value Added Tax (VAT)                                     | 1,832,820    | 131,984   | 389,352    | 511,153    | 472,460    | 327,871    |
| <b>Grand Total</b>   | 76,096,500   | 5,479,836 | 16,165,449 | 21,222,454 | 19,615,958 | 13,612,804 |

Note: Item A includes equity of users.

## O&M Cost for GOP Assisted Level I Water Supply Project

Table 11.6.2 O&M Cost for Level I Facilities

|  | Deep Well | Shallow Well | Spring Dev't |
|--|-----------|--------------|--------------|
| Nos. of Facilities to be Constructed     | N.A       | N.A          | N.A          |
| Nos. of HHs to be Served                 | N.A       | N.A          | N.A          |
| <b>Reconstruction Cost (Peso)</b>        |           |              |              |
| Unit Cost                                | N.A       | N.A          | N.A          |
| Ttl. Reconst. Cost                       | N.A       | N.A          |              |
| Ttl. Reconst. Cost/year                  | N.A       | N.A          |              |
| Cost per HH/year                         | N.A       | N.A          |              |
| <b>Rehabilitation Cost (Peso)</b>        |           |              |              |
| Unit Cost                                | N.A       |              |              |
| Ttl. Rehab. Cost                         | N.A       |              |              |
| Ttl. Rehab. Cost/year                    | N.A       |              |              |
| Cost per HH/year                         | N.A       |              |              |
| <b>Recurrent Cost for O&amp;M (Peso)</b> |           |              |              |
| Cost per HH/year                         | N.A       | N.A          | N.A          |
| <b>O&amp;M Cost Total (Peso)</b>         |           |              |              |
| Cost per HH/year                         | N.A       | N.A          | N.A          |

Note: 1) Reconstruction of deep and shallow wells shall be conducted every 20 and 10 years, respectively.

Spring development is excluded due to more than 20 years facility life.

2) Rehabilitation is applicable to deep wells every 10 years.

Table 11.6.3 O&M Cost per HH/month by Facility and Proportion to Monthly Family Income

|                       | Deep Well | Shallow Well | Spring Dev't |
|-----------------------|-----------|--------------|--------------|
| O&M Cost per HH/month | N.A       | N.A          | N.A          |
| Proportion (Mean)     | N.A       | N.A          | N.A          |
| Proportion (Median)   | N.A       | N.A          | N.A          |

Table 11.6.4 Family Income

(Unit: Pesos)

| Annual <sup>1)</sup> |        |        | Monthly <sup>2)</sup> |        |       |
|----------------------|--------|--------|-----------------------|--------|-------|
| Mean                 | Median | Low    | Mean                  | Median | Low   |
| 59,584               | 44,861 | 42,579 | 9,129                 | 6,873  | 6,523 |

Note: 1) 1994 NSO Family Income and Expenditure Survey

2) Estimated value in 2003 applying 7% inflation rate/year

## O&M Cost for GOP Assisted Sanitation Project

Table 11.6.5 O&M Cost for Rural Sanitation

(Unit: Pesos)

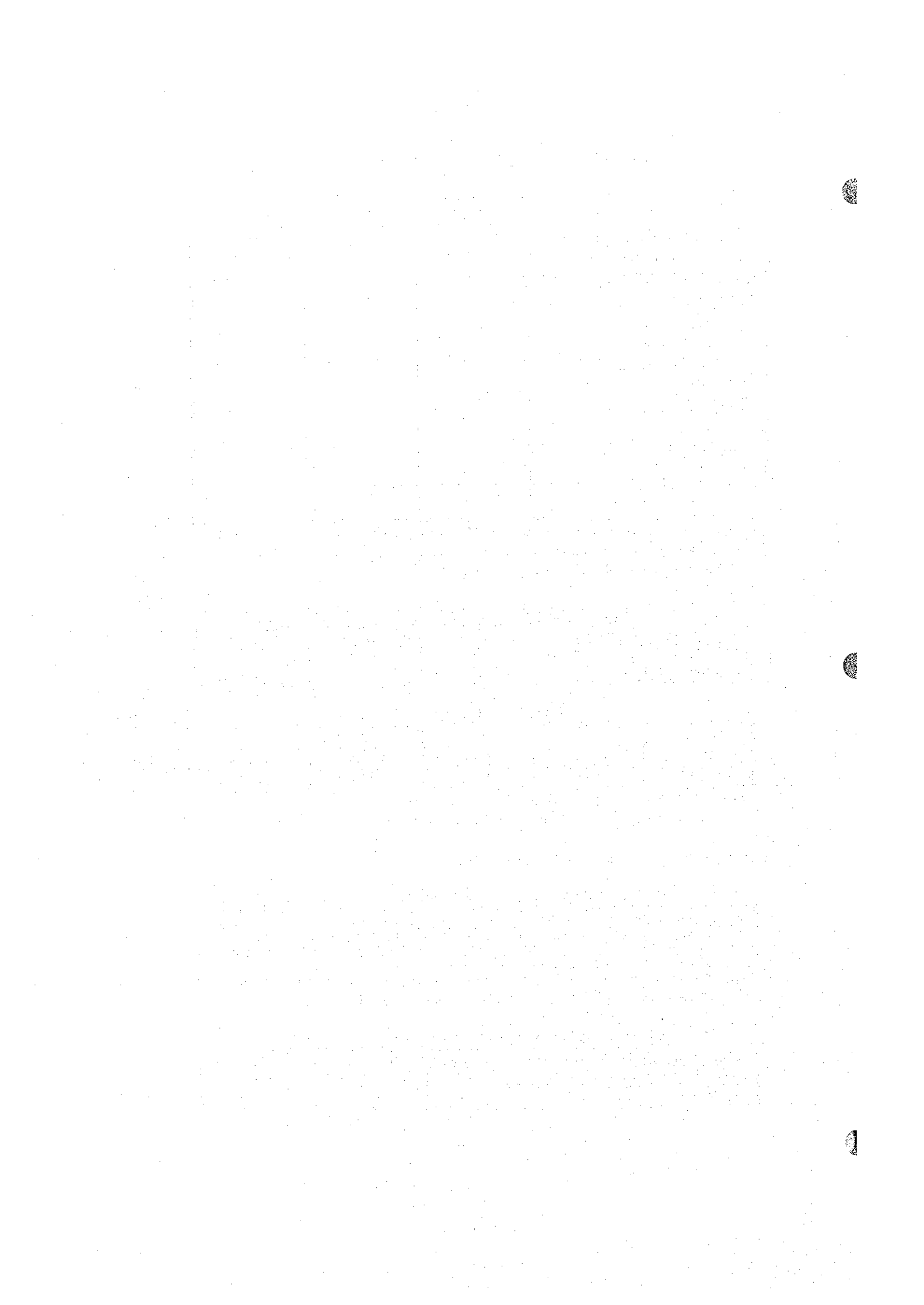
| Nos. of Facilities to be Constructed |                | Unit Construction Cost |                | Yearly O&M Cost |
|--------------------------------------|----------------|------------------------|----------------|-----------------|
| Public Toilets                       | School Toilets | Public Toilets         | School Toilets |                 |
| 0                                    | 74             | 344,100                | 274,100        | 1,014,170       |

Note: O&M cost includes the salaries of maintenance staff, cost of pumping sludge from septic tanks, and rehabilitation cost, which is assumed to be equivalent to 5% of construction cost.

Table 11.6.6 O&M Cost for Urban Sanitation

(Unit: Pesos)

| Nos. of Facilities to be Constructed |                | Unit Construction Cost |                | Yearly O&M Cost |
|--------------------------------------|----------------|------------------------|----------------|-----------------|
| Public Toilets                       | School Toilets | Public Toilets         | School Toilets |                 |
| 18                                   | 13             | 344,100                | 274,100        | 487,855         |







II. Sources & Uses of Capital Development Funds

| Source of Fund (1) | Budget for Water Supply & Sanitation (2) | Actual Disbursement (3) | Uses of Funds                |                               |   |                       |                    |                    |             |  |
|--------------------|--|-------------------------|------------------------------|-------------------------------|---|-----------------------|--------------------|--------------------|-------------|--|
|                    |  |                         | Water Source Development (4) | Water Supply Transmission (5) | Water Storage/ Treatment & Distribution (6) | Household Toilets (7) | School Toilets (8) | Public Toilets (9) | Others (10) |  |
| A. Local Funds.    |  |                         |                              |                               |   |                       |                    |                    |             |  |
| Provincial Funds   |  |                         |                              |                               |   |                       |                    |                    |             |  |
| Municipal Funds    |  |                         |                              |                               |   |                       |                    |                    |             |  |
| A.                 |  |                         |                              |                               |   |                       |                    |                    |             |  |
| B.                 |  |                         |                              |                               |   |                       |                    |                    |             |  |
| C.                 |  |                         |                              |                               |   |                       |                    |                    |             |  |
| D.                 |  |                         |                              |                               |   |                       |                    |                    |             |  |
| E.                 |  |                         |                              |                               |   |                       |                    |                    |             |  |
| F.                 |  |                         |                              |                               |   |                       |                    |                    |             |  |
| G.                 |  |                         |                              |                               |   |                       |                    |                    |             |  |
| H.                 |  |                         |                              |                               |   |                       |                    |                    |             |  |
| I.                 |  |                         |                              |                               |   |                       |                    |                    |             |  |
| J.                 |  |                         |                              |                               |   |                       |                    |                    |             |  |
| SUB-TOTAL          |  |                         |                              |                               |   |                       |                    |                    |             |  |
| B. National Funds  |  |                         |                              |                               |   |                       |                    |                    |             |  |
| DPWH               |  |                         |                              |                               |   |                       |                    |                    |             |  |
| DOH                |  |                         |                              |                               |   |                       |                    |                    |             |  |
| LWUA               |  |                         |                              |                               |   |                       |                    |                    |             |  |
| SUB-TOTAL          |  |                         |                              |                               |   |                       |                    |                    |             |  |
| C. External Funds  |  |                         |                              |                               |   |                       |                    |                    |             |  |
| NGO                |  |                         |                              |                               |   |                       |                    |                    |             |  |
| NGO                |  |                         |                              |                               |   |                       |                    |                    |             |  |
| NGO                |  |                         |                              |                               |   |                       |                    |                    |             |  |
| SUB-TOTAL          |  |                         |                              |                               |   |                       |                    |                    |             |  |
| TOTAL              |  |                         |                              |                               |   |                       |                    |                    |             |  |



V. Water Resources: Report any major changes in the availability and quality of water in the province. Attach map.

VI. Unit Cost Summary : Based on projects actually implemented and paid for during the reporting period, indicate the following average unit costs

1. Shallow Well (w/o hand pump) = \_\_\_\_\_ / Meter Depth
2. Deep Well (w/o pump) = \_\_\_\_\_ / Meter Depth
3. Pipeline = \_\_\_\_\_ / meter
4. Storage Tanks = \_\_\_\_\_
5. Others, \_\_\_\_\_

Municipality of \_\_\_\_\_  
 Provincial Water & Sanitation Monitoring System

Annual Sector Performance Summary Report

Period Covered : \_\_\_\_\_ to \_\_\_\_\_

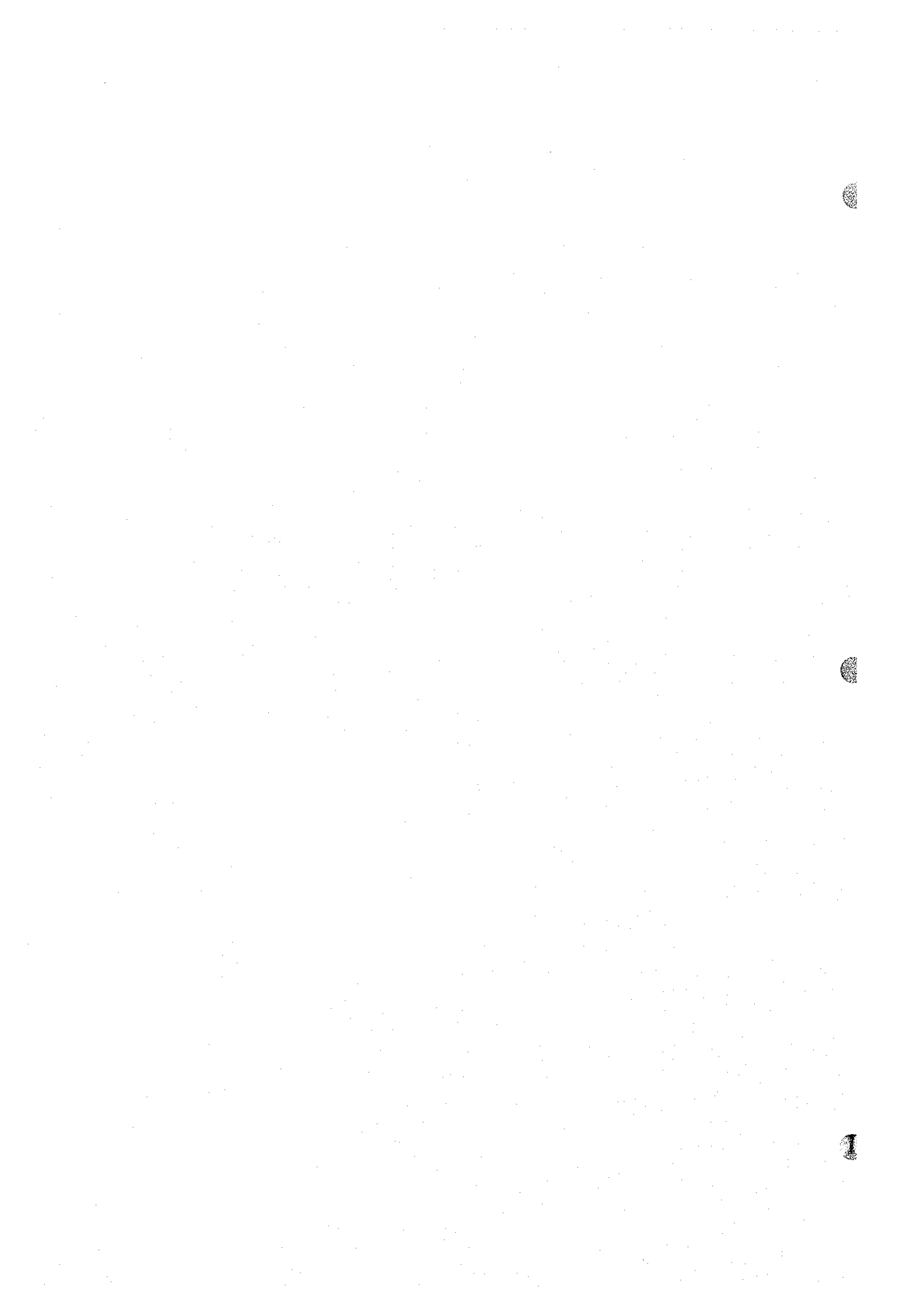
I. Service Coverage

| Name of Barangay (1) | LAST YEAR      |  |                                  |  | THIS YEAR      |  |                                  |  |
|----------------------|----------------|--|----------------------------------|--|----------------|--|----------------------------------|--|
|                      | Population (2) | Persons with Safe Water & Sanitary Toilets (3) | Persons with Safe Water Only (4) | Persons with Sanitary Toilets Only (5) | Population (6) | Persons with Safe Water & Sanitary Toilets (7) | Persons with Safe Water Only (8) | Persons with Sanitary Toilets Only (9) |
| 1.                   |                |  |                                  |  |                |  |                                  |  |
| 2.                   |                |  |                                  |  |                |  |                                  |  |
| 3.                   |                |  |                                  |  |                |  |                                  |  |
| 4.                   |                |  |                                  |  |                |  |                                  |  |
| 5.                   |                |  |                                  |  |                |  |                                  |  |
| 6.                   |                |  |                                  |  |                |  |                                  |  |
| 7.                   |                |  |                                  |  |                |  |                                  |  |
| 8.                   |                |  |                                  |  |                |  |                                  |  |
| 9.                   |                |  |                                  |  |                |  |                                  |  |
| 10.                  |                |  |                                  |  |                |  |                                  |  |
| 11.                  |                |  |                                  |  |                |  |                                  |  |
| 12.                  |                |  |                                  |  |                |  |                                  |  |
| 13.                  |                |  |                                  |  |                |  |                                  |  |
| 14.                  |                |  |                                  |  |                |  |                                  |  |
| 15.                  |                |  |                                  |  |                |  |                                  |  |
| 16.                  |                |  |                                  |  |                |  |                                  |  |
| 17.                  |                |  |                                  |  |                |  |                                  |  |
| Total                |                |  |                                  |  |                |  |                                  |  |
| % Served             |                |  |                                  |  |                |  |                                  |  |

II. Sources & Uses of Capital Development Funds.

| Source of Funds (1) | Budget (2) | Actual Disbursement (3) | Uses of Funds                |                               |   |                       |                    |                    |  | Others (10) |  |
|---------------------|------------|-------------------------|------------------------------|-------------------------------|---|-----------------------|--------------------|--------------------|--|-------------|--|
|                     |            |                         | Water Source Development (4) | Water Supply Transmission (5) | Water Storage/ Treatment & Distribution (6) | Household Toilets (7) | School Toilets (8) | Public Toilets (9) |  |             |  |
| Municipal Funds     |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| Barangay Funds      |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| A.                  |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| B.                  |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| C.                  |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| D.                  |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| E.                  |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| F.                  |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| G.                  |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| H.                  |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| I.                  |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| J.                  |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| K.                  |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| L.                  |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| M.                  |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| N.                  |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| O.                  |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| P.                  |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| Q.                  |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| R.                  |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| S.                  |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| T.                  |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| U.                  |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| W.                  |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| SUB-TOTAL           |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| NGO                 |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| NGO                 |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| SUB-TOTAL           |            |                         |                              |                               |   |                       |                    |                    |  |             |  |
| TOTAL               |            |                         |                              |                               |   |                       |                    |                    |  |             |  |









JICA