(8) At the national level, DPWH, DOH and DILG will continue to provide technical assistance to LGUs per NEDA Resolution No. 4, either directly or through their local field offices and staff. In addition, mandated government agencies, such as LWUA, will continue to provide technical and managerial services and loans to duly-organized water districts and RWSAs. Through the DOF and DBM, the IRA allocations will continue to be provided from which a portion can be allocated for sector projects. Since this IRA allocation for water and sanitation projects will likely be very limited, the LGU will have to coordinate with appropriate national agencies to gain access to external funds. Regulations, promulgated and enforced by national regulatory bodies, like the NWRB, will have to be complied with by the LGU. Further national policy guidelines will be issued by NEDA and the Office of the President.

9.4 Project Management Arrangements

(1) Level I

1) Project Selection: Self-selection and local initiative should be the basis. All barangays should be well-informed about sector opportunities and policies. The barangays should take the first step by assessing their needs, deciding that they want to improve their water and sanitation above all other needs and expressing their aspiration. The initial tasks of LGUs will be social marketing and information dissemination. The barangay should also decide desired service level/s, with a full understanding of the cost recovery aspects and other responsibilities.

2) Organization of associations: More flexibility is needed in order to tap local community resources. The issue of the necessity of forming BWSAs has been raised on several occasions. The proliferation of single-purpose associations for every government-sponsored project tends to divide barangay resources and complicate barangay structures. Many socio-civic groups have in fact "adopted" facilities and are looking after their maintenance voluntarily. Actual success rate seems to be higher in areas where water supply is extremely difficult regardless of whether there is monitoring or not.

The basic principle is that the community agrees that a particular group at the local level will be responsible. Existing local groups with other socio-civic objectives, an active track record and which are ready, willing and able to take on the BWSA functions may be tasked with the responsibility for the facilities. LGUs will assess the situation and, if justified, approve alternative non-BWSA arrangements. BWSA

formation, of course, remains an option. An "institutional accreditation" system can be organized. If the association fails to live up to its responsibilities, it can lose its accreditation to another group.

The association can decide how to organize it self internally in coordination with the municipal sector liaison. The important condition is that all functions have to be attended to. Thus, an association may subdivide itself by "puroks" or it may choose to operate as one institution.

3) Technology and Technical Design Standards: The former Rural Waterworks Development Corporation (whose functions were absorbed by LWUA) and the DPWH have developed a simplified procedure for conducting the initial data gathering. The formats, which are appended (Table 9.4.1, Supporting Report) may be adopted and used by the LGUs. If necessary, these forms can be revised to suit the specific needs of the barangay or municipality.
4) Bidding of works and procurement of services and materials should follow provision of PD 1594 and other appropriate government policies and practices. Where possible, major capital procurement shall be sourced within the province.
5) Construction and Drilling: Drillers and civil work contractors will be needed for any major rural water supply and sanitation undertaking. Construction inspection shall be done with the municipal sector liaison.
6) Right of Way Acquisition: Deed of Donation (or written permits to grant use of land) for proposed facility sites should be executed in favor of the municipal government/barangay prior to project approval.
7) Major rehabilitation work, beyond the capacity of the associations, shall be referred to the municipality for action. Clear definition of "major rehabilitation work" is needed. All costs incident to the rehabilitation shall be to the account of the association O&M reserve fund. The municipality supported by PST/PWSO will assist, if needed, the association in securing soft loans, if the reserve funds are inadequate.
8) Operation & Maintenance will generally be the responsibility of the association. To support the caretakers, a franchising system for major O&M activities may be instituted by the municipality (through a private firm, a major water district in the area or any other competent group). Mechanics and plumbers can organize well-equipped "mobile service centers" which visits all the facilities monthly to check-up facilities and provide technical advice on behalf of the LGUS.

With standardization, local hardware stores will find it more profitable to stock up on needed spare parts. The LGUs should not maintain spare parts, although it is expected to maintain a ready stock of fast-moving spares.

9) Water Rate Setting: Fees and rates shall be established and approved by the community prior to construction. The fees shall be sufficient to cover all monthly operation, maintenance and administration costs, as well as to establish a reserve fund.

10) Fees Collection and Funds Management: The association shall collect monthly fees. All funds of the association shall be deposited in a bank to be selected by the association.

(2) Level II

1) Project Selection: Guidelines similar to that of Level I project selection shall be followed , i.e., self-selection and local initiative. Two or more barangays (or puroks) may agree to have a joint water and sanitation project.

2) Organization: The RWSA model may be followed by the participating communities. Again, flexibility will be followed and alternative models for managing the system may be considered.

3) Technology and Technical Design Standards: Technical standards have been in use by LWUA for RWSAs and by DPWH for Level II systems. (See Table 9.4.2 with annexes, Supporting Report). As these are considered as national standards, they will be adopted by the LGUs.

4) Bidding of works and procurement of services and materials should follow provision of PD 1594 and all other applicable national and local legislation on bidding and award of contracts using public funds. LWUA uses standard formats and procedures for this process, which may be adopted by the LGUs.

5) Construction would usually be done by a contractor: Inspection would be undertaken by the RWSA; by the cooperative or the private developer; or by the LGUs depending on the institutional arrangement adopted.

6) Right of Way Acquisition. The association shall negotiate for the purchase of land on which facilities will be constructed. Should negotiations fail, the government may exercise the power of eminent domain to secure needed land.

7) Operation & maintenance and rehabilitation will be the responsibility of the association. It shall ensure that adequate tools and spare parts are available. It shall employ needed staff and caretakers.

8) Water Rate Setting: All fees shall be subject to public hearing and approval by the appropriate regulatory authority.

9) Fees Collection and Funds Management: Same policies for Level I shall apply. However, fee computation shall include provision for debt service and possibly a higher reserve requirement.

(3) Level III

1) Project Selection: Most Level III systems are to be initiated by the municipal governments. In principle, all communities, including rural areas, may request Level III services, provided that they are willing and able to take on the financial and managerial obligations for higher service levels. The point is that service level selection are community decisions.

2) Organization: There are several viable Level III models which may be adopted: the Water District Concept; an LGUs-managed system: a cooperative-run system; or a privately-owned and managed system. The LWUA-water district concept was briefly described in the preceding chapters. For detailed information, the LGUs should contact and coordinate with LWUA. The second option for the LGUs is to maintain operational control over the utility. Current experiences, however, revealed many difficulties because of numerous government controls and restrictions. The private sector may be a viable option using the BOT mechanism or even as a longer term investment for private entrepreneurs for larger systems.

3) Technology and Technical Design Specifications: Regardless of the institutional model adopted, the technical design standards to be enforced should be uniform. Technical standards used by the water districts and LWUA will be adopted and enforced by the LGUs.

4) Bidding of works and procurement of services and materials shall follow the provision of PD 1594 and all other applicable national and local legislation on bidding and award of contracts using public funds. LWUA uses standard formats and procedures for this process, which may be adopted by the LGUs.

5) Construction would usually be done by a contractor. Inspection would be undertaken by the water district; by the cooperative or the private developer; or by the LGUs depending on the institutional arrangement adopted.

6) Right of Way Acquisition: The waterworks will have to negotiate for the purchase of land on which facilities will be constructed. Should negotiations fail, the government may exercise the power of eminent domain to secure needed lands.

7) Operation & maintenance and rehabilitation will be the responsibility of the waterworks. It shall ensure that adequate tools and spare parts are available. It shall employ needed staff and caretakers.

8) Water Rate Setting: All rates are subject to public hearings and approval by the appropriate regulatory authority.

9) The waterworks shall establish a formal billing and collection system. In addition, business practice systems shall be adopted. The LWUA has established a comprehensive commercial practice system, which may be adopted by the organization.

9.5 Community Development Models

Policy: The LGU views community development and involvement principally as regular multisectoral activities, not project-related activities. This implies the need for the LGU to establish an institutional mechanism at the provincial and municipal levels to enhance trust and confidence of communities to the LGU and its ability and motivation for provision of vital services. Community management of the systems is a vital element for sustainability of the facilities. Communities are viewed not merely as beneficiaries but as decision makers for critical aspects of local projects. Communities will be encouraged to collectively take stock of their resources and constraints and agree on a development program.

The LGU will review the roles and responsibilities of central and local governments, NGOs, the private sector and communities themselves. It shall assess community participation activities and related institutional arrangements of past community projects and constantly look into creative ways to promote and enable local participation.

The LGU shall promote the participation of NGOs to catalyze the involvement of women, youth, people's organizations (PVOs) and other segments of the community in project decision-making and management. It will focus on the role of women in the context of the design of institutional arrangements at all service levels. The review shall include: brief overview of women's socio-economic situation and their role in water and sanitation services; analysis of relevant NGOs, women's groups and private agencies that support community; and assessment of support action for women's participation essential for project sustainability.

For specific sector projects, the LGU will adopt a three-phase community involvement model. The model will outline the decision and action points, for which community inputs

will be sought. These inputs are categorized according to the Pre-Construction Phase, the Construction Phase and the Post-Construction Phase.

Responsibilities: At the municipal level, the Municipal Sector Liaison will play a leading role in ensuring involvement of the beneficiaries at all phases of the project. The Community Development and Training Specialist of the municipality trained by PST/PWSO will provide technical assistance and advice.

One of the key activities in the PW4SP preparation is the formulation of viable models to promote community development in the projects. Each one model for Level I, II and III service was formulated based on socio-economic profiles, service needs and experience in selected communities. It is important to have a clear sequence (a strategy) to enable the communities to participate in the project through all the process.

Three sites were selected based on a set criteria which includes: needs, health situation, source availability, accessibility, potentials for replication, etc. The sites selected for the province are outlined in the table below; full write-up of the case is included in the Supporting Report.

Table 9.5.1 Summary of Community Development Study Sites

Model Study Site	Proposed Service Level	Urban or Rural	Potential Service Area		Potential Water Source	Sanitation Issues
			Population	Households		
Sitio Yagit, San Rafael, Rodriguez	I	R	1,500	350	Shallow Well	Yes
Bgy Prinza, Teresa	II	R	1,245	329	Deep Well	No
AFP Village, Bgy Silangan, San Mateo[1]	III	U	1,500	300	Deep Well	No

(1) For Level I facilities, community involvement and participation shall be promoted in the following manner.

1) Pre-Construction Phase

(a) Dissemination of information

(b) Establishment (or selection) of barangay or purok association and of the working relationships with other agencies

(c) Election of officials

[1]This model site is a good example of a Level III system run by the household association. System was completed last year and is functioning well.

(d) Assistance for the selection of potential water sources

(e) Agreement on O&M arrangements

(f) Computation and approval of water charges

(g) Preparation of work plan

(h) Agreement to proceed the project

(i) Assistance for the selection of contractor/s

(j) Securing right-of-way (deed of donation or permit to use) for facility sites

2) Construction Phase

(a) Provision of labor counterpart

(b) Provision of materials

(c) Dissemination of information

(d) Inspection and feedback of the project activities

(e) Provision of access to the contractor/s

3) Post-Construction Phase

(a) Payment/collection of fees; fund-raising activities

(b) Getting water samples regularly for quality testing

(c) Preventive maintenance

(d) Minor repair and parts replacement

(e) Dissemination of health and hygiene information

(f) Auditing of finances

(g) Attendance in community meetings

(h) Provision of adequate source protection, including maintenance of drainage to protect well site from contamination

(i) Formulation of future improvement plans

(j) Approval of major capital or rehabilitation budgets

(k) Collection and provision of information as requested by the RHU or MSI.

(l) Preparation/maintenance of the barangay or site maps

(2) For Level II facilities

1) Pre-Construction Phase

(a) Establishment of barangay or purok arrangements and working relationships with other agencies

(b) Identification and selection of potential water sources

(c) Identification of the location of communal faucets

(d) Agreement to proceed the project

(e) Dissemination of information

(f) Election of officials

(g) Agreement on O&M arrangements

(h) Computation and approval of water charges

(i) Preparation of work plan

(j) Securing right-of-way (deed of donation or permit to use) for facility sites

(k) Selection of local contractor/s

2) Construction Phase

(a) Provision of labor counterpart

(b) Provision of materials

(c) Dissemination of information

(d) Inspection and feedback of the project activities

(e) Provision of access to drillers/contractors

3) Post-Construction Phase

(a) Payment/collection of fees; fund-raising activities

(b) Getting water samples regularly for quality testing

(c) Formulation of improvement plans

(d) Preventive maintenance including cleaning of storage tank/s

(e) Dissemination of health and hygiene information

(f) Preparation/maintenance of the barangay maps

(g) Auditing of finances

(h) Attendance in community meetings

(i) Source protection measures

(j) Approval of major capital or rehabilitation budgets

(k) Minor repairs and parts replacement including leak repairs

(l) Collection and provision of information as requested by the RHU or MSL.

(m) Safe disposal of waste water

(3) For Level III facilities

1) Pre-Construction Phase

(a) Attend public hearings and briefings on formation of institutional arrangements (WD, cooperative, etc.) for the proposed improvement project

(b) Dissemination of information

(c) Assistance in securing right-of-way (deed of donation or sale or permit to use) for facility sites

2) Construction Phase
   (a) Dissemination of information; road traffic control, etc.
   (b) Feedback on construction progress
   (c) Provision of access to contractor/s
   (d) Installation of in-house plumbing and sanitation facilities
3) Post-Construction Phase
   (a) On-time payment of water bills
   (b) Prompt reporting of leaks and illegal connections
   (c) Conservation of water
   (d) Dissemination of health and hygiene information
   (e) Attendance in further public consultation meetings
   (f) Assistance in campaigns for new service connections
   (g) Safe disposal of wastewater.

9.6 Human Resources Development and Training

Policy: The training is a planned strategy to strengthen individual competencies to meet appropriate standards of excellence to achieve the goals of the program. It is a planned process of helping and enabling other people acquire attitudes, skills and knowledge by themselves. The objectives of training are individual competence, organizational effectiveness and efficiency, and national development. Training helps ensure the availability of qualified and able manpower, the shortage of which is considered as one of the major obstacles to improvements in the water supply and sanitation sector.

In planning and implementing training activities, trainers must keep in mind that there are two processes simultaneously taking place - skill/knowledge acquisition and attitude formation. To illustrate the process, a brief exercise may be conducted during the session to show the two simultaneously occurring processes - those related to task and/or subject on one hand, and those related to attitude formation on the other.

(1) The effective application of teaching and learning principles is vital to achieve optimal learning. Trainers must bear in mind the following principles:
   1) Perceived Purpose: Participants should recognize why a particular topic is being discussed or presented, i.e., the relevance. This is the first element which should be established and agreed upon in any training activity.

2) Graduated Sequence: The subject matter should be presented in a logical sequence which can be followed by the trainees.

3) Knowledge of Results: At every point during a training activity, participants must know how well they are performing, i.e., feedback.

4) Appropriate Practice: If the objective of a training effort is to develop specific skills, there must be opportunities to practice and demonstrate these within the training activity.

5) Individual Differentiation: Attention must be paid to the fact that every person learns at a different pace.

(2) The Training Process

1) Needs Assessment: The first step is to determine the problem to which a training solution will be able to make an impact. A careful analysis is necessary because the training should address and focus on precisely those deficiencies in knowledge, attitudes or skills that hinder reaching certain goals. However, one must bear in mind that not all problems or deficiencies can be solved by training alone. In most cases, complementing interventions will be needed.

2) Setting Learning Objectives: In the second step, the learning objectives need to be set. Training designers shall present these objectives in behavioral terms, i.e., what should a participant be able to do at the end of the training period (not what the session will accomplish). It is necessary to formulate them with care because they also serve as criteria for evaluation at the end of the training process.

3) Methods and Techniques: Different methods of training are appropriate for different types of learning; the methodology should be appropriate with the set learning objectives. Participatory methods, like group exercises, group discussions, role plays etc. are most effective in attitude formation. The choice of methodology is mainly based on the learning principles and objectives. Human factors, resources available (time, facilities) and the subject area will also affect the choice.

4) Evaluation of Training: Training evaluation assesses whether a course was adequately designed and implemented to meet the set objectives. There are four levels of evaluation presented. Each level focuses on a specific area and involves a specific set of standards and evaluation tools.

(3) The Training Design: Training design is more than simply putting up a schedule. It is a plan of action to be followed by a trainer in implementing his activities. It consists of:

1) Rationale: Why set up a training program in the first place, and why would people have an interest in it?
2) Learning objectives: Workshops should aim to develop a strong understanding of concepts like: participatory development, demand, etc. An ability to analyze and apply participatory development in their local setting or to articulate water supply and sanitation demand and supply concepts are key capacity building objectives. Methods should be more participative and consultative, i.e., allowing planners to interpret the principles with an awareness of their local conditions.
3) Assumptions about the participants' background; define who would best benefit from the program - the target audience.
4) Curriculum: Determine what the potential trainees need to know before they participate in the program, decide on the training methods and materials, draw up session plans and sequence the sessions logically.
5) Evaluation: Decide how the program itself and the participants are evaluated.
6) Administrative aspects: The budget for the program, the total costs, possible costs to the trainees. Also important are things like housing (for the program itself, for facilitators and trainees), registration of trainees, logistics, etc.

Responsibilities: Needs Assessments will be conducted as the basis for the design of the courses. Participants will be selected based on the their tasks and responsibilities. The PST/PWSO will establish and maintain a reference library and information/ documentation center which will include training materials and equipment to service needs of the municipalities. The DILG, in coordination with the International Training Network (ITN) - Philippines and other agencies and NGOs, will provide inputs to these training activities.

The LGU role entails not only to run courses but also to ensure that training programs take place and are effective. As an alternative, training activities may be contracted out to well-functioning water districts. NMYC training centers have been established; NMYC can be tapped to provide testing and skill certification for caretakers. NMYC regularly conducts plumbing and pipefitting courses and the national trades certification system. Finally, there are technical and vocational schools who may be tapped to provide technical training and to award diplomas and certificates to those who undergo their programs. These schools however do not have at this time, any special courses for water and sanitation caretakers. A program can be set up with these institutions.

External training assistance must be viewed as participation within this process. Its purpose is to guide and motivate (not replace) local trainers. Local trainers need to go through the process of, e.g., designing courses or developing materials, etc. Many learning opportunities are missed when non-local experts replace local trainers in doing need assessments, course designs, materials development, etc.

1) For staff operating Level I systems:
   (a) Preparatory orientation training activities will be organized leading to the formation of associations. These community-level orientation activities will consist of briefings about the health situation, the relationship between health, water supply and sanitation. The LGU program for water and sanitation improvement will be presented, including policies and procedures for accessing technical and financial support.
   (b) Technical training of caretakers will consist of: water source protection (for deep wells, shallow wells, spring boxes and surface water intake structures); water quality protection; operation and maintenance of hardware (pumps, pipes), including simple replacements of parts; plumbing and pipefitting.
   (c) Management training will include: fee setting, bookkeeping and funds management, preparation of improvement plans and monitoring and reporting requirements. Detailed policies of the LGU will be discussed.
   (d) Current training activities and materials for the BWSAs by the DILG will be reviewed and adopted by the municipalities. UNICEF is assisting DILG in updating these materials.

2) For staff operating Level II systems:
   (a) Preparatory orientation and training activities will be organized leading to the formation of associations. These community-level orientation activities will consist of briefings about the health situation, the relationship between health, water supply and sanitation. The LGU program for water and sanitation improvement will be presented, including policies and procedures for accessing technical and financial support.
   (b) Training of technicians and operators will generally consist of: water source protection (for deep wells, spring boxes and surface water intake structures); water quality protection; water storage; chlorination; operation and maintenance of hardware (pumps, pipes), including simple replacements of parts; plumbing

and pipefitting. Pump operation and electrical controls will be a major focus of this program; metering will be presented.

(c) Management training will generally include: organization aspects, operations policy formulation, water rate computation, preparation of bills, bookkeeping and funds management, preparation of improvement plans and monitoring and reporting requirements. Detailed policies of the LGU will be discussed.

(d) Training activities for the RWSAs prepared by LWUA will be reviewed and adopted by the municipalities.

3) For staff operating Level III systems:

(a) Technical training of engineers, technicians and operators will generally consist of: water resources conservation and protection (for deep wells, spring boxes and surface water intake structures); water quality protection; hydraulics; transmission lines; water storage; treatment and chlorination; construction inspection; and operation and maintenance facilities. Implementation of a metering program will also be discussed. Methodologies for feasibility analysis for system expansion will be presented.

(b) Policy and management training will include the full commercial practiced system including budgeting and cost controls, bookkeeping and accounting, procurement, maintenance of stock inventories, rate formulation and capital budgeting. The policy formulation process and the various areas of policy for utility operation will be presented in detail. Long-range planning, financial analysis and review, and monitoring with reporting requirements will be discussed.

(c) The DPWH, LWUA and MWSS have developed a comprehensive set of programs and materials for both technical and management training. Inputs from these three agencies and also from local water districts should be sought.

4) Training of PST/PWSO staff and municipal liaison staff: Based on the task descriptions presented, the following training programs will be required. At least one program is conducted annually for each of the workshops and courses. The programs will explain the basic concepts and procedures. Succeeding programs will review the adopted policies and procedures and lay the bases for improving operations at the provincial and municipal levels. Municipal liaison staff will participate in these programs. They should be organized by the PST/PWSO; except for the Provincial Coordinators' Workshop which is best handled nationally by DILG to provide a wider

base for sharing of experience among the PWSC. In addition, DILG will provide basic guidelines for the design and implementation of the workshops and courses.

(a) The Provincial Coordinators' Workshop will be an annual activity intended to facilitate the exchange of experience among the coordinators. New national policies, opportunities and constraints will be discussed. Case studies will be presented. Sector management & technical experts will be invited to speak on current issues and trends. This will be organized by the DILG.

(b) The Community Development Course is intended for trainers, community development specialists and municipal liaison staff. The scope of the course will include: Social marketing & public information programs, community organizing skills, training skills (needs assessment, design, implementation & monitoring).

(c) The Technical Course seeks to acquaint technical staff at the provincial and municipal levels on the physical aspects of the sector. Its scope will generally include: water resources, overview of water supply systems (source, transmission, treatment, storage, distribution), drilling and source development, water quality protection, feasibility study and design procedures and standards, and operation and maintenance.

(d) The Project Monitoring Seminar will provide an overview of the monitoring functions and the sector reporting requirements. The process of sector monitoring and updating the PW4SP will be presented in detail. Project monitoring procedures will also be discussed.

(4) Health and Hygiene Education

1) Policy: The LGUs shall establish hygiene education programs through appropriate methods and channels referring to on-going national program. These shall include immediate short-run programs: information campaigns; as well as long-term value formation interventions, possibly through the formal school system. If the LGUs are to attain the full economic benefits of improved water and sanitation services, household behavior and hygiene practices need to be addressed. Three approaches will be used:

(a) Community-based Approach: Direct house-to-house campaigns can be implemented through the Rural Health Units, as part of their current functions. Meetings by house "clusters" to discuss relevant health issues can also be organized. This will also be done through direct person-to-person contact with PHO staff, the municipal health staff, midwives, sanitarians and the barangay health volunteers. Special presentations can also be done during the regular

meetings of community-based socio-civic clubs. Various flipcharts and IEC (Information, Education and Communication) materials are already available.

(b) School-based Approach: Students are the main targets of this approach, either directly or through their teachers. Special focus activities, such as Water and Sanitation Week or Nutrition Week can be introduced with programs or convocations to make the student aware of the issues and solutions. Posters, flip charts, and other audio-visual materials will be required.

(c) Media-based Approach: This approach utilizes radio and print media to introduce and reinforce health messages. Many NGOs and the Philippines Information Agency (in coordination with the DOH) have developed interesting and attractive materials.

2) Responsibility: The community development and training specialists at both provincial and municipal levels will be responsible for the health and hygiene education function. The CDTSs will formulate an action plan and implementation will be done by the municipal liaison staff and other local officials. At the barangay level, its implementation will involve the close coordination among the midwives, the barangay health workers and the Committee on Health of the barangay council. Materials for this efforts have been previously developed and can be found with the various PHOs and RHUs. UNICEF has provided strong support in the preparation of these materials.

3) A continuous health and hygiene education program will be launched by the LGU. Simple and clear messages and approaches will have to be defined. These messages may include the following: relationship among health, water supply and sanitation; sector opportunities and services available at the rural health units. The relevance of these, or other messages will have to be determined by the municipal sector liaison.

Chapter 10

COST ESTIMATES FOR FUTURE SECTOR DEVELOPMENT

10. COST ESTIMATES FOR FUTURE SECTOR DEVELOPMENT

10.1 General

The total investment cost required in the two phases was studied for implementation of the future requirements identified in Chapter 8 and Chapter 9. The investment cost is defined to include direct cost for construction/rehabilitation of required facilities and sector management, as well as physical and price contingencies. Cost requirements for the equipment and vehicle are discussed as a reference to the LGUs. In addition, recurrent cost is estimated for the operation and maintenance of facilities.

Conditions and assumptions to come up with investment cost were established covering all sub-sector components referring to the National Sector Master Plan and current standards of relevant sector agencies (DPWH, DOH and LWUA). Of the total investment cost required, only construction cost for sector components by municipality was included in this Chapter. The total investment cost is presented in Chapter 11 as a total requirement of the province.

With regard to construction cost, unit construction cost per person/household/facility was first prepared under contract-out basis for respective sub-sector component facilities at 1995 price level (refer to Supporting Report).

Recurrent cost was also included in this Chapter taking into account regular operation, spare parts and equipment replacement for sector components concerned.

10.2 Assumptions for Cost Estimates

(1) Unit Construction Cost

Unit construction cost per person (household or facility) of each sector component was prepared based on the current standard unit cost of relevant sector agencies and typical standards developed for this PW4SP as contract-out basis at 1995 price level. Referred cost data are urban water supply of LWUA, rural water supply of DPWH and sanitation of DOH. For price adjustment of construction materials, the NSO price index of 1994 to 1995 was referred to.

Unit construction cost consists of, in general, direct cost (mobilization/demobilization, material and labor), indirect cost (profit and VAT of contractor) and government expense

(detailed engineering, institutional development and water quality analysis-when deemed necessary).

Freight cost of construction materials excluding indigenous materials, i.e., sand and gravel, was counted for sanitation and rural water supply in consideration of the distance from Manila. The cost is estimated at fixed percentage based on the standard practice being adopted by sector agencies.

Table 10.2.1 shows a summary of unit construction cost and their descriptions are given below (details are referred to Supporting Report).

Urban water supply:

- Unit cost for three different sizes of Level III system covering served population of 5,000, 10,000 and 15,000.

Rural water supply:

- Unit cost for four types of Level I wells (shallow well at 20m in depth and deep wells at 40, 80 and 120m in depth).
- Unit cost for Level II system to cover 600 served population.

Sanitation:

- Household toilet:
  Unit cost for three types of sanitary toilets (flush, pour-flush and VIP) to cover one served household in urban or rural areas. Cost of flush toilet includes costs for demolition, water closet, water line and a superstructure made of durable construction materials.
- Public school toilet:
  Unit cost for one facility with 5 toilet bowls to cover 250 served students
- Public toilet:
  Unit cost for one facility with 6 toilet bowls
- Well disinfection:
  - unit disinfection cost per well based on DOH standard cost
  - to be applied to all existing and new wells once a year.

Table 10.2.1 Unit Cost of Facilities by Type and Service Level

Description		Urban Water Supply (Level III)						Rural Water Supply					Sanitation						
		New System			Expansion			Level II	Level I				Household Toilet					Disinfection of Level-I Wells	Urban Sewerage
									Deep Well			Shallow Wells							
		5,000 Population	10,000 Population	15,000 Population	5,000 Population	10,000 Population	15,000 Population		40 m	80 m	120 m		Flush	Pour Flush	VIP Latrine	Public School Toilet	Public Toilet		
Unit Construction Cost per Facility (Pesos)		20,081,250	30,418,750	45,443,750	18,456,250	28,793,750	43,818,750	575,104	149,400	247,200	358,600	28,100	34,900	12,900	8,200	280,900	299,400	70	N.A.
Service Coverage	Served Population	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	250	N.A.	N.A.	N.A.
	Served Households	1,000	2,000	3,000	1,000	2,000	3,000	120	15	15	15	15	1	1	1	N.A.	N.A.	N.A.	N.A.
Unit Cost	Pesos/Person	4,000	3,000	3,000	3,700	2,900	2,900	1,000	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	1,100	N.A.	N.A.	7,300
	Pesos/Household	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	10,000	16,500	23,900	1,900	34,900	12,900	8,200	N.A.	N.A.	N.A.	N.A.
Rehabilitation Cost of Level I Deep Well (Pesos)		N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	32,800			N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

Table 10.2.2 Unit Cost of Equipment and Vehicle

Name of Equipment	Unit Cost (Peso 1,000)
Truck-mounted rotary drilling rig	17,370
Truck-mounted percussion drilling rig	10,280
Well rehabilitation equipment	138
Service truck with crane	1,175
Support vehicle (Pick-up with winch)	500
Refuse collection truck	1,380

Urban Sewerage:

- Unit cost per served population. Preliminary estimates derived from the Philippine National Urban Sewerage and Sanitation Strategy and Feasibility Studies report.

(2) Unit Cost of Equipment

Unit cost of equipment shown in Table 10.2.2 was prepared as reference information based on the standard unit cost and recent procurement experience of the relevant sector agencies (details are referred to Supporting Report).

(3) Sector Management Cost

Sector management cost consists of:

- engineering studies (F/S, D/D and construction supervision) for water supply, public toilet and school toilet facilities.
- community development and training including health & hygiene education and logistic support.

Cost of engineering studies was estimated based on the fixed percentages to the total construction cost; 9% for F/S and D/D and 4% for construction supervision.

Community development and training with logistic support was also estimated on the same manner; 12% of respective construction costs for rural water supply and sanitation, and 3% of construction cost for urban water supply.

(4) Contingency cost

Contingency cost covers both physical and price contingencies for water supply and sanitation facilities. Physical contingency is assumed to be 15% that of the direct construction cost and sector management cost. Price contingency is assumed to be 10% that of direct cost and physical contingency.

(5) Recurrent cost

Recurrent cost was estimated for water supply and school and public toilet facilities to cover the regular operating cost and the cost for spare parts and equipment replacement based on the subsequent cost assumptions, while household toilet is assumed to be maintained by the owner.

Regular operating cost normally includes salaries of operation staff, electricity, fuel and chemicals. Due to the nature of this cost, it is only applied to urban water supply (Level III system). As a typical unit cost being applied to existing PW4SPs referring to LWUA data, 365 Pesos/household/year was employed.

Cost for spare parts and equipment replacement was considered by different service level as described below.

Level III system:

- Mechanical and electrical equipment has normally a life cycle of 8 to 12 years and is considered in depreciation cost, i.e., 10% per annum. Assuming that the equipment cost comprise 10% of construction cost, annual depreciation will be 1% of the construction cost.
- Accordingly, cost of spare parts was assumed to be 10% of the equipment cost or equivalent to 1% of the construction cost.
- As a whole, 2% of the construction cost was applied for the cost of spare parts and equipment replacement.

Level II system:

- Operation and maintenance (O&M) cost of Level II system utilizing spring sources includes repair/replacement of pipelines and communal faucets and salaries of maintenance staff.
- A unit cost of 100 Pesos/household/year was assumed for cost estimates.

Level I system:

- O&M cost of Level I facility simply includes spare parts of handpump and caretaker.
- A unit cost of 50 Pesos/household/year was assumed for cost estimates.

School and public toilets:

- O&M cost includes the salaries of maintenance staff, cost of pumping sludge from septic tanks (periodically) and rehabilitation cost (for depreciation).
- For cost estimates, 5% of the construction cost was applied per facility per year.

Management cost:

- Management cost of water supply, sewerage and sanitation sector is a part of the cost required for public services of LGUs, mainly consisting of salaries of officers and workers and normally included in the annual budget of each LGU. The rest of the management cost, such as equipment for information processing and dissemination was considered as part of logistic support under the sector management cost. Owing to the nature of this cost item, the management cost pertaining to salaries of officers/workers depends largely on the population size and institutional set-up of each LGU.
- Management cost was not estimated in this PW4SP considering the above-mentioned reasons.

10.3 Cost of Required Facilities and Equipment

10.3.1 Cost of Required Facilities

The construction cost of required facilities as public investment of LGUs was summarized in Table 10.3.1 by sub-sector by municipality for target years. In this regard, the construction cost of household toilets is limited to the procurement and distribution of toilet bowl for pour flush toilets as being implemented by DOH under the FW4SP (refer to over-all construction cost requirements, Supporting Report).

Table 10.3.1 Construction Cost of Required Facilities by Municipality

Unit: 1,000 Pesos

Municipalities	Phase I (2000) Requirements							Phase II (2010) Requirements							
	Urban Area			Rural Area			Grand Total	Urban Area				Rural Area			Grand Total
	Water Supply	Sani-tation	Sub-total	Water Supply	Sani-tation	Sub-total		Water Supply	Sani-tation	Sewerage	Sub-total	Water Supply	Sani-tation	Sub-total	
Antipolo	205,335	26,879	232,214	202,550	13,884	216,434	448,648	410,298	47,607	1,431,968	1,889,873	227,969	64,208	292,177	2,182,050
Baras	7,962	1,079	9,041	2,533	1,176	3,709	12,750	50,480	1,918	84,928	137,326	23,360	1,546	24,706	162,032
Binangonan (Talim)	0	299	299	21,041	3,936	24,977	25,276	0	299	0	299	56,358	12,799	69,157	69,456
Cardona	0	1,746	1,746	2,505	0	2,505	4,251	68,492	1,975	126,166	196,633	22,293	4,042	26,335	222,968
Jala-jala	5,792	849	6,641	11,272	1,289	12,561	19,202	15,010	845	0	15,855	25,048	2,689	27,737	43,592
Morong	18,027	299	18,326	0	0	0	18,326	88,375	2,322	192,530	283,227	0	0	0	283,227
Pililla	15,788	4,048	19,836	0	0	0	19,836	113,660	4,033	197,319	315,012	0	0	0	315,012
Rodriguez	40,635	5,613	46,228	8,939	515	9,454	55,682	234,993	9,934	455,199	700,126	14,951	2,103	17,054	717,179
San Mateo	31,250	9,178	40,428	1,199	0	1,199	41,627	278,159	14,245	615,361	907,765	893	86	979	908,744
Tanay	40,554	6,209	46,763	28,227	1,317	29,544	76,307	136,460	13,545	351,283	501,288	36,188	3,270	39,458	540,746
Teresa	12,580	737	13,317	0	0	0	13,317	72,243	2,956	116,888	192,088	0	0	0	192,088
PW4SP Study Area	377,903	56,936	434,839	278,265	22,117	300,383	735,222	1,473,171	99,679	3,571,642	5,144,492	406,860	90,742	497,602	5,642,094

Note: Cost for disinfection of wells is not included.

During the medium-term development period, a total of 735 million Pesos will be required for construction of required facilities. Of the requirements, 51% or 378 million Pesos will be

necessary for rural water supply, while only 3% or 22 million Pesos will be for rural sanitation.

10.3.2 Cost of Required Equipment and Vehicle

The procurement cost of required equipment was estimated as shown in Table 10.3.2 (details are referred to Supporting Report).

Table 10.3.2 Cost of Equipment and Vehicle

Name of Equipment	Unit Cost (Peso 1,000)	Quantity (set)	Cost (Peso 1,000)
Hand-feed spindle type rotary drilling rig	1,000	2	2,000
Truck-mounted rotary drilling rig	17,370	7	121,590
Truck-mounted percussion drilling rig	10,280	9	92,520
Well rehabilitation equipment	138	1	138
Service truck with crane	1,175	16	18,800
Support vehicle (Pick-up with winch)	500	4	2,000
Refuse collection truck	1,380	11	15,180
Total Equipment Cost			252,228

10.4 Recurrent Cost

Recurrent cost is estimated at 1995 price level as a provincial total of each sub-sector covering existing facilities and additional facilities to be constructed during the medium-term development as shown in Table 10.4.1.

In the year 2000, the recurrent cost will increase to 61.9 million Pesos/year from 42 million Pesos/year in 1995, which is equivalent to 47% increase from the base year corresponding to the implementation of the medium-term development.

Table 10.4.1 Recurrent Cost

Unit: 1,000 Pesos

Sector Component	Item	Base Year Existing Facilities (1995)	1996	1997	1998	1999	2000	Total (1996-2000)
Urban Water Supply	Operating Cost	20,163	20,163	21,940	24,606	27,272	29,049	123,030
	Spare Parts/Equipment	16,661	16,661	18,173	20,440	22,707	24,219	102,200
Rural Water Supply	Level II	21	21	21	21	21	21	104
	Level I	2,446	2,532	2,689	2,845	3,002	3,159	14,227
Sanitation	Public School Toilets	2,500	2,818	3,400	3,982	4,564	5,146	19,911
	Public Toilets	165	183	216	249	282	315	1,245
PW4SP Study Area		41,956	42,377	46,438	52,143	57,848	61,909	260,716

Note: Recurrent cost of each year includes that of base year existing facilities.

Chapter 11

FINANCIAL ARRANGEMENTS

11. FINANCIAL ARRANGEMENTS

11.1 General

Financial arrangements to attain medium-term (Phase I) target are sought taking account of potential funds. However, quantitative study is limited to the use of projected Internal Revenue Allotment (IRA). In this connection, this Chapter addresses to identify financial shortfall with reference to available IRA for this sector and to seek comprehensive logistics in terms of acquisition of various funds, augmentation of current practices in the Government assistance to this sector, and effective investments and cost recovery.

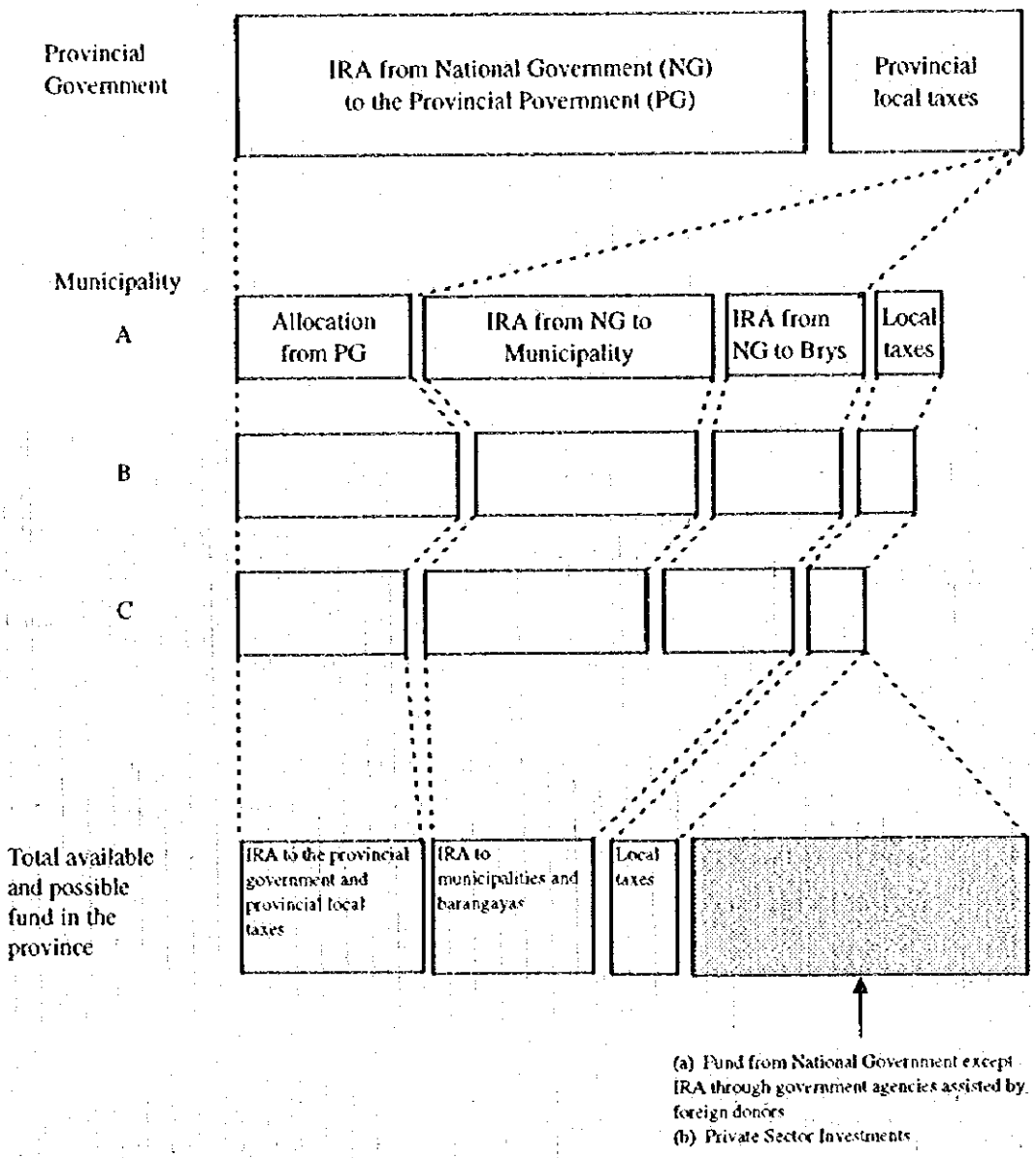
Available funds (IRA) during the medium-term development period are projected in use of computer-based programs that allow for the future application to include additional funds available. Figure 11.1.1 shows sector budget allocation in the different administrative levels to come up with total funds available in the province. Figure 11.1.2 illustrates manner of sector fund allocation to respective municipalities from the national and provincial governments with a detailed study flow availing IRA. Interfaces between provincial government and municipalities/barangays are also presented in the same figure.

Distribution of IRA to respective municipalities is contemplated in assumption of various factors based on the experiences as of 1994. However, the structure and application of IRA are under review by the national government. Accordingly, the study results on IRA are tentative and subject to change.

11.2 Projection of IRA

The projection of IRA to the relevant sector for Phase I period is made covering different administrative levels. Current manner of allocation by the national government is directed to three different governmental levels; province, municipality and barangay. Municipal fund available for this sector is calculated as a sum of municipal and provincial allotments. Figure 11.2.1 shows the calculation procedure with assumptions and Table 11.2.1 and 11.2.2 present the calculation results.

Figure 11.1.1 Sector Budget Allocation



Notes: (1) Budget from different sources in the figure above are those shared to water supply and sanitation sector from allotted amount for overall sectors.

(2) Shaded portion above is the potential fund source to be negotiated/arranged to meet target requirements.

Figure 11.1.2 GENERAL FLOW OF FINANCIAL ARRANGEMENTS FOR RELEVANT SECTOR DEVELOPMENT

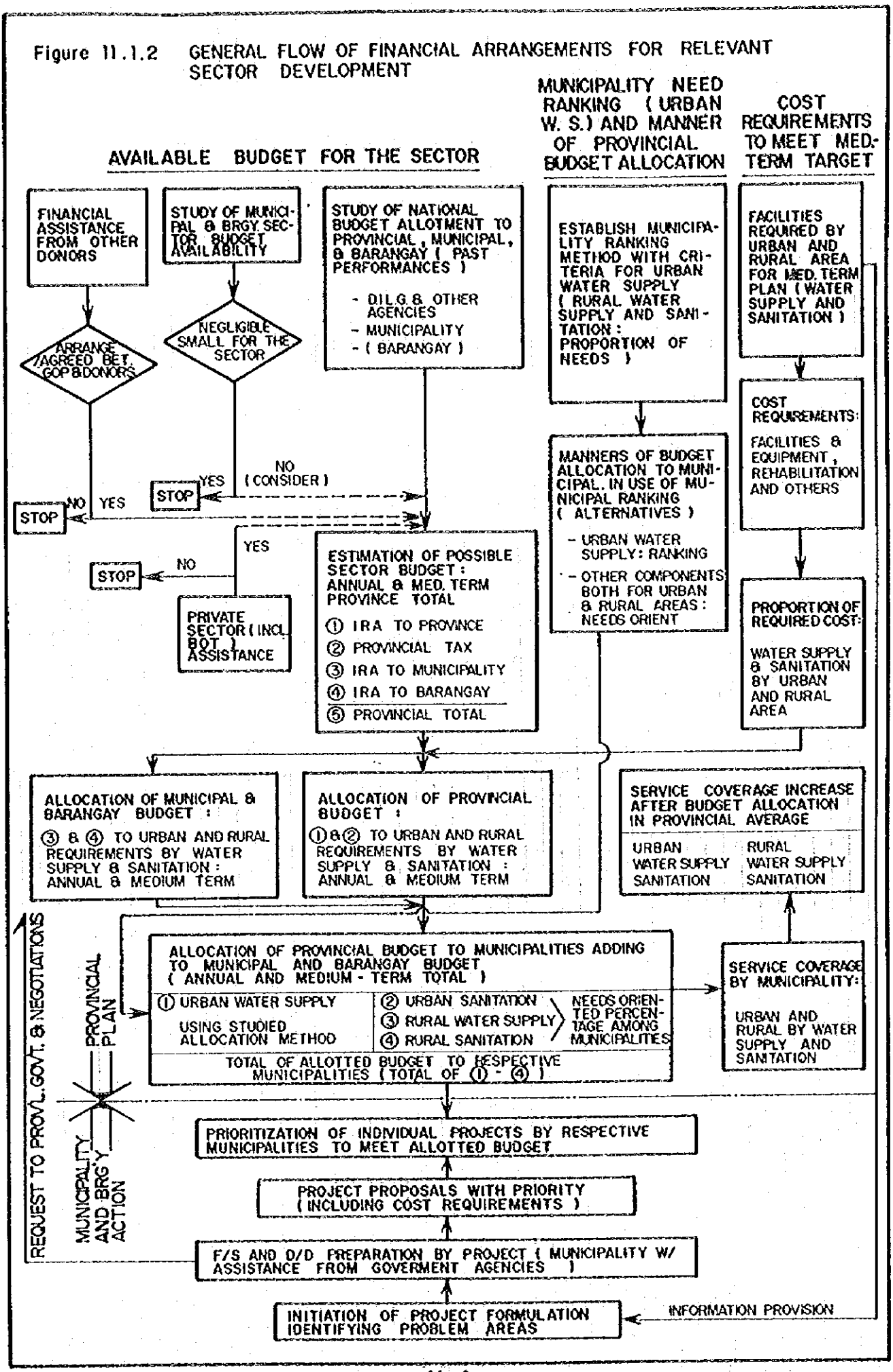
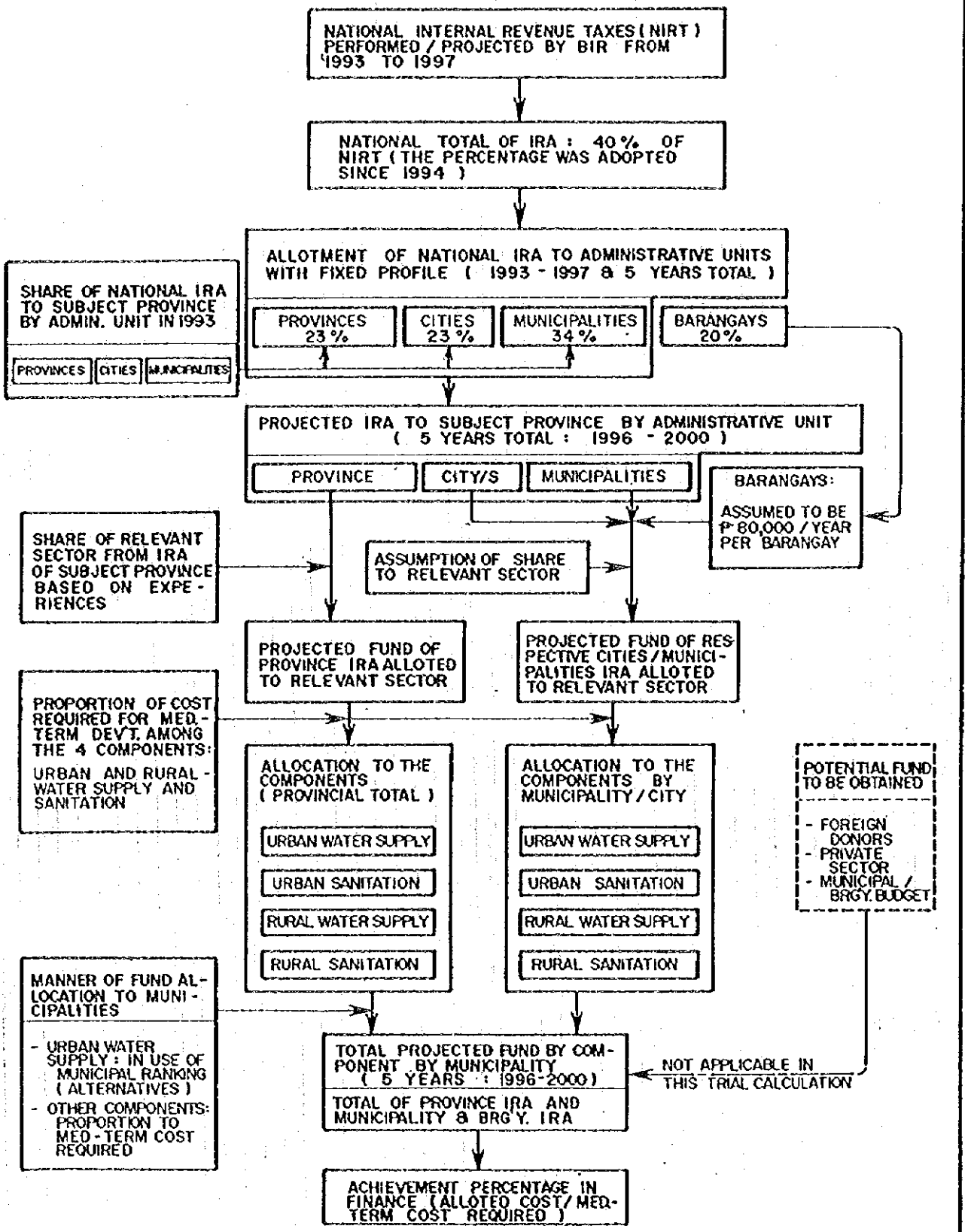


Figure 11.2.1 TRIAL ALLOCATION OF INTERNAL REVENUE ALLOTMENT (IRA) TO MUNICIPALITIES FOR RELEVANT SECTOR DEVELOPMENT



NOTE: BIR - BUREAU OF INTERNAL REVENUE (DOF)
NIRT (1993 - 1997) IS THE BASIS OF NATIONAL TOTAL OF IRA (1996 - 2000)
POTENTIAL FUND: NEEDS OF ADDITIONAL FUND ARE CONSIDERABLE, THUS REFERENCE INFORMATION IS SHOWN.

Table 11.2.1 Projected Internal Revenue Allotment for Medium-Term Sector Development

Unit: 1,000 Pesos

	1996	1997	1998	1999	2000	Total
1 40 % of Actual/Projected National Internal Revenue Taxes of the 3rd Fiscal Year preceding the current year	58,640,000	69,710,000	81,490,000	98,012,000	110,188,000	418,040,000
2 Internal Revenue Allotment to all LGUs						
(a) provinces (23%)	13,487,200	16,033,300	18,742,700	22,542,760	25,343,240	96,149,200
(b) cities (23%)	13,487,200	16,033,300	18,742,700	22,542,760	25,343,240	96,149,200
(c) municipalities (34%)	19,937,600	23,701,400	27,706,600	33,324,080	37,463,920	142,133,600
(d) barangays (20%)	11,728,000	13,942,000	16,298,000	19,602,400	22,037,600	83,608,000
(e) total LGUs	58,640,000	69,710,000	81,490,000	98,012,000	110,188,000	418,040,000
3 Projected IRA to Subject Province by Administrative Unit						
(a) province	187,837	223,296	261,030	313,954	352,956	1,339,074
(b) municipalities including barangays	187,586	220,854	256,255	305,908	342,499	1,313,102
Antipolo	53,284	63,116	73,579	88,254	99,069	377,303
Baras	7,974	9,329	10,770	12,791	14,281	55,144
Binangonan (Talim)	6,166	7,074	8,039	9,393	10,391	41,063
Cardona	12,114	14,129	16,274	19,281	21,498	83,296
Jala-jala	8,393	9,811	11,321	13,437	14,997	57,960
Morong	11,260	13,265	15,399	18,391	20,596	78,912
Pililla	12,108	14,258	16,546	19,755	22,120	84,787
Rodriguez	23,648	27,946	32,520	38,935	43,663	166,713
San Mateo	22,786	26,862	31,198	37,280	41,762	159,888
Tanay	21,254	24,979	28,944	34,504	38,601	148,282
Teresa	8,597	10,084	11,666	13,886	15,521	59,754
(c) Provincial total	375,423	444,150	517,286	619,862	695,455	2,652,176
4 Projected fund of IRA to Relevant Sector by Administrative Unit						
(a) province	7,513	8,932	10,441	12,558	14,118	53,563
(b) municipalities including barangays	7,503	8,834	10,250	12,236	13,700	52,524
Antipolo	2,131	2,525	2,943	3,530	3,963	15,092
Baras	319	373	431	512	571	2,206
Binangonan (Talim)	247	283	322	376	416	1,643
Cardona	485	565	651	771	860	3,332
Jala-jala	336	392	453	537	600	2,318
Morong	450	531	616	736	824	3,156
Pililla	484	570	662	790	885	3,391
Rodriguez	946	1,118	1,301	1,557	1,747	6,669
San Mateo	911	1,074	1,248	1,491	1,670	6,396
Tanay	850	999	1,158	1,380	1,544	5,931
Teresa	344	403	467	555	621	2,390
(c) Province Total	15,017	17,766	20,691	24,794	27,818	106,087

Sources:

(1) Bureau of Internal Revenue and Bureau of Local Government Finance, DOF, for the projection of National Internal Revenue Allotment

(2) JICA Study Team for other projections.

Table 11.2.2 Projected Allotment of IRA to the Relevant Sector by Component, 1996 -2000

Unit: 1000 Pesos

	Urban Water Supply	Rural Water Supply	Urban Sanitation	Rural Sanitation	Total
1. Province[1]	27,317	19,818	2,509	1,254	50,898
2. Municipalities	29,864	15,392	6,022	1,246	52,524
Antipolo	6,907	6,814	904	467	15,092
Baras	1,377	438	187	203	2,206
Binangonan (Talim)	0	1,367	19	256	1,643
Cardona	0	1,963	1,368	0	3,332
Jala-jala	699	1,361	103	156	2,318
Morong	3,105	0	51	0	3,156
Pililla	2,699	0	692	0	3,391
Rodriguez	4,864	1,071	672	62	6,669
San Mateo	4,801	184	1,410	0	6,396
Tanay	3,152	2,194	483	102	5,931
Teresa	2,258	0	132	0	2,390
3. Total	57,181	35,211	8,531	2,500	103,422

Note: 1) Provincial IRA is divided into those for PW4SP area and MWSS service area.

Calculation process is further described as follows:

(1) Projection of annual IRA to all LGUs in the Philippines from 1996 to 2000

The IRAs come from 40% of past and /or projected national internal revenue taxes from 1993 to 1997 (3rd fiscal year preceding the current year). This ratio is based on the Local Government Code in 1991.

(2) Distribution of national total IRA to each administrative unit

Based on the Local Government Code, IRA is distributed by administrative level as follows:

Provinces	23%
Cities	23%
Municipalities	34%
Barangays	20%

(3) Distribution of national total IRA to the subject province by provincial, municipal and barangay level.

With reference to allocation of national IRA by administrative level, provinces and municipalities are based on weighted 3 factors; population, land area and number of administrative units. In this analysis, however, the distribution percentage experienced in 1993 is simply employed (refer to Table 6.2.2, Main Report and Data Report). Allotments to barangays are added to the IRAs for municipalities (80,000 peso times number of barangays).

(4) Projection of available IRA to the relevant sector by administrative unit of the province

According to the Provincial Annual Report in 1993, about 2.4% of provincial IRA was availed only for the water supply sector. Referring to the experiences in other province and considering sanitation sector, provincial allocation to the relevant sector is assumed to be 4%. This means that 20% of "20% Development Fund" from national IRA is counted on sector projects. The same percentage is applied for the allocation of municipal IRA to the sector.

(5) Available IRA of municipalities by sub-sector

Available municipal fund for the four components (urban and rural water supply, and urban and rural sanitation) is estimated as a sum of respective components in combination of those allocated from the province and distributed in each municipality. Distribution of sector total fund to sub-components both in provincial and in municipal levels is arranged in proportion to the direct construction cost required for Phase I Development.

With regard to the distribution of provincial IRA for urban water supply to respective municipalities, weighing method with ranking is employed, which will be discussed in detail in Section 11.4. For other components, provincial IRA is distributed to municipalities in proportion to their required costs in Phase I.

In this connection, projected IRA to the province is first arranged to come up with the portion of the PW4SP area. The amount for sanitation sector is divided into those for PW4SP and MWSS service areas (4 municipalities) in proportion to the population in 2000. For water supply sector, no allocation to MWSS service area is assumed.

11.3 Additional Funding Requirements

Annual cost required for the province during the medium-term development is summarized in Table 11.3.1 referring to the study results in Chapter 10. Details of implementation arrangements for annual investment are shown in Table 11.3.1, Supporting Report.

Table 11.3.1 Financing Requirements by Sector Component for the Province

Unit: 1,000 Pesos

Sector Components	1996	1997	1998	1999	2000	Total 1996-2000	Total 2001-2010
Direct Cost							
1. Direct Construction Cost							
Urban Water Supply							
Level III System	0	75,581	113,371	113,371	75,581	377,903	1,473,171
Rural Water Supply							
Level II System	0	0	0	0	0	0	0
Level I Facilities	33,392	61,219	61,219	61,219	61,219	278,266	406,860
Urban Sanitation							
Household toilet	1,747	3,203	3,203	3,203	3,203	14,557	10,058
Public school toilet	4,727	8,665	8,665	8,665	8,665	39,388	86,330
Public toilet	359	658	658	658	658	2,991	3,291
Disinfection of Level I Deep & Shallow Wells	2	4	4	5	5	20	0
Rural Sanitation							
Household toilet	1,027	1,882	1,882	1,882	1,882	8,556	18,314
Public school toilet	1,627	2,983	2,983	2,983	2,983	13,561	72,428
Disinfection of Level I Deep & Shallow Wells	11	21	21	21	21	95	101
Urban Sewerage	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	3,571,642
Sub-total	42,892	154,216	192,006	192,006	154,216	735,336	5,642,194
2. Sector Management Cost							
Engineering Studies							
Feasibility Study and Detail Design	29,553	22,014	5,009	5,009	2,504	64,090	488,168
Construction supervision	1,645	6,040	7,551	7,551	6,040	28,827	225,281
Community Development and Training							
Institutional development & logistic support	12,834	11,701	11,701	11,701	6,279	54,215	543,259
Sub-total	44,033	39,755	24,261	24,261	14,823	147,132	1,256,708
Total Direct Cost	86,925	193,971	216,267	216,267	169,039	882,468	6,898,902
Contingencies							
1. Physical Contingency	13,039	29,096	32,440	32,440	25,356	132,370	1,034,835
2. Price Contingency	20,992	73,835	115,425	151,838	149,988	512,077	N.A.
Total Investmen Cost	120,956	296,901	364,131	400,544	344,382	1,526,915	7,933,737

Note: Physical Contingency is 15%; Price Contingency is 10%.

Table 11.3.2 presents additional funding requirements of the province (or shortfall in funding), which are figured out comparing with available fund for the relevant sector (IRA) in the province over the Phase I requirements. Other funds, such as those provided by foreign assistance and local tax portion are kept blank to supplement upon confirmation of additional

fund available. A big short fall of funding is identified since the IRA accounts for only 6.8% of the total cost requirements in Phase I.

Table 11.3.2 Additional Fund Requirements for the Medium-Term Plan

Unit: 1,000 Pesos

	1996	1997	1998	1999	2000	Total 1996-2000
Financing requirements	120,956	296,901	364,131	400,544	344,382	1,526,915
Expected available fund						
National	0	0	0	0	0	0
Local (IRA)	14,640	17,320	20,172	24,172	27,119	103,422
Others	0	0	0	0	0	0
Total	14,640	17,320	20,172	24,172	27,119	103,422
Shortfall in funding (Additional Fund Requirements)	106,316	279,581	343,960	376,373	317,263	1,423,493

Municipal achievement percentages in finance are shown in Table 11.3.3 in provision of available fund originated by IRA against Phase I financial requirements. The percentages of Cardona, Teresa and Baras are relatively high compared to the provincial average of 6.8%, but they are still 20 - 40% at most to the requirements.

Table 11.3.3 Internal Revenue Allotment for Water Supply and Sanitation Sector by Municipality (Medium-term Development/1996-2000)

Unit: 1,000 Pesos

Municipality	IRA Allocation to Municipalities[1]												Total Alloted Amount to Municipality (a)	Available Fund of Municipality (b)	Phase I Investment Cost Required[3] (a)/(b)
	Urban Water Supply			Rural Water Supply			Urban Sanitation			Rural Sanitation					
	Alloted from Provincial Government[2]	Municipality Fund	Total	Alloted from Provincial Government	Municipality Fund	Total	Alloted from Provincial Government	Municipality Fund	Total	Alloted from Provincial Government	Municipality Fund	Total			
Antipolo	2,732	6,907	9,639	14,426	6,814	21,239	1,184	904	2,088	787	467	1,254	34,221	931,755	3.7
Baras	2,732	1,377	4,109	180	438	619	48	187	234	67	203	270	5,232	26,478	19.8
Binangonan (Talim)	0	0	0	1,499	1,367	2,866	13	19	33	223	256	479	3,377	52,494	6.4
Cardona	0	0	0	178	1,963	2,142	77	1,368	1,445	0	0	0	3,587	8,828	40.6
Jala-jala	3,278	699	3,977	803	1,361	2,164	37	103	140	73	156	229	6,510	39,879	16.3
Morong	3,278	3,105	6,383	0	0	0	13	51	65	0	0	0	6,448	38,000	16.9
Pililla	3,278	2,699	5,977	0	0	0	178	692	870	0	0	0	6,848	41,195	16.6
Rodriguez	2,732	4,864	7,596	637	1,071	1,707	247	672	920	29	62	91	10,313	115,641	8.9
San Mateo	2,732	4,801	7,533	85	184	270	404	1,410	1,814	0	0	0	9,617	86,451	11.1
Tanay	3,278	3,152	6,430	2,010	2,194	4,204	274	483	756	75	102	177	11,568	158,474	7.3
Teresa	3,278	2,258	5,536	0	0	0	32	132	165	0	0	0	5,701	27,657	20.6
Total	27,317	29,864	57,181	19,818	15,392	35,211	2,509	6,022	8,531	1,254	1,245	2,500	103,422	1,526,912	6.8

Notes:

(1) A sum of funds from National government and from Provincial Government.
(2) Provincial IRA for urban water supply is distributed to the municipalities according to the ranking arrangement. Others are distributed to their required costs in Phase I.
(3) Phase I investment cost required: A total of construction cost and other cost for sector management and contingencies.

11.4 Medium-Term Implementation Arrangements

Financial requirements to meet Phase I target coverage are substantial. However, projected fund available (IRA) in application of past trend revealed that considerable amount of additional fund must be arranged.

Under this situation, reference scenarios are discussed in assumption of different levels of funding availability with reference to service coverage. Alternative countermeasures are also discussed in view of (1) acquisition of external funds, (2) augmentation of sector finance under current arrangements (IRA and others), (3) introduction of private sector to mitigate public investment needs, and (4) effective and economical investments.

11.4.1 Reference Scenarios in Different Funding Levels

Achievement levels of service coverage in the target year are examined in assumption of five funding levels. It is regarded that the service coverage is increased in proportion to the investment during Phase I period. The relationships between funding levels and corresponding percentages of service coverage are illustrated in Figure 11.4.1 and Figure 11.4.2 for water supply and sanitation sectors, respectively. It is common to all sub-sectors that the service coverage in 2000 would not sustain even the present levels in the provision of only projected IRA.

Three reference scenarios are discussed on different levels of funding. These scenarios will be referred to in combination of alternative countermeasures discussed in Section 11.4.2. Using computer-based programs, these scenarios may be modified by policy makers according to the updated information and policy on available fund and sector targets.

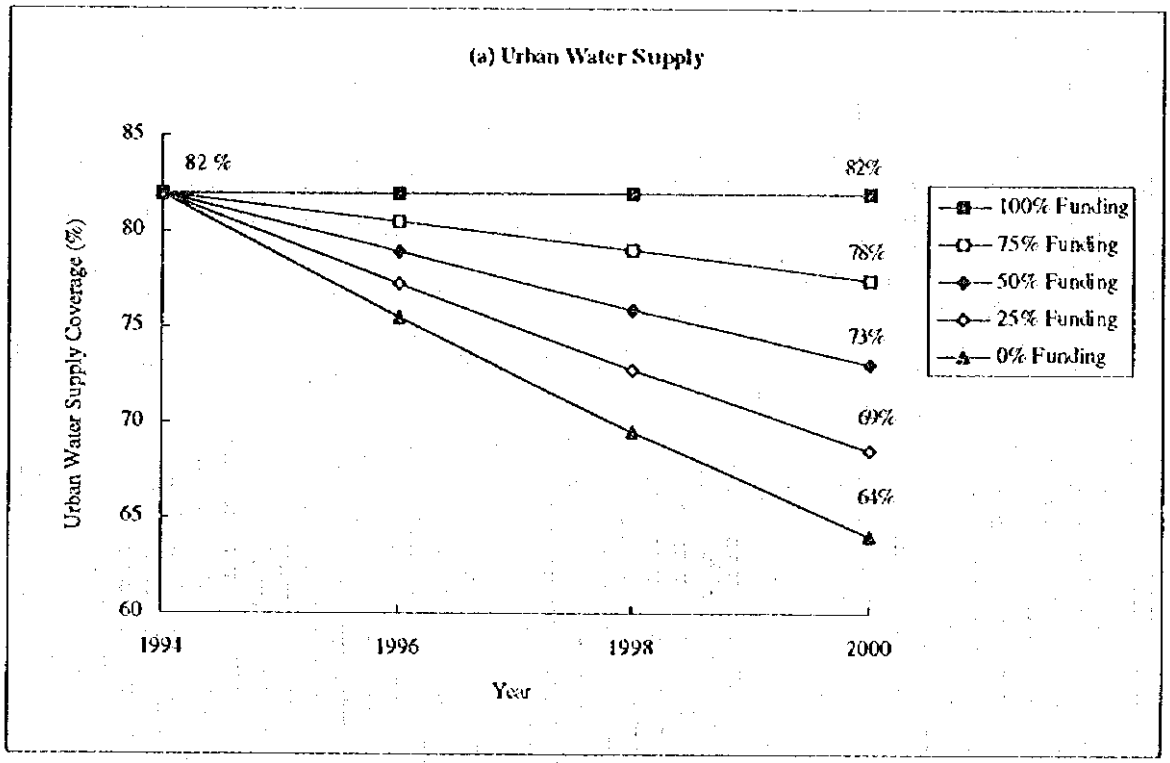
(1) The First Reference Scenario

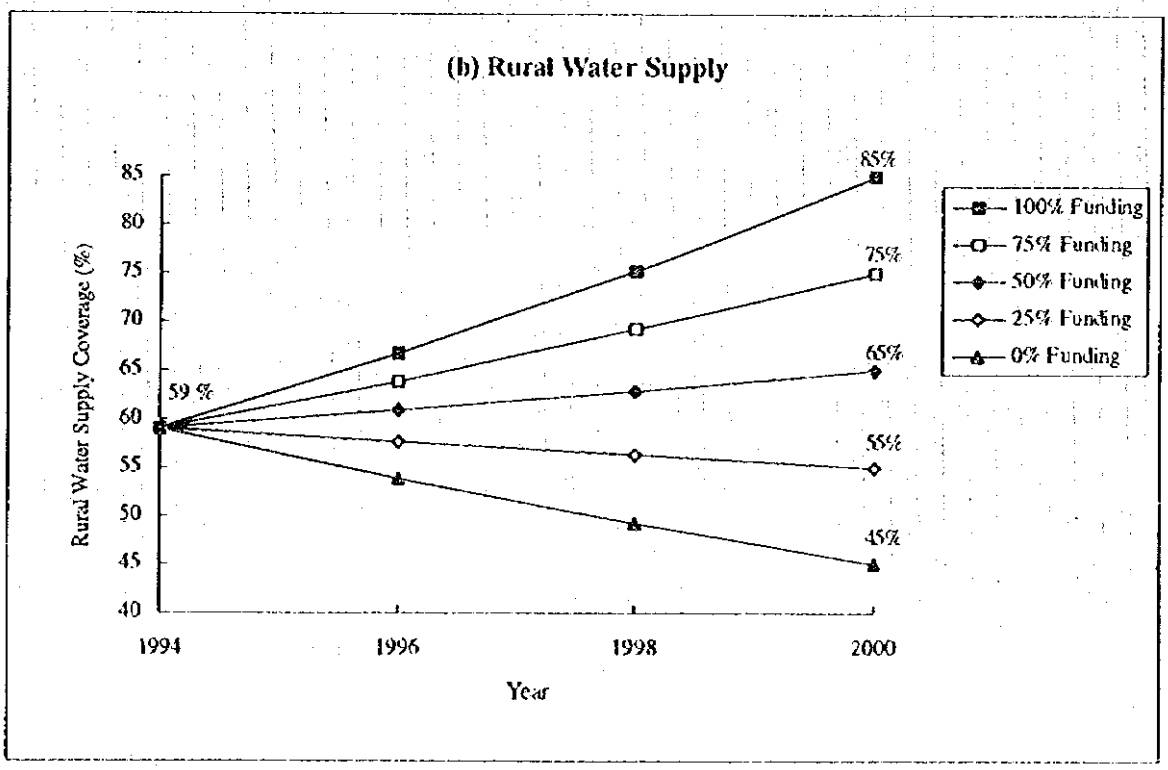
No funding constraints is considered in this scenario to realize Phase I development as planned. This scenario is too optimistic based on the past experiences.

(2) The Second Reference Scenario

An intermediate scenario with a 50 - 75 % funding range is considered. Urban and rural water supply coverage in the year 2000 are attained between 73 - 78% and between 65 - 75%, respectively. For urban and rural sanitation (household toilets), coverage will reach to 75 - 84% and 69 - 81%, respectively on the assumption that required private investments are followed.

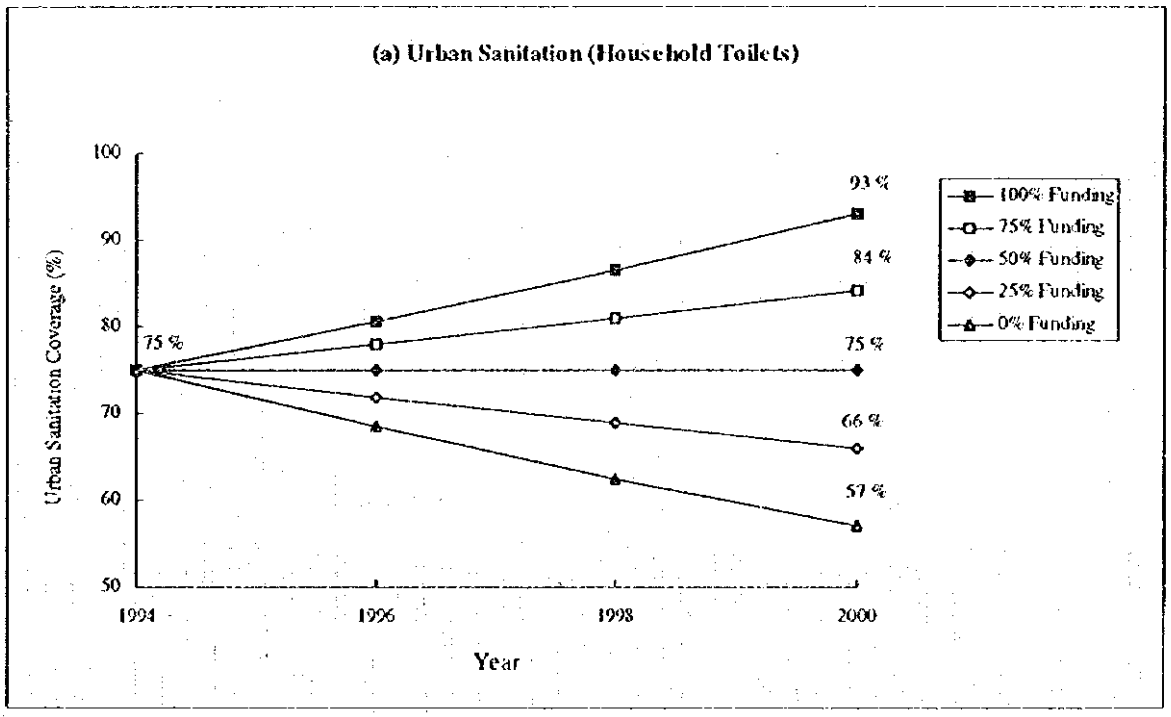
Figure 11.4.1 Relationship Between Funding Levels and Percent of Coverage for Water Supply Sector

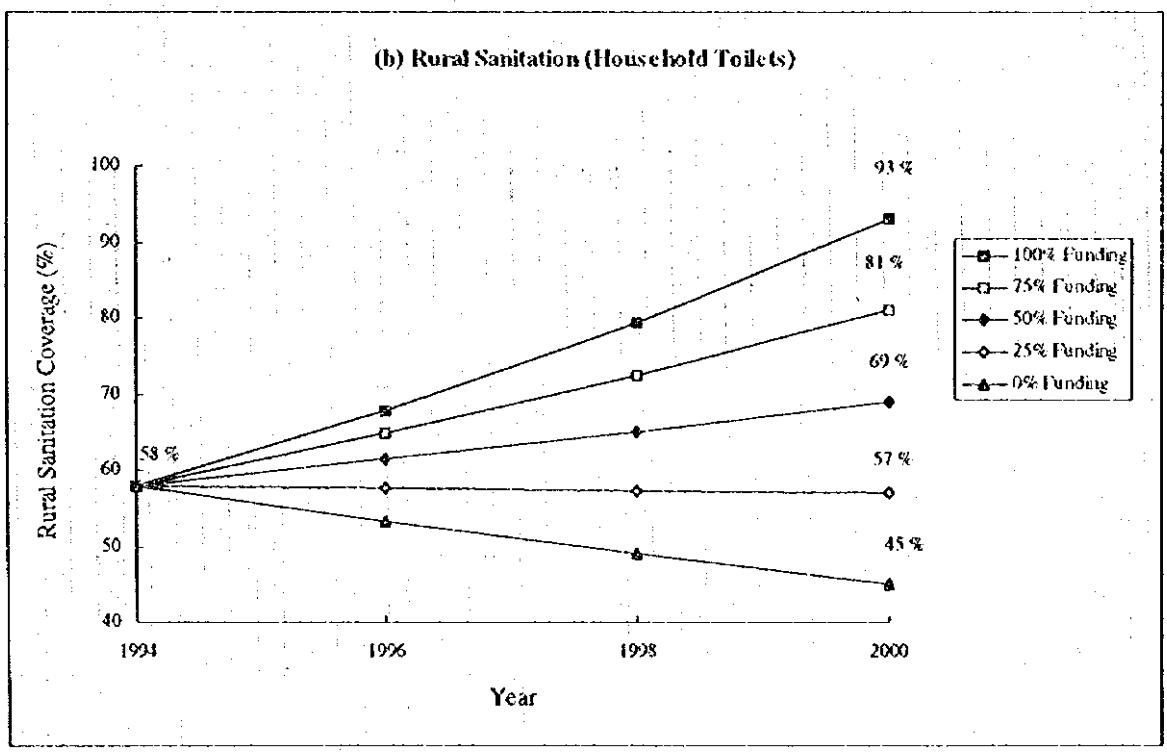




Note: Percentages of the coverage between 1994 and 2000 are simply prorated as the reference

Figure 11.4.2 Relationship Between Funding Levels and Percent of coverage for Sanitation Sector





Note: Percentages of the coverage between 1994 and 2000 are simply prorated as the reference

(3) The Third Reference Scenario

A 25% funding against the total requirements of Phase I is assumed as a possible achievement level with the augmentation of IRA. Urban and rural water supply coverage in the year 2000 will be attained at 69% and 55%, respectively, while urban and rural sanitation coverage will be at 66% and 57%.

11.4.2 Alternative Countermeasures

(1) Acquisition of external funds

Foreign assistance has played significant roles for the development of the relevant sectors in the past. Negotiations with the central government agencies (DILG, LWUA, etc.) are requisites to access the foreign funds. Development of new local financial mechanism is also needed for LGUs under current policy shifts to increase the opportunities of LGUs undertaking foreign-assisted projects.

LWUA Medium-Term Plan includes Tanay municipality as among the 200 project sites under the ADB funded projects ; 88 million pesos in 1997 and 243 million pesos in 1998.

(2) Augmentation of sector finance under current arrangements

Increase of the IRA to the Relevant Sector

The increase of IRA from the national government to LGUs is at first needed along with current procedure. LGUs shall also arrange the funds with a priority to the relevant sector.

Local Taxes

More allocation of local taxes to the relevant sector shall be arranged due to the fact that local taxes contribute largely to the provincial total budget comparing with other provinces.

Utilization of Other Local Funds

Utilization of other funds, the Countryside Development Fund (CDF) in particular, shall be sought for development of the relevant sector. In 1994, CDF contributed significantly to the development of infrastructure in the province.

(3) Introduction of private sector

Cooperation with Private Developers

Rapid urbanization has been experienced in Rizal province and more than 1,000 subdivisions exist at present. Most of them have their own Level III water supply systems. Promotion of private water supply systems is an effective way to mitigate public investment achieving sector target.

Privatization of Water District or Level III System

Privatization of water districts/Level III systems also help expedite sector development and sustainability of the system as suggested by NEDA Board Resolution No. 4 (s. 1994).

LGU Guaranty Organization

LGU Guaranty Organization as a public-private corporation managed by private sector in the national level shall be studied to encourage private financing for the development of environmental infrastructure, which is introduced in other developing countries. The organization will guarantee local private loans to LGUs in provision of a longer term financing.

(4) Effective and economical investment

Investment Need Ranking of Municipalities

Investment need ranking of the municipalities is discussed as a guide for implementation of PW4SP and a measure for effective and economical public investment. Referring to this ranking, the provincial government will arrange its financial resources more effectively.

The ranking for urban water supply is specifically studied considering three essential factors, while a sole factor of additional requirements is assumed to coincide with the priority of other sub-sectors. Synthetic evaluation of concerned sub-sectors is finally presented in the context of comprehensive improvement of this sector. The result for urban water supply is employed for allocation of provincial IRA to the municipalities in the concerned sub-sector. The synthetic ranking may be availed for the huge investment in use of the funds to be provided by other donors in the future.

For the urban water supply component, the ranking criteria comprise three evaluation factors, namely: (a) percentage of underserved and unserved population in the base year;

(b) percentage of underserved and unserved population in Phase I; and (c) percentage of population unserved by Level III Systems in the base year. Firstly, these factors are scored by the range of underserved and unserved percentage and totaled by municipality in application of weighing method. Adopted weight to the factors (a), (b) and (c) are 50%, 35% and 15%, respectively. Table 11.4.1 shows the ranking procedures, overall weighted score and investment need ranking of the municipalities. Jala-jala is identified as the first priority municipality followed by Teresa.

Table 11.4.1 Municipal Investment Need Ranking for Urban Water Supply

Municipality	Evaluation Factor			Scoring by the Factor			Overall Weighted Score	Investment Need Ranking
	% of Underserved and Unserved Population in Base Year	% of Underserved and Unserved Population in Phase I	% of Population Unserved by Level III Systems in the Base Year	Underserved and Unserved Population in Base Year	Underserved and Unserved Population in Phase I	Population Unserved by Level III Systems in Base Year		
Antipolo	18	43	22	0.40	1.00	0.40	0.61	7
Baras	13	31	84	0.40	0.80	1.00	0.63	6
Binangonan (Talim)	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Cardona	12	16	64	0.40	0.40	0.80	0.46	9
Jala-jala	43	46	100	1.00	1.00	1.00	1.00	1
Morong	27	34	63	0.60	0.80	0.80	0.70	3
Pililla	21	29	81	0.60	0.60	1.00	0.66	5
Rodriguez	16	34	70	0.40	0.80	0.80	0.60	8
San Mateo	7	27	48	0.20	0.60	0.60	0.40	10
Tanay	24	38	50	0.60	0.80	0.60	0.67	4
Teresa	27	32	100	0.60	0.80	1.00	0.73	2
PW4SP Study Area	18	36	49					

Note; 1. Scoring to Underserved and Unserved Percentage.

Score	Range of Underserved and Unserved Percentage		
1.0	41 <%	41 <%	81 <%
0.8	31 <%< 40	31 <%< 40	61 <%< 80
0.6	21 <%< 30	21 <%< 30	41 <%< 60
0.4	11 <%< 20	11 <%< 20	21 <%< 40
0.2	%< 10	%< 10	%< 20

2. Weight Allocation to Score.

50	35	15	Allocated Weight

With reference to provincial fund allocation, it is assumed that 60% of the fund for urban water supply from provincial government is distributed equally to the top five ranking municipalities, while the remaining 40% is equally distributed to the rest of the municipalities. The result of distribution is shown in Table 11.4.2.

Table 11.4.2 Distribution of Provincial IRA to Municipalities for Urban Water Supply

Unit: 1000 Pesos

Ranking	Municipalities	Fund Distribution		IRA to Municipalities from National Government	Available Fund Distributed to Municipalities	Phase I Requirements	Accomplishment Percentage
		Fund Distribution from Provincial Government (1)	Distribution Percentage (%)	(2)	(1)+(2)		(%)
7	Antipolo	2,732	10.00	6,907	9,639	426,441	2.3
6	Baras	2,732	10.00	1,377	4,109	16,535	24.9
N.A.	Binangonan (Talim)	0	0.00	0	0	0	0.0
9	Cardona	0	0.00	0	0	0	0.0
1	Jala-jala	3,278	12.00	699	3,977	12,029	33.1
3	Morong	3,278	12.00	3,105	6,383	37,439	17.0
5	Pililla	3,278	12.00	2,699	5,977	32,788	18.2
8	Rodriguez	2,732	10.00	4,864	7,596	84,350	9.0
10	San Mateo	2,732	10.00	4,801	7,533	64,900	11.6
4	Tanay	3,278	12.00	3,152	6,430	84,223	7.6
2	Teresa	3,278	12.00	2,258	5,536	26,126	21.2
	Total	27,317	100.00	29,864	57,181	784,831	7.3

To come up with the synthetic ranking of the municipalities, scoring method is also employed for other sub-sectors. The score is derived from the range of underserved and unserved percentage in the base year. Synthetic investment need ranking of municipalities covering four sub-sectors is shown in Table 11.4.3 (refer to ranking procedures in Table 11.4.1, Supporting Report).

Table 11.4.3 Municipal Investment Need Ranking

Municipality	Weighted Score by Sub-sector					Synthetic Municipal Investment Need Ranking
	Urban Water Supply	Rural Water Supply	Urban Sanitation	Rural Sanitation	Total Weighted Score	
Antipolo	0.15	0.20	0.10	0.20	0.65	4
Baras	0.16	0.05	0.10	0.05	0.36	10
Binangonan (Talim)	N.A.	0.10	N.A.	0.20	0.30	11
Cardona	0.12	0.05	0.15	0.05	0.37	9
Jala-jala	0.25	0.15	0.25	0.15	0.80	1
Morong	0.35	N.A.	0.10	N.A.	0.45	8
Pililla	0.33	N.A.	0.40	N.A.	0.73	2
Rodriguez	0.15	0.10	0.20	0.05	0.50	6
San Mateo	0.10	0.25	0.25	0.05	0.65	3
Tanay	0.17	0.20	0.15	0.10	0.62	5
Teresa	0.37	N.A.	0.10	N.A.	0.47	7

Provincial Trust Fund

Provincial Trust Fund approach is implied as a mechanism to totally manage any funds/projects through different financial sources or implementing agencies. The fund raises the LGU's responsibility for effective and economical utilization of the financial resources (details are referred to in Chapter 9).

11.5 Cost Recovery

Cost recovery and cost sharing are essential to attain the planned targets. The PW4SP advocates the imposition of tariffs for the recovery of capital and operating cost based on the principle that adequate water, sewerage and sanitation facilities should be paid for.

(1) Level I water supply systems

For Level I systems, 100% of the capital costs is granted according to the current national policy, although beneficiaries are responsible for all recurrent costs. Monthly recurrent cost is estimated at about 5 pesos per household in the base year price level (refer to recurrent cost in Chapter 10). The figure will be increased up to about 8 pesos in 2000 assuming annual inflation of 10%. This monthly fee seems to be affordable to the users considering current income level (refer to affordability in Chapter 6), but willingness to pay shall be promoted.

(2) Level II water supply systems

Water source development is granted for Level II systems as a practice nationwide, while full cost recovery is required for all other capital costs. The average capital cost, except for water source development is estimated at 4,550 pesos per household (refer to Chapter 10). Applying the capital recovery factor to the capital costs with conditions of 10% interest rate and 25 years repayment period, monthly payment amounts to about 40 pesos per household. In addition, monthly recurrent cost is estimated at about 8 pesos per household in the base year price level. It will reach to about 15 pesos in 2000 with annual inflation rate of 10%. Thus, the total of repayment and recurrent cost is about 55 pesos, which is less than 2% of the family income as shown below.

(a) Estimated water rate (flat rate; pesos)	:	55
(b) Percentage of (a) to monthly median household income in 2000 [1]	:	0.4%
(c) Percentage of (a) to monthly low household income in 2000 [2]	:	1.5%

Notes:
1) Provincial average monthly median income in 2000 (12,733 pesos per household) is derived from 1991 Family Income and Expenditure Survey considering annual inflation rate of 10%.
2) Provincial average monthly low income in 2000 (3,619 pesos per household) is estimated using LWUA data in Region IV.

(3) Level III water supply systems

A full recovery of capital and operation & maintenance cost is required for Level III systems. To test the affordability, a comparative study was made between estimated water rate (based on standard monthly consumption; 15m^3 per household) and projected income in 2000.

The monthly recurrent cost for the standard household is estimated at about 55 pesos in 1995 price level (refer to recurrent cost in Chapter 10). In consideration of annual inflation rate of 10%, it will be about 100 pesos in 2000, while the water rate including financial debt service for the standard household is estimated at about 133 pesos using an average figure of water districts in Region IV (annual inflation rate of 10% is assumed). Using the monthly water rate of 133 pesos per household and monthly household income discussed in Level II systems, percentages of the water rate to household income are calculated as shown below. The percentage of the water rate against income is less than 4%, which is commonly affordable.

(a) Estimated water rate for 15 m^3 (pesos) [1]	:	133
(b) Estimated ininimum water rate (1-10 m^3) (pesos) [2]	:	89
(c) Percentage of (a) to monthly median household income in 2000 [3]	:	1.0%
(d) Percentage of (a) to monthly low household income in 2000 [3]	:	3.7%
(e) Percentage of (b) to monthly low household income in 2000 [3]	:	2.5%

Notes:
1) Estimated water rate (15m^3) in 2000 referring to the average figure of existing water district in 1994 in Region IV and annual inflation rate of 10%.
2) Minimum water rate is usually studied by LWUA. Water rate is estimated for the household with consumption rate of 10m^3 under the same assumption of 1).
3) Refer to the study in Level II Water Supply Systems.

(4) Sanitation

The provision of sanitary toilet facilities for public markets and schools is under LGUs. However, recurrent cost for the public markets shall be collected from the users including stallholders of the market.

Household toilets shall be, in principle, managed by individual households. However, the facility is costly with reference to the current income level especially in the rural area. Government support is also limited to the provision of toilet bowl for pour flush toilets. In this connection, cost recovery in application of loan is studied.

Applying the capital recovery factor to the construction cost with assumptions of 10% interest rate and 5 years repayment period, monthly repayment amounts to about 740 pesos for a flush type and 260 pesos for a pour flush type, respectively (refer to recurrent cost in Chapter 10). The percentages of repayment to household income in 2000 are calculated in the same manner as the study for Level III water systems and are shown below.

(a) Repayment for Flush Type (pesos)	:	740
(b) Repayment for Pour Flush Type (pesos)	:	260
(c) Percentage of (a) to monthly median household income in 2000 1)	:	5.8%
(d) Percentage of (b) to monthly low household income in 2000 1)	:	7.2%

Note: 1) Refer to the study in Level II water supply systems.

To expedite sanitation improvement, introduction of specific loans that has a revolving character with low interest rate and longer repayment period may be an effective solution. For urban sanitation, the linkage with existing housing loan shall be established to cover construction of sanitary toilets.

Chapter 12

MONITORING

12. MONITORING

12.1 General

Many of the systems constructed earlier have operated in a limited way because of the insufficient monitoring and post-construction technical support, aside from the problems in promotion of self-reliance and local community management. This Chapter seeks to recommend a focused, practical, viable, creative approach to strengthening sector and project monitoring. The development of a coordinated monitoring system is one of the key components of an effective management system.

Sector monitoring refers to the overall water and sanitation situation in the province. One may readily use a demand-supply model for sector monitoring. Demand would be indicated by such indicators as coverage, health conditions, etc. Supply would be indicated by the water resources situation, by the available funding, or by water/sanitation associations organized to undertake sector activities. Project monitoring, on the other hand, looks at the progress of specific activities or projects. Indicators would thus include; disbursements, percent completion, cost overruns (underruns), etc.

12.2 Sector Monitoring

(1) The monitoring system must support a well-defined and accepted sector development process-model. There are four general aspects of sector monitoring which will be addressed:

1) Information collection: Defining the information needs of the LGUs from various levels; reviewing current, readily-available sector information, including its reliability and timeliness; identifying the information gaps and deficiencies of the information system; data consolidation and processing.
2) Tracing the flow of raw data from the field (or other related monitoring systems) to the central level. Identifying possible causes of distortions, inconsistencies or blocks.
3) Information analysis: Assessing the quality of information; reviewing the analyses done.
4) Data feedback: Reviewing the impact of information on planning and decision making at the policy level, the resource allocation level and the operating level; tracing the flow of data back to the field.

(2) Sector performance deficiencies demand that serious thought be given to innovations to reduce costs in achieving the provincial sector plan. With the monitoring system, the sector should be able to take a fresh and objective view of the way to meet current strategies. For example, does community management of systems really work? Do low-cost technologies make sense? Under what conditions and how? How can the target be achieved for low-income communities? A sector monitoring system should be flexible to support planning and research studies on such specific policy and operational issues.

(3) In putting together a relevant sector monitoring system, the following should be seriously looked into:

1) It should reinforce the linkage between water, sanitation and health. This implies that coverage should be measured for availability of both water and sanitation for a household. It should not be monitored separately, i.e., a household can thus be categorized as having both water and sanitation, water only, sanitation only or none of either. At later stages, health practices can be included in the monitoring.
2) It should be reliable and involve the beneficiaries. This mechanism could provide the data quality control which is missing in existing systems. Distortion of information may occur when implementors are the monitors. The barangay will be the basic data capture level.
3) Monitoring will succeed only with interagency support, particularly in the initial stages. It should be accepted by all sector agencies. A unified set of figures and indicators will greatly help in planning.
4) It should be practical and implementable. It should start with the current monitoring capacity situation and move up with a clear vision of what the monitoring system should be. This implies phasing and gradual expansion and strengthening of the system and training of staff.
5) The system should be followed through with effective feedback. It should develop creative ways of providing feedback to the field. The current way in which data is processed is towards consolidation. The field sources' only feedback is, for example, national coverage figures. In the course of consolidation, opportunities for specific feedback useful to project implementors on performance are lost.

(4) Sector development indicators: Some important indicators will be more difficult to collect than others because the sector is not ready to gather them. The LGUs will group indicators into phases based on availability of data and/or ease with which such information can be collected with improved systems. A review of the objectives set for the sector almost

exclusively shows a focus on coverage. It is important to get sector objectives stated beyond coverage terms in order to encourage use of additional indicators. Based on past experience, requiring too much information leads to start-up difficulties. A three-phase build-up meeting sector requirements is outlined in the following sections:

1) Phase 1 Indicators
   - Access to both adequate water and sanitation.
   - Water and sanitation associations duly organized to undertake sector activities
   - Water and sanitation facilities in schools.
   - Capital development costs.
   - Sources of capital development funds.
   - Incidence of diarrhea.
   - Water availability and water quality maps.
   - Unit cost (per capita or per facility).
2) Phase 2 Indicators
   - Household hygiene habits and practices
   - Water stored in house covered? food covered? grounds free of faeces, garbage, wastewater cesspools? animals in the house? mother's and children's hands clean?
   - Existence of barangay spot maps and facilities ledger cards
   - Existence of O&M arrangements
   - Current costs to households and willingness to pay for improved service
3) Phase 3 Indicators
   - O&M Costs
   - Financial efficiency and stability indicators
   - Institutional development indicators
   - Low-income groups benefiting from improvements

(5) NEDA has issued a Board Resolution in 1995 providing a practical definition of terms for planning and monitoring. The definitions were arrived at after exhaustive discussions and consensus with the implementing agencies.

(6) Recommended institutional responsibilities for sector monitoring: Monitoring is best left to parties not directly involved in delivery of the services. The best monitors are the community members themselves since accurate monitoring reports is in their best interest. At the data capture level, the PHO structure, with its midwives and BHW volunteers, is in the best position to take the lead in data gathering.

1) Provincial Level: The PPDOs, through its Research and Evaluation Division, will play the lead role in organizing the field data collection effort in coordination with the field offices of national agencies, NGOs and the water districts. The Monitoring Specialist, with the PST/PWSO, will assist the PPDO.
2) Municipal Level: The Municipal Development Coordinator has the mandate of monitoring all development activities in the municipality. The municipal sector liaison will therefore coordinate the preparation of the reports with the MPDO, supported by PHO and NGOs, as needed.
3) Barangay Level: There are several institutional options for leading the monitoring at the barangay level, such as the barangay health stations, the barangay council, etc. The municipal sector liaison will take the lead in establishing the barangay monitoring responsibilities.

(7) Computerization of the system can come at later stages. This should be gradually phased in as the sector agencies strengthen their monitoring mode. This will also discourage a ground swell of requests for computer hardware. Computer facilities are available at the provincial level.

(8) A new sector database program has been recently designed and currently under review. A Sector Database Center has been established within the DILG-PMO. The system has been successfully piloted in three provinces and replication in other priority provinces will begin shortly.

12.3 Project Monitoring

Project Monitoring Committees (PMCs) exist at the provincial and municipal levels tasked with the monitoring of local government projects funded from national and local government funds.

(1) Scope and coverage: At the provincial level, monitoring includes projects classified under any of the following:
1) foreign and nationally-funded projects which are implemented or located in two or several municipalities in the province or implemented or located in the province;
2) other projects implemented and managed at the provincial level with funding generated from provincial sources.

(2) Organization of Project Monitoring Committee (PMC): The PMC is composed of representatives from 3 NGOs, 2 from the administration, 1 from the ruling party and 1 from the opposition. From these representatives, the Provincial Governor selects the chairman and the four others as members. The Provincial Planning and Development Office serves as the Secretariat and the PMC manages with the assistance of the non-government organizations in the monitoring and validation of project implementation.

(3) Responsibilities: The specific rules and responsibilities of the various units in the implementation of the monitoring system are as follows:

The Project Monitoring Committee :

1) Provides the list and schedule of all projects to be monitored to the NGOs involved in monitoring;
2) Collects and processes reports of implementors; NGOs monitor the status of project implementation for the information of the development council and next higher level project monitoring committee;
3) Pinpoint problems and verify information to be submitted for analysis and action of the development council;
4) Provide feedback on the remedial actions of the development council and follow-up their implementation;
5) Prepare and disseminate periodic project monitoring report on the status of project implementation; and
6) Elevate to higher level bodies problems/issues which are not resolved at their level.

The PMC Secretariat:

1) Prepare the monitoring program to be undertaken by the PMC during any given fiscal year, which will include, among others, the lists of projects and schedule of implementation based on submission of implementing agencies;
2) Provide chief executives with information on the projects to be monitored by the local PMC's;
3) Facilitate inter-agency, inter-governmental and field headquarters coordination whenever necessary.

The Project Implementors:

1) Submit periodic reports to the monitoring committee on the status of project implementation base on suggested reporting forms;
2) Provide authorized monitors assistance in getting access to more detailed information on project implementation (e.g. detailed work program);

3) Submit to next higher level office of line agency reports on status of implementation;
4) Implement/institute remedial measures on problems/issues identified as suggested by the development council.

(4) Process Flow

1) The PMC secretariat provides the NGOs with the monitoring plan, containing information on projects to be implemented at the provincial level;
2) PMC prepares its monitoring program for the calendar year;
3) Project implementors undertake projects, prepare and submit status reports on project implementation to the PMC;
4) NGOs project exception reports are submitted to the PMC, with copy furnished the project implementors;
5) PMC assesses reports of implementors and NGOs and conducts project visits of projects identified in the monitoring work program;
6) PMC processes reports of various implementors and provides the provincial development council with a consolidated report on status of project implementation in the province;
7) PMC evaluates problems, recommends solutions during its regular or special meetings, and refers same to the Provincial Development Council for appropriate action;
8) PDC assesses reports and takes proper action (problem solving, referral to appropriate agencies/council);
9) Implementors take remedial action on problems/issues encountered in project implementation. (If after a reasonable period of time, no remedial measures/ appropriate action have been taken on the problems referred to the concerned agency/local development council, the PMC forward the issue to that RDC.)
10) PMC provides feedback to concerned implementors, LGUs, NGOs, and other concerned agencies and follow-up implementation of remedial measures.
11) PMC forwards consolidated status report on project implementation in the province to the RPMC.

(5) Frequency/Timing of Report Submission

The cut-off date of reporting the monthly accomplishment is on the 25th day of the month. Reports are submitted to the PMC on or before the 30th day of the month. Consolidated reports are then submitted to the Provincial Development Council (PDC)

on or before the 7th day of the succeeding month. Submission of the consolidated report from the provincial PMC to the regional PMC is undertaken on a quarterly basis and not later than two (2) weeks after the reference quarter. The PMC furnishes the Provincial Governor with a copy of the reports for his reference and action.

For the past two years the PMC has been inactive. In 1994, the PMC was formed with one of the NGO representative chosen as chairman by the Governor. In November 1994, the DILG issued a memorandum asking the PMC to convene. However, to date, the PMC has not yet convened.

12.4 Evaluation of Plan Implementation and Updating the PW4SP

(1) This PW4SP should be updated at least every five years. This will be the responsibility of the PWSO in close coordination with the PPDO. Based on the sector monitoring reports, the PWSC will review the progress of the sector compared with objectives and the efficiency with which these objectives were achieved. This will be followed by a reformulation of objectives, strategies, new policies and policy revisions and an updated sector investment program.

(2) To initiate the implementation of this sector monitoring system, the Phase I indicators (refer to 12.2) shall be used. Formats have been drafted for this purpose (refer to Table 12.4, Supporting Report). Specifically, the information to be collected are as follows:

1) Access to both adequate water and sanitation as a measure of demand: This indicator can be taken from the Field Health Service Information System (FHSIS) Annual Environmental Sanitation Survey which are prepared by the PHO midwives. These annual surveys are summarized by municipality by the sanitary inspectors. NSO population projections will be utilized.
2) Water and sanitation associations (RWSAs/BWSAs) organized: This indicator can be collected from the Cooperative Development Authority (Municipal or Provincial Chapters) in as much as all water cooperatives and/or associations are required to register with the CDA.
3) Water and sanitation facilities in schools: This indicator can be collected from the various school district offices; consolidated at the division (provincial level). Although a system is in place for regular inventory of facilities by DECS, actual inventories are seldom implemented and the LGUs may have to institute a supporting data gathering activity.

4) Capital development costs: If the Trust Fund mechanism may be in place, this indicator should be easy to get. If this is not in place yet, the LGUs may have to gather information from the local DEO of DPWH, the PHO, the various municipalities and the water districts.
5) Sources of capital development funds: Data sources are the same as those of item 3).
6) Incidence of diarrhea: This information can be taken from Form M-2 of the FHSIS. Collection and processing of the data form is similar to that of item 1).
7) Water availability and water quality maps: These maps should be continually updated based on field reports on water quality and quantity as they are received from operations reports. Areas where, for example, salinity is increasing should be indicated. Areas suitable for shallow wells, for deep wells and for possible spring sources can be indicated.
8) At the conclusion of every project, the monitoring specialist prepares a report on actual unit costs incurred. This would include, for example, the cost of drilling for shallow or deep wells per meter depth; the cost of pipeline per linear meter, etc.

(3) Municipal level consolidation: For every reporting period, the municipal sector liaison gathers all the barangay level data including those reports of the municipal health officer (and sanitary inspectors) and the DECS division offices. A municipal sector report will be, thus prepared. Further refinements of this report may be needed in view of future development (refer to item 5) initiated at the national level.

The municipal sector report is reviewed by the Mayor and then submitted to the Governor for further consolidation. Salient sections of this report would be furnished to DILG which is tasked with coordinating a national sector performance report for NEDA and for the President.

(4) Feedback: Based on these reports, the PST/PWSO will draft a consolidated report on the performance of the sector during the period including the opportunities and constraints met and a set of recommendations for policy revision. Municipalities which have made outstanding progress and associations which have introduced creative innovations in its operations would be cited.

Annual reviews shall be organized to analyze not only the attainment on the physical project targets, but more significantly, whether the vision is being attained. These reviews could also provide the opportunity to sharpen or revise the vision and the mission statement and distill lessons learned from the implementation experiences.

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