

9.5 Community Development

9.5.1 General

The success and sustainability of water and sanitation projects largely depend on the active participation of the users and unwavering commitment of the beneficiary community. Past WATSAN projects have failed because government planners and implementors gave only cursory attention to the felt needs and demands of the beneficiary communities. Thus, the lack of involvement and participation of the people led to the steady deterioration and/or non-operation of the WATSAN facilities.

This section presents the recommendations on how to harness the participation of the individual members of the beneficiary community in sector projects in order to ensure that the gains derived from WATSAN projects are sustained long after these have been constructed. In proffering these recommendations, it is necessary to take on the side of the project planners/ implementors from the central government, the provincial and local government units, down to the barangay level so as to complete the cycle where both the supply side and demand side of the planning approach to this sector study are linked.

For the WATSAN sector, greater involvement of both the LGUs and the people shall be promoted not only in service delivery and implementation but also in project prioritization, identification and in the decision-making process. Their contribution to development efforts shall be in terms of articulating their demands to guide concerned government and private institutions and of initiating community-based activities. In this way, they shall not just be passive recipients of projects and services but shall be harnessed as active partners in the identification and solution of community problems.

9.5.2 CD Structure and Linkage for Sector Projects

Participatory community development is a process that enables the members of the community to become action-oriented and self-reliant. This process is not easy to start, much less complete, because it takes time and resources. It also requires the genuine involvement, participation and collaboration of all the parties involved in sector development – from the national agencies, to the provincial governments, down to the municipal and barangay levels. It is only through having set the proper structures and linkages among these parties that participatory CD can take off as an important part of the entire sector.

(1) National

The Department of the Interior and Local Government (DILG), through its Water Supply and Sanitation Program Management Office (WSS-PMO), shall retain the role as the central government agency that will promote the community development component of water supply and sanitation projects with its regional offices providing close coordination with the LGUs in this fundamental sector activity.

To attain this, DILG shall develop the capacity of the provincial and municipal sector teams in undertaking (1) community development/management programs, particularly in the areas of community mobilizing and organizing and in capacity building; and (2) information, education and communication management programs. It should also be able to identify national NGOs that can assist its capability building and community management programs for the LGUs and project beneficiaries.

The Local Water Utilities Administration shall continue to provide assistance to the LGUs in the formation of LGU-WS into water districts, particularly in community participation on (1) the decision on whether or not to form a water district in the locality; and (2) the nomination of representatives to the five sectors that will compose the WD Board of Directors.

The LWUA shall also continue to provide regular CD assistance to the water districts particularly in consultation with the community on new projects, (called project hearings), the information/approval of new loans, and the approval for adjustments or increases in water rates (called water rate hearings).

(2) Provincial

Since WATSAN projects would be on-going in the long term, it is recommended that a CD Unit should be established within the proposed "Provincial Water Supply and Sanitation Office," discharging functions as important as the technical, financial, administrative units. The CD Unit will serve as the coordinating arm for all CD activities for WATSAN projects in the Province. It will mainly be responsible for establishing an over-all Comprehensive CD Management Plan for the province and implement this together with the LGUs. It will also be equally responsible for the conceptualization or the over-all Comprehensive IEC Plan for province and execute this together with the LGUs. The CD Unit shall also closely coordinate with NGOs/CBOs/POs in the province to augment their manpower and experience in doing community organizing and mobilization work. It will also obtain/furnish the inputs articulated by the people in all the phases of the project – that is,

from project planning, implementation, operation and maintenance, monitoring to evaluation – thus contributing significantly in extending the life of the facilities as well as in promoting the health and productivity of the community as a whole.

Appointment of a Provincial CD Specialist

The province shall, within one year, provide for a regular plantilla position for at least one CD Specialist who will be appointed to take charge of the CD Unit. The CD Specialist will plan, implement and/or coordinate CD management programs, IEC programs, and the capacity building activities for sector projects. He/she shall also be responsible for the assisting in the training of municipal CD specialists and barangay CD coordinators. Within two years, or when the specific projects under this sector materialize, another CD Specialist position shall be opened, if resources permit. If not, said NGOs/CBOs/POs can be tapped for the purpose (refer to the Supporting Report for the Responsibilities and Qualifications of a CD Specialist).

(3) Municipal

The municipality is the next link in the delivery of services to the people. There may be a need to establish a more permanent office/unit, such as a “Municipal WATSAN Office” in the long term; but for the medium term, the Municipal Sector Liaison Team (MSLT) concept will do. Among this team’s multi-functions are to undertake and/or coordinate all CD and IEC work for the sector. It shall also collaborate with the water district on their CD-IEC programs, when and where practicable. It shall also coordinate with the NGOs/CBOs/POs that find their presence in the municipality. It will obtain/furnish the inputs articulated by the people in all the phases of the project -- that is, from project planning, implementation, operation and maintenance, monitoring to evaluation to be utilized by those concerned.

Assignment of a Municipal CD Specialist

Within the medium term, the municipal government shall endeavor to assign a CD Specialist to the MSLT who shall undertake and/or coordinate actual CD and IEC work, together with the CD Specialist of the province. The CD Specialist shall closely coordinate CD work with NGOs/CBOs/POs and the private sector. He/she will also be responsible for assisting the Province in capacity building/training programs for barangay CD coordinators.

(4) Barangay

Not all barangays have established water supply and sanitation committees. It is recommended, therefore, that each BDC should establish a WATSAN Committee that will undertake and/or coordinate all WATSAN projects in the barangay. The committee, to be headed by the BDC's infrastructure committee chairman, shall have four members, preferably coming from the health, education, socio-civic and NGO sectors of the barangay. They shall be responsible for coordinating all the activities/phases in the project, including community development, such as but not limited to barangay meetings, surveys, mapping, project identification and planning, formation of a suitable WATSAN association/organization and other decisions regarding the acceptance of the water facility and the barangay counterpart in the construction of WATSAN facilities.

Designation of Barangay CD Coordinator

The barangay council should designate one person, preferably a member of the BDC or the WATSAN committee, who can be trained on CD work, particularly community organizing. Once trained, he/she will be the permanent CD coordinator of all CD activities related to WATSAN projects. The Barangay Health Worker can be an ideal candidate since he/she is already familiar with the work and the whole community.

9.5.3 Training on CD

The DILG WSS-PMO should immediately develop a capacity-building program on CD and IEC for LGUs, utilizing existing training institutions such as the Local Government Academy (LGA). While the importance of CD is acknowledged by the LGUs, there is an urgent need to raise the general level of CD awareness of the officials who would be involved in making decisions for the sector. For those who have a direct hand in the planning and implementation of sector projects, there is also a pressing need to upgrade their knowledge on CD-CO processes and approaches because methods being currently applied have been found to be very limited in scope, coverage and effectivity.

In this connection, it is recommended that the following measures be done in the medium term:

- (1) conduct a training needs assessment to determine the appropriate type of training program suited and relevant to the proposed participants' level of attainment;
- (2) upgrade the knowledge of the PPDO and PHO staffs, the MPDO and the MHO staffs, as well as the members of the BDC's WATSAN committees of improved CD frameworks available as well as CO approaches developed from the experience gained from other WATSAN projects; and,
- (3) develop other

training programs to enhance CD and IEC as shown from the result of the training needs assessment.

Suggested seminar workshops are the following: (1) Trainors' Training on CD - duration, 4-5 days; to be conducted by the DILG WSS-PMO, with the proposed participants as select PPDO/PHO staff and CD Specialists of the municipalities who belong to the priority list for the medium-term; (2) Seminar Workshop on Community Organizing - duration, 4-5 days; to be conducted by the Province with the assistance of the DILG WSS-PMO, the proposed participants being the barangay CD coordinators; and (3) Seminar Workshop on IEC - duration, 4-5 days; to be conducted by the DILG WSS-PMO with the assistance of the Philippine Information Agency (PIA), the proposed participants being CD Specialists of the LGUs.

These training programs should be conducted on a regular basis until the all the municipalities/barangays are covered. Each of the parties/participants to the training will shoulder their own costs, such that the DILG will be financially responsible for its trainors, the instructional materials, and the training venue. The LGUs, on the other hand, will pay for their own participants' expenses such as transportation and room and board. Eventually, when the Province has been fully trained and equipped to be the trainor, it shall conduct said CD/IEC training programs and will charge the LGUs and the barangays their proportionate share in the training costs.

9.5.4 Utilization of NGOs

On the national level, the DILG should screen and select national NGOs, with local networks or offices, that specialize in community management programs and tap these to assist the LGUs in organizing project beneficiaries to be more active partners in sector development.

The province, through the proposed Provincial Water Supply and Sanitation Office, must harness the participation of the private sector in community organizing and training of project beneficiaries. Initially, the provincial CD Specialist should make an updated inventory of all NGOs, CBOs and POs that do work in the province. It must identify and categorize these organizations according to the following: (1) expertise in community organizing and training; (2) sector-related experience in water supply, sanitation, solid waste; (3) expertise in communications planning, information dissemination and education.

9.5.5 Approaches to Participatory Community Development

(1) Manner of Participation in Sector Development

There are three levels of service where both the LGUs and the beneficiaries can participate in sector development. These are the following:

- Level 1 -- Participation in (1) planning and implementing sector projects in the province/municipality/barangay; (2) the formation, management, operation and maintenance of the WATSAN association, usually a BWSA or a water cooperative.
- Level 2 -- Participation in (1) planning and implementing sector projects in the province/municipality/barangay; (2) the formation, management, operation and maintenance of the WATSAN association, usually a RWSA or a water cooperative.
- Level 3 -- Participation in the formation of water districts or LGU-operated waterworks, and in determining acceptability of new projects and corresponding water rates, among others.

LGU Participation

The LGUs, to be able to participate fully in all the phases of the sector project, should be made to decide on the type of project and its scope to be implemented in the province that would be appropriate to its ability to support in the long term.

To attain this, the LGU must encourage active community participation for the sector and open venues that will allow the beneficiary communities actual involvement in all the phases of project development such as in planning and design, monitoring and evaluation. These include activities as project identification, site selection, water rate setting, managing the WATSAN association, and the operation and maintenance of the constructed facilities.

It is recommended, therefore, that the LGUs utilize the following approaches to facilitate various levels of community participation:

- a) Information Sharing. In community projects where external assistance is provided, project planners and implementors should not only share information with beneficiaries to facilitate collective and individual action but should share information as a means to assess the demand of the beneficiaries as they disclose their felt-needs and experience to the planners and implementors. This arrangement enables both sides come to understand and perform their tasks better. Information sharing/demand assessment can

be achieved through formal and informal meetings, house-to-house visits or surveys and/or barangay meetings.

- b) **Consultation.** The LGUs should consult the beneficiaries on key issues during all the stages of a project cycle in order to increase their level of community participation. The beneficiaries are the people to be actually served by the WATSAN improvement or project, including their locally elected leaders, sectoral representatives and other acknowledged informal leaders. This broad-based consultation gives the beneficiaries the opportunity to interact freely and provide valuable feedback to the planners and implementors. In WATSAN projects, the people should be consulted as early as the planning/study period when level of service, facilities sites, costs and other important data are determined. Consultation will be crucial during the construction of facilities, as it is in this stage that participation is most needed through the provision of free labor and donation of locally available materials.
- c) **Decision-making Role.** The LGUs should give the beneficiaries and their leaders a genuine decision-making role in planning and implementing sector projects, exclusively by the beneficiaries alone or jointly with others on specific issues or aspects of a project. Decision-making implies greater control or influence on the project and, therefore, a higher level of community participation.
- d) **Initiative or Action.** The LGUs should provide the beneficiaries and their leaders ample room to take initiative in terms of actions and/or decisions pertaining to a project, such as initiating the organization of a WATSAN association, requesting for training, and upgrading its system from one service level to another.

Beneficiaries' Participation

There are many ways that the beneficiaries participate in sector projects. These can be categorized into four ways, namely:

- a) **The Provision of Free Labor and/or Materials.** The beneficiaries should continue to contribute needed labor and materials, as this is one way of increasing the people's identification with the system being built. But, contributing labor or donating materials as a demonstration of participation should not be the only form of participation available because pride of ownership is also dependent on what the people's other priorities might be.

- b) **The Sharing of Costs.** Project beneficiaries should also be made to contribute in cash or in kind in maintaining the system – an indication that they value the service and are committed to keeping the system in good working order. This sharing of costs, through cost recovery schemes or O&M agreements, may not in themselves be a reliable indicator of local commitment, if the average community members and, in particular, women have not been involved in decisions concerning the system. Thus, other forms of participation are recommended to be explored.
- c) **Participation through Contractual Obligation like MOAs.** The participation of the beneficiaries in the project can be detailed in a listing of the roles and responsibilities that apply to each partner in the project, that is, national government with the LGU, and the LGU with the community. To make these requirements more formal and binding, a contract or a Memorandum of Agreement may be drawn. The elements to be considered in the MOA should be the how to solicit the continuous support of the community's leadership, the WATSAN association's leadership, and the maintenance volunteers in order to keep the WATSAN association and its facilities functioning.

It is recommended that the participation of the beneficiary community should, therefore, shall be demonstrated through: (1) the organization of water and sanitation committee in all BDCs that would coordinate and monitor local contributions in the sector; (2) the organization of a WATSAN association that will promote, manage, operate and maintain the system; (3) the training of volunteer mechanics, pump operators and other technicians.

It should be noted, however, that this approach might not sufficiently involve the average person in the community or barangay, since agreements made with the community leadership and presented at large meetings may not be fully understood by the mass community. So, this must still be augmented by other forms of participation.

- d) **Participation through Community Decision-Making.** This is the most highly recommended form of participation because it creates a strong sense of local responsibility for using the improved WATSAN resources well and sustaining these in good order. The community's participation, therefore, must evolve and be developed through participatory community development and education processes (explained later in this report) which must involve both the male and women members of the community in decision making right from the start.

The measure of success can be confirmed by: (1) the collective decision to organize the community WATSAN association where the members can articulate what responsibilities they are willing to assume in the general management, operation and maintenance of the WATSAN facilities; (2) the collective decision on matters pertaining revisions in project plans and designs and the type of training required that shall reflect the demands of the people in the community; (3) the collective decision on the type of WATSAN organization and level of service suitable for the community; and (4) the collective decision for the criteria on site selection and water fees to be charged, among others.

(2) The CD-CO Process

For Levels I and II service, it is suggested that the Province should utilize and/or adopt the Community Development Process developed from the recent WATSAN UNDP-PHI assisted project, and modify this to suit local conditions and requirements. The recommended typical CO-CD process or manner for Levels I and II comprises three phases of community activities.

The first phase, called Formation of Organization Phase, consists of activities intended to mobilize the members of the community. The second phase, Development of Organization, involves activities aimed at building the capability of the user's group that includes training. The third phase, Consolidation of Organization, consists of activities that strengthen the capacity of the user's group to sustain the operation of the association (refer to the Supporting Report for the Detailed Community Development Process).

As entry point of all development activities, the BDC is primarily responsible for the identification and prioritization of sector projects/needs. The decision whether to accept Level I or II facility and the council's counterpart shall emanate from the BDC with a parallel consultation with other community leaders. In this way, the community demand could be assessed and the support and commitment of the entire community secured.

Once an agreement is reached with all concerned, and the BDC decides to undertake the WATSAN project, the Barangay CD Coordinator, with assistance coming from the provincial and municipal CD Specialists and/or the NGOs hired for the purpose, must undertake a barangay survey to validate the assessment of the BDC as compared with the beneficiaries' demand for the level of service. The survey will also provide the information on the users' willingness to take the responsibility for the O&M of the facilities, willingness to pay and to be trained on O&M as well as the provision of local counterpart. Such

discussions will generate a demand assessment from the barangay officials to be validated and/or confirmed against the results of the barangay survey. The survey results, together with the spot map, must be presented to the community for further validation and/or confirmation (refer to the Supporting Report for the Community Organizing Handbook for Water Supply and Sanitation).

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

9.5.6 Information, Education, and Communication (IEC)

In the long term, it is the power of information, education and communication programs that would sustain the gains of the sector. Proper attitudes and values towards water and sanitation would be developed only if the LGUs and the users are fully informed of sector developments, opportunities and projects and made thoroughly aware of their responsibilities towards sustaining the operation and management of WATSAN facilities. Thus, IEC should be looked upon as a long-term activity, which should ideally start as a foundation activity even before a project begins.

It is recommended, therefore, that conceptualizing a comprehensive and systematic IEC program be undertaken from the national levels, down to the provincial, municipal and barangays. For the sector planners and implementors, an IEC program would foster interest and support needed from local officials and thus pave the way to a smoother implementation of projects in the national, provincial, municipal and barangay level. On the side of the people, an IEC program would promote better awareness and understanding of the benefits and responsibilities, thus giving them a basis for better decisions for the sector.

(1) National

As an interim measure, the DILG's WSS-PMO should periodically provide information on sector policies, plans, initiatives and programs for regular dissemination to the public, as

well as to its regional and provincial offices. It can do so by utilizing the Department's Public Information Office (PIO) and other existing communication linkages with the LGUs, as well as the government information and mass media networks, such as the Philippine Information Agency, Philippine Broadcasting System, and PTV-4.

In the medium term, the DILG's WSS-PMO should work for the creation of a public information unit within the PMO to take care of multifarious IEC tasks, such as, but not limited to: (1) planning and execution of a nationwide comprehensive public information and education program on water supply and sanitation utilizing the print, broadcast and television; and (2) undertaking capability and capacity building programs on IEC for provincial and municipal counterparts.

In the long term, the WSS-PMO should introduce WATSAN education formally into the school system, as an enhancement in both the grade and high school curricula. Simultaneously, it should attract national and local vocational schools to offer courses in support of the operation and maintenance of WATSAN facilities. As such, it should officially come into agreements with the Department of Education, Culture and Sports (DECS) and the Technical Education and Skills Development Authority (TESDA).

In order to maximize existing IEC programs on the national level, it is recommended that the DILG link or tie-up with the Local Water Utilities Administration (LWUA) which already has a nation-wide IEC program on water utilizing all communication media.

(2) Provincial

The proposed Provincial Water Supply and Sanitation Office, through the CD Specialist, shall be responsible for filtering down information on sector developments to the municipalities, barangays, as well as the general public utilizing all forms and channels of communication. As an interim measure, the CD Specialist shall utilize the provincial public information officer for the purpose of information dissemination only. However, it should slowly develop its own expertise in information and communications planning so that the comprehensive IEC program can be further improved and better executed in the long term.

It is suggested that relevant provincial events (meetings, fora, training programs, etc.) be utilized to discuss sector projects and distribute informational/educational materials. General information, that is, news on current projects, technologies, health and hygiene tips – can be channeled through local radio stations. These strategies should be replicated

at the municipal levels. The Province, assisted by the DILG-WSS PMO, should sponsor an IEC seminar workshop among the municipal CD Specialists.

(3) Municipal

It is suggested that the IEC strategies of the province be adopted by the Municipal Sector Liaison Team, particularly the assigned CD Specialist. If broadcast media facilities are absent in the municipality, it is also recommended that the CD Specialist employ the inter-personal approach in communication, such as group discussions, community meetings, dialogues, household visits, and one-on-one talks with the barangay officials and people. Furthermore, the municipality should maximize the use of non-traditional media in disseminating information, such as school exhibits, fiestas, special town events and the local movie houses. The CD Specialist may seek the assistance of the water districts in their respective localities. The water districts generally implement comprehensive IEC programs.

(4) Barangay

Aside from CD work, the barangay CD Coordinator shall also disseminate all sector information to the barangay officials and constituents. Thus, the CD coordinator should endeavor to attend all regular barangay council meetings to discuss relevant sector information. For urgent information, the coordinator can call special dialogues or meeting to announce important messages. He/she can also take advantage of special community gatherings such as civic and religious group meetings, PTA (school) meetings, to distribute informational/educational materials. The coordinator can also print messages on posters that can be placed in strategic places.

9.5.7 Health and Hygiene Education

In the medium term, the proposed Provincial Water Supply and Sanitation Office can adopt the health and hygiene education program of the Department of Health (DOH) which already has a comprehensive program planned at the central level and executed by its local health offices. This Office should ask the assistance of the PHO in the implementation of a province-wide health and hygiene education program, utilizing existing channels and methods as well as available materials. It should also include health education information in its training programs for WATSAN associations.

As revealed in the group surveys, the people learned about health and sanitation mostly from health workers and from the radio. The province can, therefore, take a cue from this by

giving emphasis on the utilization of health personnel to undertake health education and on airing health education materials over the radio.

9.6 Gender

9.6.1 General

The LGUs must recognize and give vital emphasis on the role of gender sensitive participation as critical factors in ensuring the project's success. Sustainability of water supply and sanitation services and hygiene programs depend on responding to the demands of men and women in communities. Use, maintenance and financing of water supplies and sanitation systems require the participation of both the men and women in the planning, implementation and monitoring and evaluation of projects.

This section presents the recommendations on how to harness the equal participation of the men and women of the beneficiary community in sector projects in order to ensure that the gains derived from WATSAN projects are sustained long after these have been constructed.

9.6.2 LGUs and Gender

The LGUs should always conduct gender sensitivity analysis when determining water supply and sanitation projects that are appropriate for the men and women members of the beneficiary community. This means that the difference between men's and women's activities, roles and resources will have to be identified in order to determine their development needs.

Through this, the constraints and opportunities of both men and women within the water and sanitation sector can be ascertained, a process that can help in the provision of services that men and women want which are appropriate to their circumstances. Thus, data collected, such as, but not limited to, population, type of participation, morbidity and mortality rates, shall be gender-disaggregated. Among others, the following data shall be collected:

- National-level policies and programs on gender;
- LGU-level policies and programs on gender;
- Local NGOs and their programs in promoting gender and development;
- Experiences of sector agencies in mainstreaming gender in sector projects;
- Actual views of women and men regarding their demands and their perceived roles and responsibilities.

It is important to note that since gender issues are usually localized, all concerned LGU staff be equipped with knowledge of gender and development as well as gender analysis skills prior to making any approaches to the target community. In this connection, to ensure the gender responsiveness of WATSAN projects, the province should be trained through a 'Trainers' Training Program on Gender, and later on transfer what has been learned to municipal/barangay staff involved in sector projects.

9.6.3 Gender Participation in WATSAN Projects

It is recommended that both the men and women of the beneficiary communities must be given equal opportunity to be appointed in (1) the water supply and sanitation committee in the barangay; (2) the Board of the WATSAN association to be organized; (3) and other committees/task forces that may be formed in order to realize sector projects and goals.

On WATSAN training, both genders should be given equal chances in articulating the type and duration of training they would like to attend. The same should be done in determining the functions that the men and women would like to assume in the WATSAN association, especially in operation and maintenance. In other words, the roles traditionally held by men or women should be made available to the opposite genders as well.

A simple checklist, developed from the OECF-funded Special Assistance for Project Sustainability of the Rural Water Supply Project III, of the issues to be considered for gender responsiveness is presented below:

- a) For construction of Level I facilities and sanitary latrines:
 - Are the designs (specifications) of Level I facility and sanitary latrines friendly to both sexes and based on their needs?
 - Do system/procedures allow both sexes to participate in construction?

- b) Capacity enhancement program:
 - Are all project personnel aware of gender issues?
 - Is gender training incorporated in the capacity enhancement program?

- c) Community development program:
 - Can both women and men participate in any kind of meeting?
 - Can both sexes freely express their opinion in the meeting?
 - Is all uncompensated work shared equally among women and men?

- Do both women and men participate in the decision process for determining construction equity (fees and labor)?
- Do both women and men participate in the WATSAN association's formation process?
- Are both sexes represented in WATSAN association as board members?
- Do both sexes participate in a pre-construction/formation training?
- Is all training opportunity shared by both sexes?
- Do both sexes participate in O&M activities?
- Do both sexes participate in monitoring and evaluation activities?
- Will the project effects be shared equally among women and men?

9.7 Human Resources Development and Training

Training is a planned strategy to strengthen individual competencies in relation to attitudes, skills and knowledge, to meet appropriate standards of excellence to achieve the goals of the program. 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) Training Principles

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 that 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., feed-back.
- 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 training alone can solve deficiencies. 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 objectives 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.

(4) 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.

(5) Responsibilities

Needs Assessments will be conducted as the basis for the design of the courses. Participants will be selected based on their tasks and responsibilities. The PWSU 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. The National Manpower and Youth Council (NMYC) has established training centers in all regions. The NMYC can be tapped to provide testing and skill certification for caretakers. It regularly conducts plumbing and pipefitting courses and the national trades certification system. Finally, there are technical and vocational schools

which 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 may be considered within this process, if needed. Its purpose, however, should be 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 financial 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 assisted 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.
 - 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 of 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 practices system including budgeting and cost controls, bookkeeping and accounting, procurement, maintenance of stock inventories, rate formulation, collection systems, managing customer accounts and records, customer relations, 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 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 PWSU 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 sector liaison staff will participate in these programs.

They should be organized by the PWSU; 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.
- 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 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. Specialized training of the BHWs should be considered. 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 flip charts and IEC (Information, Education and Communication) materials are already available.

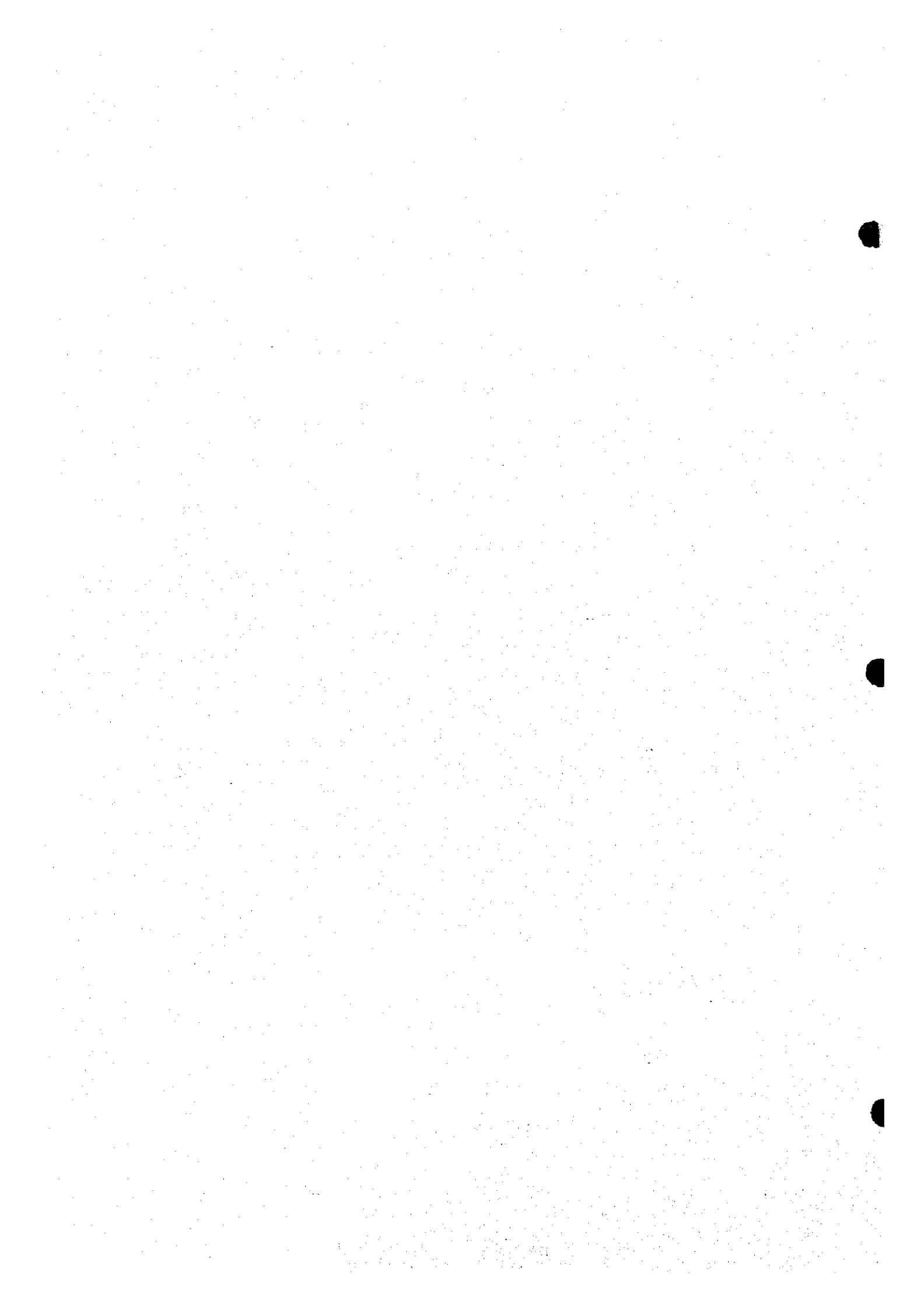
- b) **School-based Approach:** Students are the main targets of this approach, either directly or through their teachers. Special focus activities, such as Water and Sanitation Week or Nutrition Week can be introduced with programs or convocations to make the student aware of the issues and solutions. 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 Philippine Information Agency (in coordination with the DOI) 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 CDTSSs 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 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

**COST ESTIMATE FOR
FUTURE SECTOR DEVELOPMENT**

10



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 and considered in the long-term development. 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 in 1998 price level (refer to Supporting Report).

Recurrent cost was also included in this Chapter taking into account of 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 estimated based on the current standard unit cost of relevant sector agencies and typical standards developed for previous PW4SP as contract-out basis in 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 1995 to 1998 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 (9%) 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.
- Unit cost for Level III system shall be applicable to both systems utilizing spring source and deep well. However, especially in case of utilization of spring source, it is desirable to confirm by surveying in the implementation stage, since the location (distance/elevation) of untapped spring might be affect the construction cost.

Rural water supply:

- Unit cost for four types of Level I wells (shallow well at 18m in depth and deep wells at 40, 80 and 120m in depth).
- Unit cost for deep well was estimated in combination of open hole with gravel packed well and natural gravel packed well based on water source study results. The profile of the two kinds of wells, gravel packed and natural gravel packed wells is assumed to be 95% and 5%. Required costs for iron removal facility shall be included as required for deep wells at high iron contained area (details are referred to Table 7.3.1, Main Report).
- Unit cost for deep well using anti-corrosive materials (PVC casing and stainless screen, riser pipe and sucker rod) was considered additional 7% to the unit cost of ordinary deep well. Of the total number of gravel packed well, 30% shall be applied based on groundwater quality study results.
- Unit cost for Level I spring development was estimated considering system upgrading to Level II adopting 63mm diameter of transmission line.
- Unit cost for Level II system to cover 600 served population.

Sanitation:

- Household toilet: (Construction cost is not considered since it is out of public works; unit cost is a reference for financial study in terms of affordability.)
- Unit cost for four types of sanitary toilets (flush, pour-flush, VIP and Sanitary Pit Latrine) to cover one served household in urban or rural areas. Cost of flush toilet in

Table 10.2.1 Unit Cost of Facilities by Type and Service Level

Sector Service Level	Unit Construction Cost per Facility (Pesos)	Service Coverage		Unit Cost		Rehabilitation Cost of Level I Deep Well (Pesos/Well)
		Served Population	Served Households	Pesos/ Person	Pesos/ Household	
Urban Water Supply	<i>New System</i>					
	For 5,000 population	25,073,750	5,000	N/A	5,000	N/A
	For 10,000 population	37,262,500	10,000	N/A	3,700	N/A
	For 15,000 population	53,785,000	15,000	N/A	3,600	N/A
	<i>Expansion</i>					
	For 5,000 population	23,171,250	5,000	N/A	4,600	N/A
	For 10,000 population	35,360,000	10,000	N/A	3,500	N/A
For 15,000 population	51,882,500	15,000	N/A	3,500	N/A	
Level II	1,387,838	600	120	2,300	11,600	
Level I						
Rural Water Supply	<i>Deep Well</i>					
	40 meter depth	370,235	N/A	15	N/A	24,690
	80 meter depth	546,285	N/A	15	N/A	36,420
	120 meter depth	722,300	N/A	15	N/A	48,160
	<i>Shallow Well</i>	82,400	N/A	15	N/A	5,500
	<i>Spring Development</i>	747,000	N/A	15	N/A	49,800
Sanitation	<i>Household Toilet</i>					
	Flush	23,000	N/A	1	N/A	23,000
	Pour Flush	14,800	N/A	1	N/A	14,800
	VIP Latrine	7,100	N/A	1	N/A	7,100
	<i>Public School Toilet</i>	233,500	250	N/A	1,000	N/A
	<i>Public Toilet</i>	368,400	N/A	N/A	N/A	N/A
	<i>Urban Sewerage Disinfection of Level I Wells</i>	70			7,300	

cludes costs for demolition, water closet and water line.

- **Public school toilet:**
Unit cost for public school toilet was estimated in combination of toilet facility with 5 toilet bowls and 5 units of classroom toilet to cover 200 served students. The profile of the two kinds of toilet facility is assumed to be 50% each.
- **Public toilet:**
Unit cost for one facility with 6 toilet bowls.
- **Well disinfection:**
Unit disinfection cost per well based on DOH standard cost. The unit cost shall be applied to all existing and new wells once a year.

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 based on the standard unit cost and recent procurement experience of the relevant sector agencies (details are referred to Supporting Report).

Table 10.2.2 Unit Cost of Equipment and Vehicle

Name of Equipment	Unit Cost (Peso 1,000)
Truck-mounted rotary drilling rig	32,314
Truck-mounted percussion drilling rig	25,582
Well rehabilitation equipment	280
Service truck with crane	1,200
Support vehicle (Pick-up with winch)	590
Refuse collection truck	2,057
Maintenance tools	11
Water quality testing kit	16

(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) Recurrent cost

Recurrent cost was estimated for water supply and sanitation (school and public toilets) facilities to cover the regular operating cost and the cost for spare parts and equipment replacement based on the following 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 preparation of PW4SP 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 minor repair of pipeline and communal faucets (1% of the direct cost) and salaries of maintenance staff.
- A unit cost of 180 Pesos/household/year was assumed for cost estimates.

Level I facility:

- O&M cost of Level I facility simply includes spare parts of hand-pump and caretaker.
- A unit cost of 100 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 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 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 type toilets as being implemented by DOH under the FW4SP (refer to over-all construction cost requirements, Supporting Report).

During the medium-term development period, a total of 166.9 million Pesos (in 1998 price level) will be required for construction of required facilities. Of the requirements, urban water supply and rural water supply will share 28% and 53%, respectively. While, remaining 19% will be required for urban and rural sanitation.

Table 10.3.1 Construction Cost of Required Facility by Municipality

Unit: P. 1,000

Name of Municipality	Phase I (2004) Requirements						Phase I (2010) Requirements								
	Urban Area			Rural Area			Urban Area			Rural Area					
	Water Supply	Sanitation	Sub-total	Water Supply	Sanitation	Sub-total	Water Supply	Sanitation	Urban Sewerage	Sub-total	Water Supply	Sanitation	Sub-total		
	Grand Total						Grand Total						Grand Total		
Allen	5,440	1,131	6,571	1,824	488	2,312	8,883	33,782	1,878	41,267	76,927	3,636	2,814	6,450	83,377
Biri	1,355	33	1,388	994	585	1,580	2,967	11,132	479	11,611	12,595	2,395	2,562	4,957	16,568
Bobon	3,225	534	3,759	4,415	740	5,155	8,914	19,933	478	20,411	19,019	3,335	22,354	42,765	
Capul		273	273		510	510	783	21,935	467	22,402	906	1,774	2,680	25,082	
Cataman (Capital)		2,483	2,483	14,413	2,770	17,182	19,665	112,648	6,233	130,086	248,966	66,402	12,420	78,823	327,789
Catubig	2,505	368	2,873	10,590	1,401	11,991	14,864	20,258	467	20,725	47,538	7,006	54,844	75,569	
Gamay	1,500	21	1,521	7,498	1,632	9,130	10,651	12,530	375	12,905	31,861	6,852	38,712	51,618	
Luoang		701	701		2,102	2,102	2,802	40,572	1,769	43,304	85,645	7,169	12,009	19,178	104,823
Lapinig	2,235	1,009	3,244	2,499	550	3,049	6,293	18,409	1,326	19,735	11,846	2,544	14,390	34,125	
Lus Navas	4,480	908	5,388	9,083	1,168	10,251	15,639	27,472	1,788	29,260	39,489	5,603	45,092	74,551	
Lavezares					1,168	1,168	1,168	17,025	467	17,492	11,998	5,733	17,731	35,223	
Lope De Vega	1,595	26	1,621	4,535	561	5,096	6,717	13,533	250	13,783	26,580	3,176	29,755	43,538	
Mipanas	1,455	29	1,484	3,084	532	3,616	5,100	12,172	845	13,016	13,179	3,052	16,231	29,247	
Mondragon	3,480	296	3,776		1,358	5,134	21,805	1,322	23,127	26,871	5,983	32,854	55,981		
Pulapag	3,610	467	4,077	8,830	1,666	10,496	14,573	22,999	1,773	24,772	39,206	7,857	47,063	71,835	
Pambujan	6,140	807	6,947	4,999	1,085	6,084	13,031	38,679	1,693	47,180	87,551	23,108	4,847	27,955	115,506
Rosario		6	6		62	62	68	12,860	752	13,612	10,844	2,817	13,661	27,273	
San Antonio	435		435		500	500	935	3,491		3,491	1,318	2,287	3,606	7,997	
San Isidro		22	22		1,632	1,632	1,632	11,945	845	12,790	7,543	7,917	15,460	28,250	
San Jose	1,660	2	1,662	3,913	57	3,970	5,631	13,565	475	14,040	15,342	3,560	18,901	32,942	
San Roque	4,820	467	5,287	4,415	701	5,115	10,402	31,248	1,235	38,011	70,494	33,623	3,683	37,305	107,800
San Vicente	840	16	856		60	916	916	6,412	737	7,149	330	1,257	1,587	8,736	
Silvino Lobos	1,810		1,810	3,788	643	4,430	6,240	15,019	249	15,268	19,751	2,158	21,909	37,177	
Victoria		33	33	2,910	878	3,788	3,821	14,250	467	14,717	9,987	3,314	13,301	28,018	
Provincial Total	46,585	9,631	56,216	87,787	22,859	110,636	166,852	533,674	26,371	299,848	879,892	470,240	114,538	584,799	1,464,690

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), however, in this PW4SP, one set of well rehabilitation equipment and one unit of support vehicle shall be incorporated in the medium-term investment plan (Phase I). While one set of truck-mounted drilling rig shall be procured by the province in long-term development plan (Phase II) considering budgetary constraints and technical capability.

Table 10.3.2 Cost of Equipment and Vehicle

Unit, Peso 1,000

Name of Equipment	Unit Cost	Q'ty (set)	Amount
Truck-mounted rotary drilling rig	32,314	NA	0
Truck-mounted percussion drilling rig	25,582	1	25,582
Well rehabilitation equipment	280	1	280
Service truck with crane	1,200	1	1,200
Support vehicle (Pick-up with winch)	590	1	590
Refuse collection truck	2,057	17	34,969
Total Equipment Cost			62,621

Note: Truck-mounted rotary drilling rig is not necessarily based on water source study.

N.A: Not applicable

Aside from the above, one set of maintenance tools and one set of water quality testing kits shall be provided to all municipalities and cities for O&M of Level I facilities (details are referred to Supporting Report).

10.3.3 Cost for Laboratory

Required cost for instruments/chemicals required for two (2) new laboratories to be established at exiting hospitals in Allen and Laoang is estimated at 956,000 Pesos and additional cost for upgrading of existing laboratory in Catarman is estimated at 478,000 Pesos (details are referred to Supporting Report).

10.4 Recurrent Cost

Recurrent cost is estimated in 1998 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 2004, the recurrent cost will increase to 12.6 million Pesos/year from 9.0 million Pesos/year in 1998, which is 40% increase from the base year corresponding to the implementation of the medium-term development.

Table 10.4.1 Recurrent Cost

Unit: P 1,000

Sector Component	Item	Base Year Existing Facilities	2000	2001	2002	2003	2004	Total (2000-2004)
Urban Water	Operating Cost	286	286	414	606	798	925	3,029
	Supply Spare Parts/Equipment	292	292	422	618	814	944	3,090
Rural Water	Supply Spare Parts/Equipment for Level II System	388	388	388	388	388	388	1,939
	Supply Spare Parts/Equipment for Level I Facilities	5,191	5,191	5,273	5,395	5,517	5,599	26,975
Sanitation	Public School Toilets	2,595	2,595	2,952	3,437	4,023	4,380	17,437
	Public Toilets	270	270	288	315	342	360	1,575
Total Recurrent Cost		9,022	9,022	9,737	10,809	11,831	12,596	54,045

Chapter

**FINANCIAL ARRANGEMENTS FOR
MEDIUM-TERM DEVELOPMENT PLAN**

11

11. FINANCIAL ARRANGEMENTS FOR MEDIUM-TERM DEVELOPMENT PLAN

11.1 General

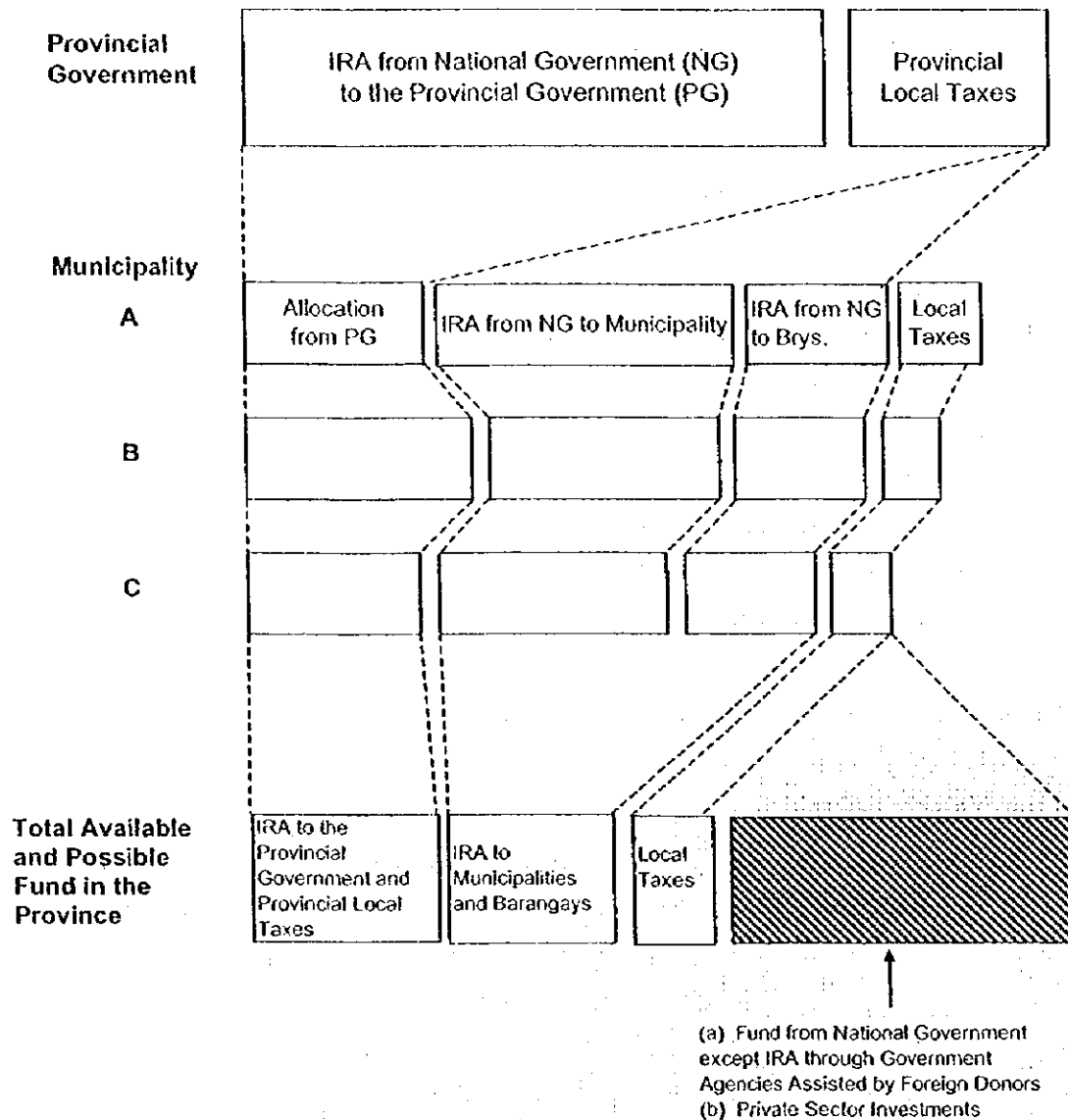
Financial arrangements to attain medium-term (Phase I) targets are sought taking into account potential funds. However, quantitative study is limited to the use of projected Internal Revenue Allotment (IRA). In this connection, this Chapter addresses to identify financial shortfall with reference to 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 with the use of computer-based programs that allow for the future application to include additional funds that are available. Figure 11.1.1 shows the sector budget allocation in the different administrative levels to come up with total funds available in the province. Figure 11.1.2 illustrates the 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 1998.

The Investment Coordination Committee (ICC) of NEDA adopted a policy "to support the financing of devolved activities with social and/or environmental-objectives" based on three considerations, namely: Equity, Externalities and Economies of Scale. The new cost-sharing arrangement was put into practice in 1998, which clearly limited the national government subsidy for Level I water supply to 5th and 6th class municipalities up to a maximum of 50% of the total project cost. For sanitation facilities, the national government subsidy for 3rd to 6th class municipalities shall be from 50% to 70% of the total project cost. In this connection, financial study for Level I water supply and sanitation improvement was additionally conducted for those municipalities meeting the above conditions.

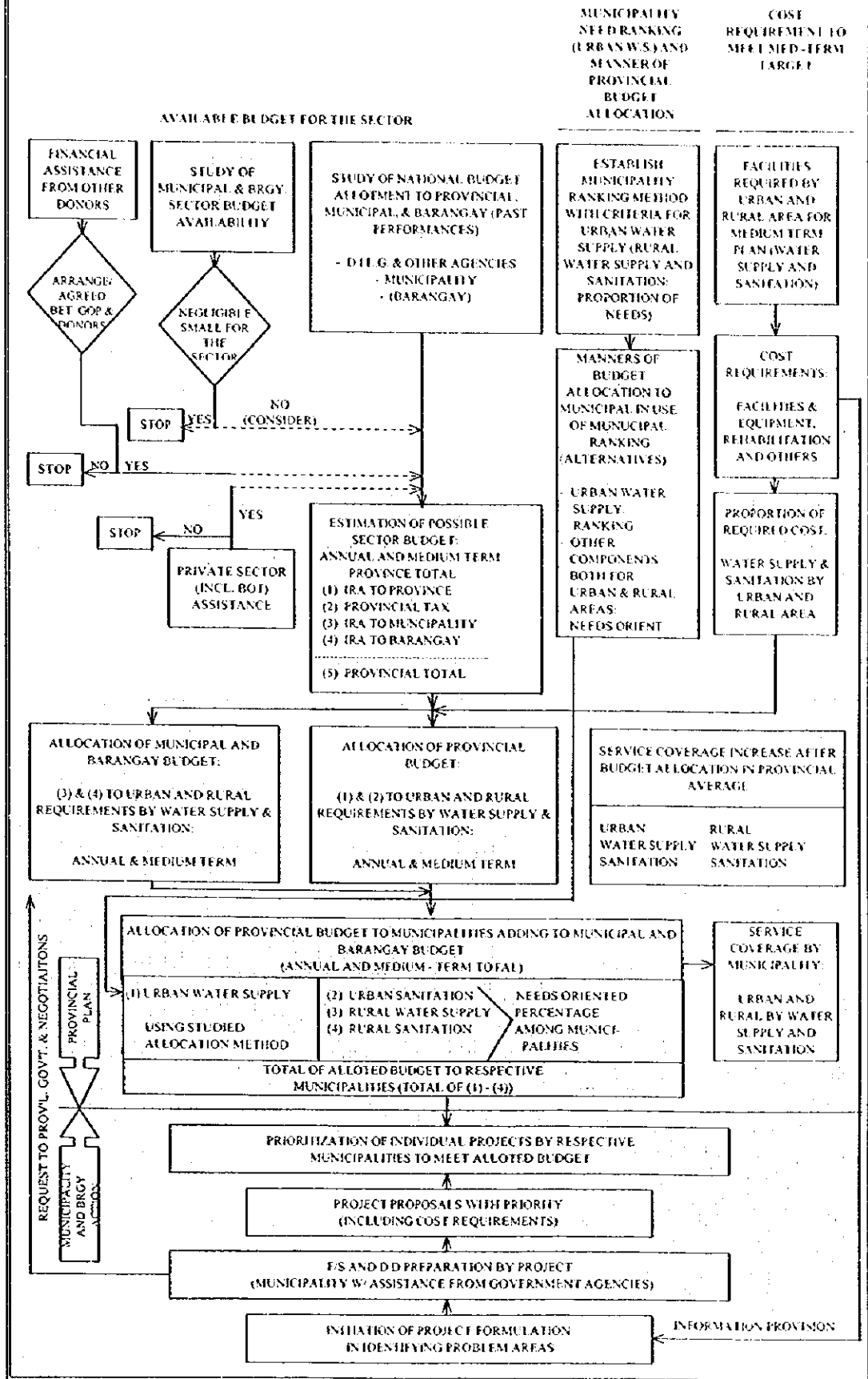
Figure 11.1.1 Sector Budget Allocation



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**



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 Tables 11.2.1 and 11.2.2 present calculation results. Calculation process is further described as follows:

(1) Projection of annual IRA to all LGUs in the Philippines from 2000 to 2004

The IRA projection for the period 2000 to 2002 have been derived as equivalent to 40% of the total revenues of the actual National Internal Revenue Taxes of the 3rd Fiscal Year preceding the current year (e.g. 1997 to 1999). This 40% ratio is based on the Local Government Code in 1991. For the years 2003 to 2004, the projected National Internal Revenue Taxes by DOF served as the basis for projecting the IRA for the same period. Projected IRA registered an annual average growth rate of 11 percent for the period 2000 to 2004.

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

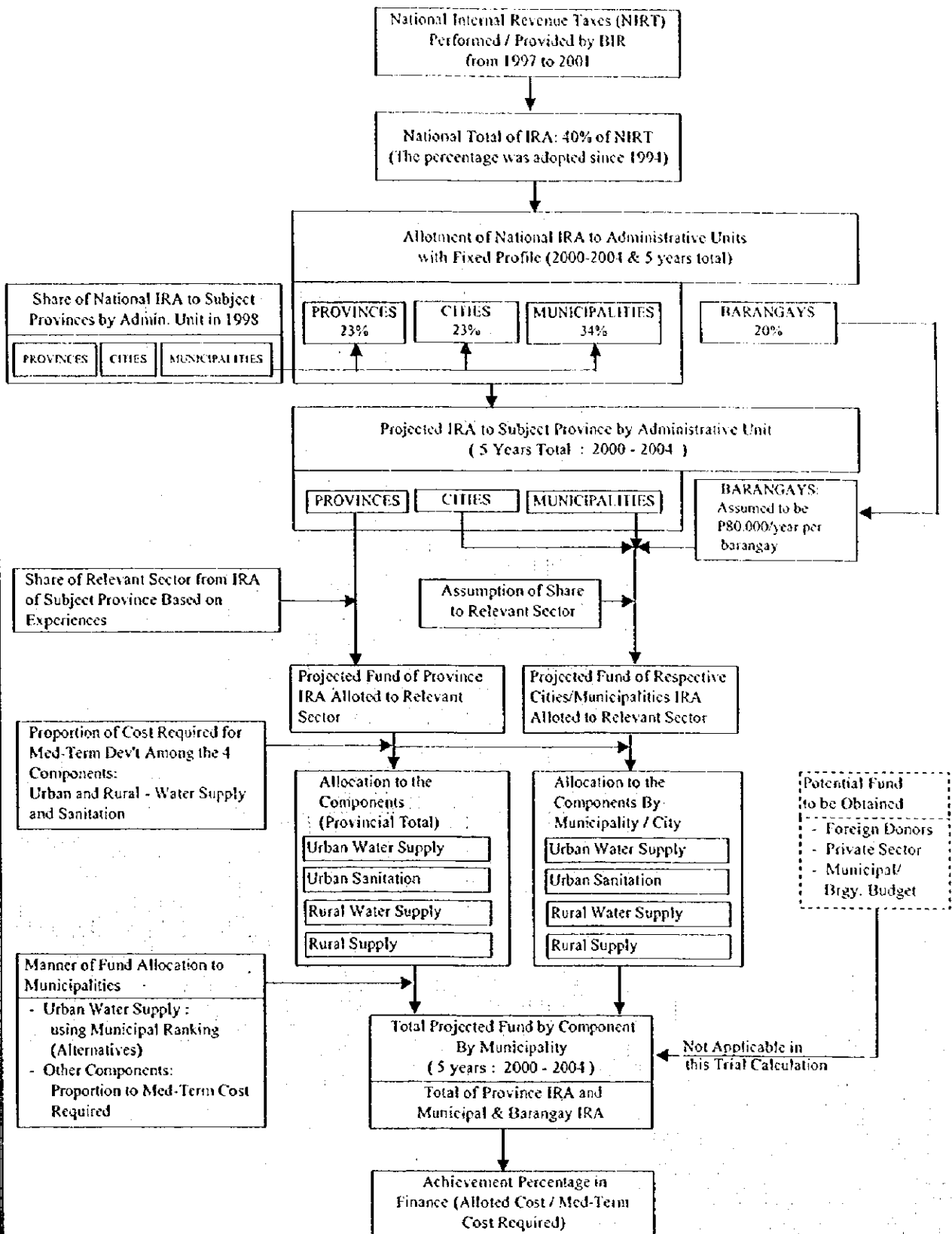
Based on the Local Government Code, IRA is distributed by administrative level as follows:

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 three (3) factors: population, land area and number of administrative units. In this analysis, however, the distribution percentage experienced in 1999 is simply employed in projecting IRA for the period 2000-2004 (refer to Table 6.2.2, Main Report and Supporting Report). Allotments to barangays are added to the IRAs for municipalities (P80,000 times the number of barangays).

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 (1997-2001) is the basis of National Total of IRA (2000-2004)
 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: P 1,000

	2000	2001	2002	2003	2004	Total
1 40% of Actual Projected National Internal Revenue Taxes of the 3rd Fiscal Year preceding the current year	104,049,760	115,801,280	127,449,920	142,317,600	157,972,536	647,591,096
2 Internal Revenue Allotment to all LGUs						
(a) province (23%)	23,931,445	26,634,294	29,313,482	32,733,048	36,333,683	148,945,952
(b) cities (23%)	23,931,445	26,634,294	29,313,482	32,733,048	36,333,683	148,945,952
(c) municipalities (34%)	35,376,918	39,372,435	43,332,973	48,387,984	53,710,662	220,180,973
(d) barangays (20%)	20,809,952	23,160,256	25,489,984	28,463,520	31,594,507	129,518,219
(e) total IRA to all LGUs	104,049,760	115,801,280	127,449,920	142,317,600	157,972,536	647,591,096
3 Projected IRA to Subject Province by Administrative Unit						
(a) province	267,433	297,637	327,577	365,790	406,027	1,664,463
(b) municipalities/city including barangays	440,126	484,693	528,870	555,256	644,627	2,683,572
Allen	15,282	16,827	18,358	20,313	22,372	93,152
Biri	10,512	11,627	12,732	14,143	15,628	64,642
Bobon	17,408	19,211	20,999	23,280	25,683	106,581
Capul	11,450	12,634	13,809	15,307	16,886	70,886
Catarman (Capital)	41,044	45,183	49,286	54,522	60,035	250,070
Catubig	24,800	27,177	29,532	32,539	35,704	149,752
Gamay	17,950	19,743	21,519	23,787	26,175	109,174
Laoang	33,645	36,939	40,204	44,371	48,759	203,918
Lapinig	12,168	13,407	14,635	16,202	17,852	74,265
Las Navas	23,859	26,075	28,271	31,074	34,026	143,304
Lavezares	18,437	20,284	22,115	24,453	26,914	112,202
Lope De Vega	19,333	21,318	23,285	25,796	28,440	118,172
Mapanas	13,095	14,457	15,806	17,529	19,342	80,229
Mondragon	24,465	27,012	29,536	32,757	36,149	149,920
Palapag	22,037	24,237	26,417	29,200	32,131	134,022
Pambujan	19,988	22,010	24,015	26,574	29,268	121,855
Rosario	10,579	11,674	12,760	14,146	15,605	64,763
San Antonio	10,715	11,835	12,945	14,362	15,853	65,710
San Isidro	21,660	23,980	26,279	29,214	32,305	133,439
San Jose	12,514	13,783	15,041	16,646	18,336	76,321
San Roque	17,453	19,280	21,091	23,402	25,835	107,061
San Vicente	8,814	9,747	10,671	11,850	13,092	54,175
Silvino Lobos	17,154	18,857	20,544	22,698	24,966	104,220
Victoria	15,763	17,399	19,020	21,090	23,269	96,541
(c) Provincial Total	707,559	782,330	856,447	951,046	1,050,654	4,348,035
4 Project fund of IRA to Relevant Sector by Administrative Unit						
(a) province	8,023	8,929	9,827	10,974	12,181	49,934
(b) municipalities/city including barangays	11,758	12,947	14,125	15,630	17,214	71,673
Allen	458	505	551	609	671	2,795
Biri	315	349	382	424	469	1,939
Bobon	522	576	630	698	770	3,197
Capul	189	208	228	252	279	1,156
Catarman (Capital)	1,231	1,355	1,479	1,636	1,801	7,502
Catubig	744	815	886	976	1,071	4,493
Gamay	539	592	646	714	785	3,275
Laoang	683	750	816	900	989	4,138
Lapinig	365	402	439	486	536	2,228
Las Navas	716	782	848	932	1,021	4,299
Lavezares	283	312	340	376	414	1,724
Lope De Vega	580	640	699	774	853	3,545
Mapanas	393	434	474	526	580	2,407
Mondragon	734	810	886	983	1,084	4,498
Palapag	661	727	793	876	964	4,021
Pambujan	600	660	720	797	878	3,656
Rosario	16	18	20	22	24	100
San Antonio	225	249	272	302	333	1,381
San Isidro	397	439	481	535	591	2,443
San Jose	375	413	451	499	550	2,290
San Roque	524	578	633	702	775	3,212
San Vicente	220	243	267	296	327	1,353
Silvino Lobos	515	566	616	681	749	3,127
Victoria	473	522	571	633	698	2,896
(c) Provincial Total	19,781	21,876	23,953	26,603	29,394	121,607

Table 11.2.2 Projected Allotment of IRA to the Relevant Sector by Component
(2000 - 2004)

Unit: 1,000 pesos

LGUs	Urban Water Supply	Rural Water Supply	Urban Sanitation	Rural Sanitation	Total
1. Province	13,942	26,272	2,882	6,838	49,934
2. Municipalities					
Allen	1,711	574	356	154	2,795
Biri	886	650	21	383	1,939
Bobon	1,157	1,584	192	265	3,197
Capul			403	753	1,156
Cataman (Capital)		5,498	947	1,057	7,502
Catubig	757	3,201	111	423	4,493
Gamay	461	2,306	6	502	3,275
Laoang			1,035	3,104	4,138
Lapinig	791	885	357	195	2,228
Las Navas	1,232	2,497	250	321	4,299
Lavezares				1,724	1,724
Lope De Vega	842	2,393	14	296	3,545
Mapanas	687	1,455	14	251	2,407
Mondragon	3,049		259	1,190	4,498
Palapag	996	2,436	129	460	4,021
Pambujan	1,722	1,402	227	304	3,656
Rosario			8	92	100
San Antonio	642			739	1,381
San Isidro			33	2,410	2,443
San Jose	675	1,591	1	23	2,290
San Roque	1,488	1,363	144	216	3,212
San Vicente	1,240		24	89	1,353
Silvino Lobos	907	1,898		322	3,127
Victoria		2,205	25	666	2,896
3. Provincial Total	33,185	58,210	7,437	22,776	121,607

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

Based on the Provincial Accountants records, about 0.41% of provincial IRA on the average was availed for the water supply and sanitation sector. However, referring to the experience in other provinces, provincial allocation to the relevant sector is assumed to be 3%. This means that 15% of "20% Development Fund" from national IRA are 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 the provincial and municipal levels is arranged in proportion to the direct construction cost required for Phase I development.

With regards 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 the other components, provincial IRA is distributed to municipalities in proportion to their required costs in Phase I (refer to Table 11.2.2).

The projected provincial IRA to the sector during the period of 2000-2004 is estimated at P121.61 million, which is equivalent to 2.80% of combined provincial and municipal IRA. This percentage is arrived as a result of adjustment in use of IRA for those municipalities, required cost of which is lower than the allotted IRA. With regard to the allocation to sub-sectors, rural water supply has the largest allotment of 47.9% (P58.21 million out of the total P121.61 million) followed by urban water supply (P33.19 million or 27.3%). Rural sanitation is allotted P22.78 million (18.7%) and is larger than that for urban sanitation (P7.44 million). The proportion of IRA allotment for the sub-sectors differs by municipality and depends on their priority sub-sectors.

In the allocation of municipal IRA, Catarman (capital) has the largest allotment with P7.5 million (10.5%) followed by the municipality of Mondragon and Catubig with P4.50 million (6.3%) each.

11.3 Additional Funding Requirements

Annual cost required for the whole province during the medium-term development is summarized in Table 11.3.1 referring to the study results in Chapter 10. The total cost required covers physical contingency; 10% of the direct cost and price contingency; 7% per year covering the direct cost and physical contingency, and value added tax. Details of implementation arrangements for annual investment are shown in Table 11.3.1, Supporting Report. The required cost excluding price contingency was also shown in the Table to compare with available IRA on a current price level.

Table 11.3.2 presents additional funding requirements of the province on the current price level (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 funds available. Out of P246.4 million required on 1998 price

Table 11.3.1 Financing Requirement by Sector Component for the Province

Unit: 1,000 pesos

Sector Components	2000	2001	2002	2003	2004	Total 2000-2004	Total 2005-2010
Direct Cost							
1. Direct Construction Cost							
<i>Urban Water Supply</i>							
Level III System	0	9,317	13,976	13,976	9,317	46,585	553,674
<i>Rural Water Supply</i>							
Level II System	0	0	0	0	0	0	0
Level I Facilities	0	17,557	26,336	26,336	17,557	87,787	470,240
<i>Urban Sanitation</i>							
Household toilet	0	130	195	195	130	649	468
Public school toilet	0	1,354	2,031	2,031	1,354	6,772	21,482
Public toilet	0	442	663	663	442	2,210	4,421
Disinfection of Level I Deep Well and Shallow	30	55	55	55	55	249	0
<i>Rural Sanitation</i>							
Household toilet	0	414	620	620	414	2,068	9,717
Public school toilet	0	4,156	6,234	6,234	4,156	20,782	104,842
Disinfection of Level I Deep Well and Shallow	13	24	24	24	24	109	181
<i>Urban Sewerage</i>	N/A	N/A	N/A	N/A	N/A	N/A	299,848
Sub-total	43	33,419	50,135	50,135	33,419	167,211	1,464,872
2. Procurement of Vehicle/Equipment/Maintenance tools							
Well drilling rig and service truck with crane	0	0	0	0	0	0	26,782
Support vehicle	0	590	0	0	0	590	0
Well rehabilitation equipment	0	280	0	0	0	280	0
Maintenance tools	0	48	72	72	48	240	0
Water quality testing kit	0	3	5	5	3	15	0
Sub-total	0	921	77	77	51	1,125	26,782
3. Water Quality Laboratory	1,434	0	0	0	0	1,434	0
4. Sector Management Cost							
<i>Engineering Studies</i>							
Feasibility study and detail design	8,725	6,947	0	0	0	14,722	103,978
Construction supervision	0	1,313	1,970	1,970	1,313	6,606	46,212
<i>Institutional Development</i>	4,651	4,511	3,101	1,690	1,550	15,504	103,978
Sub-total	13,377	11,871	5,070	3,660	2,863	36,882	254,168
Total Direct Cost	14,853	46,242	55,281	53,871	36,364	206,651	1,745,821
Contingencies							
1. Physical Contingency	1,485	4,624	5,528	5,387	3,636	20,661	174,582
2. Price Contingency	1,144	7,370	13,685	18,417	16,102	56,718	N/A
3. Value-Added Tax (VAT)	1,020	4,173	5,218	5,218	3,481	19,111	N/A
Total Investment Cost	18,503	62,409	79,712	82,893	59,584	303,141	1,920,403
Total Investment Cost (excluding Price Contingency)	17,359	55,039	66,023	64,476	43,482	246,383	1,920,403

NoteS: Institutional development includes:

1. Capacity enhancement programs,
2. Community management program,
3. Health and hygiene education,

4. Water quality surveillance, and
5. Administrative support.

level for Phase I (2000-2004), IRA can fund only P121.61 million or 49.4% of the requirements. Hence, there is a big shortfall of P124.78 million in funding. It will become P181.53 million in consideration of contingencies, price escalation and value added tax.

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 percentage of Capul, Laoang, Lavezares, Rosario, San Antonio, San Isidro and San Vicente (100%) is the highest among municipalities, followed by Mondragon (78%). Majority is in the range between 40% and 60% to the respective requirements, while the provincial average is 49% (40% in consideration of contingencies and VAT).

Table 11.3.2 Additional Fund Requirement for the Medium-Term Plan

Unit: 1,000 pesos

Item	2000	2001	2002	2003	2004	Total 2000-2004
Financing Requirement	17,359	55,039	66,028	64,476	43,482	246,383
Expected available fund						
National						
Local (IRA)	19,781	21,876	23,953	26,603	29,394	121,607
Others						
Total	19,781	21,876	23,953	26,603	29,394	121,607
Shortfall in funding (Additional Fund Requirements)	-2,422	33,163	42,075	37,873	14,087	124,775
	-1,278	40,533	55,760	56,290	30,189	181,534

Notes: Shortfall in funding : Figures on top represent current year level cost.

Figures below represent overall cost including contingencies, escalation and value added tax.

Totals may not add up due to rounding.

Table 11.3.3 Internal Revenue Allotment for Water Supply and Sanitation Sector by Municipality
(Medium-term Development, 2000-2004)

Name of Municipality	IRA Allocation to Municipalities												Phase I Investment Requirement (b)	Achievement Percentage (%) in Finance (a)/(b)	
	Urban Water Supply			Rural Water Supply			Urban Sanitation			Rural Sanitation					Available Fund of Municipality (a)
	Allotted from Provincial Government	Allotted Municipality Fund	Total	Allotted from Provincial Government	Allotted Municipality Fund	Total	Allotted from Provincial Government	Allotted Municipality Fund	Total	Allotted from Provincial Government	Allotted Municipality Fund	Total			
Allen	1,046	1,711	2,757	548	374	1,119	357	356	713	252	154	406	4,996	13,117	38
Biri	797	886	1,682	298	650	947	29	21	50	281	383	664	3,323	4,382	76
Bobon	797	1,157	1,953	1,321	1,584	2,905	179	192	370	328	265	593	5,822	13,163	44
Capul							0	403	403		753	753	1,156	1,156	100
Calamban (Capital)				4,313	5,498	9,812	762	947	1,709	935	1,057	1,992	13,512	29,039	47
Catubig	1,046	757	1,803	3,169	3,201	6,370	129	111	241	525	423	949	9,362	21,949	43
Camay	1,046	461	1,507	2,244	2,306	4,550	25	6	31	594	502	1,096	7,184	15,727	46
Lacang							1	1,035	1,035	1	3,104	3,104	4,139	4,138	100
Lupinig	797	791	1,588	748	885	1,633	321	357	678	271	195	465	4,364	9,292	47
Las Navas	1,046	1,232	2,277	2,718	2,897	5,215	291	250	540	456	321	777	8,809	23,093	38
Lavezares											1,724	1,724	1,724	1,724	100
Lope De Vega	1,046	842	1,887	1,357	2,393	3,751	27	14	40	274	296	570	6,249	9,918	63
Mapanas	1,046	687	1,732	923	1,455	2,378	28	14	42	265	251	517	4,669	7,532	62
Mondragon	797	3,049	3,845				107	259	366	513	1,190	1,702	5,914	7,881	78
Palapag	1,046	996	2,042	2,642	2,436	5,079	159	129	288	605	460	1,065	8,472	21,519	39
Pambujan	797	1,722	2,519	1,496	1,402	2,898	261	227	487	431	304	735	6,640	19,243	35
Rosario								8	8	0	0	92	100	100	100
San Antonio													1,381	1,381	100
San Isidro							0	33	33		2,410	2,410	2,443	2,443	100
San Jose	797	675	1,472	1,171	1,591	2,762	19	1	20	125	23	146	4,400	8,315	53
San Roque	797	1,488	2,285	1,321	1,363	2,684	159	144	303	316	216	532	5,804	15,361	38
San Vicente		1,240	1,240				0	24	24	0	89	89	1,353	1,353	100
Silvino Lobos	1,046	907	1,952	1,134	1,898	3,031				298	322	621	5,664	9,215	61
Victoria				871	2,205	3,076	29	25	54	369	666	1,055	4,165	5,642	74
Total	13,942	19,244	33,185	26,272	31,938	58,210	2,882	4,554	7,437	6,838	15,938	22,776	121,607	246,383	49

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11.4 Medium-Term Implementation Arrangements

The financial requirements to meet Phase I target coverage are substantial. However, projected funding available (IRA) in application of past trend revealed that considerable amount of additional fund must be arranged. Under this situation, reference scenarios are discussed with the 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 participation 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 the 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.

Three reference scenarios are discussed with respect to the different levels of funding. These scenarios will be referred to in combination with 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 the available fund and sector targets.

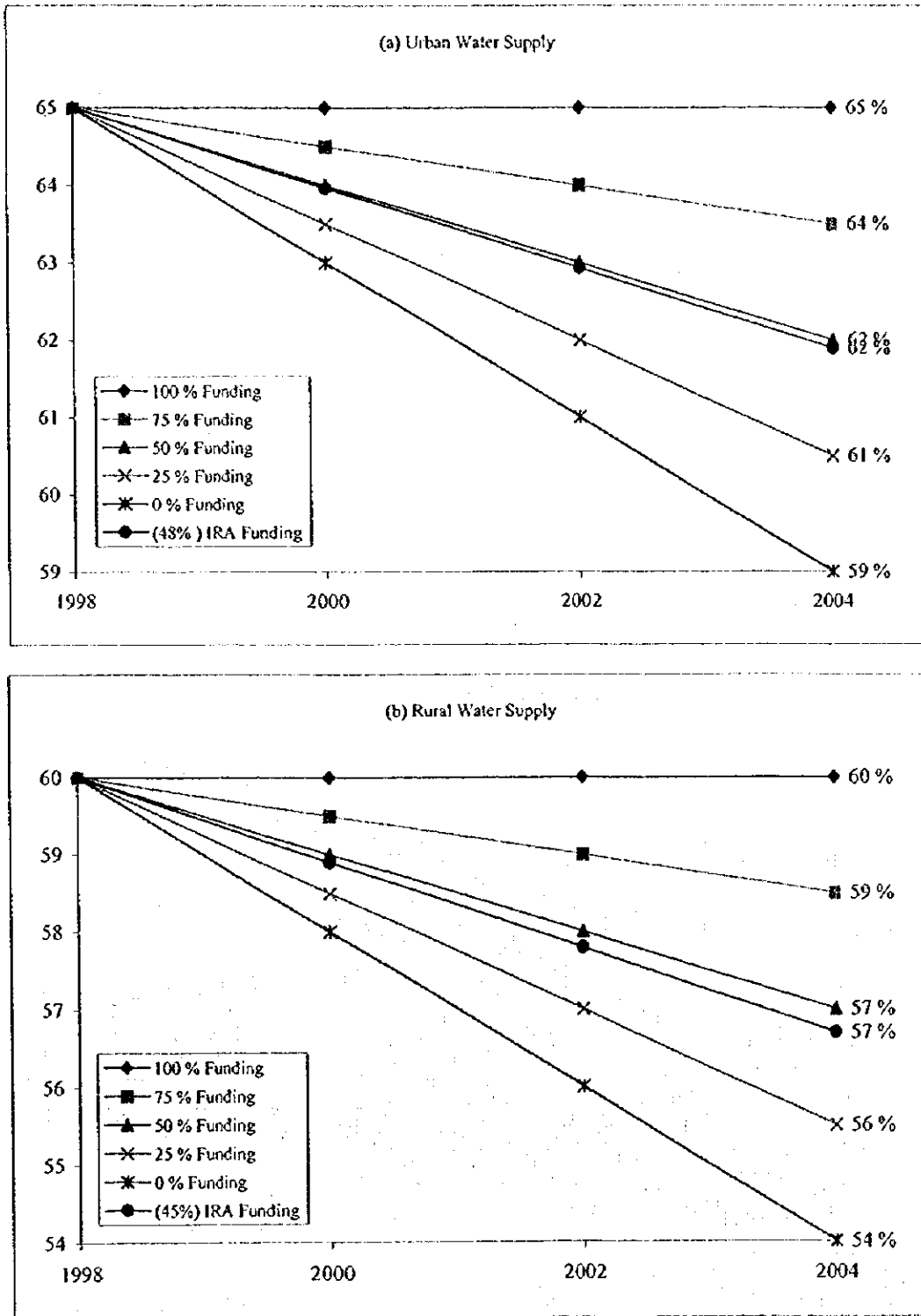
(1) The First Reference Scenario

No funding constraints are 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

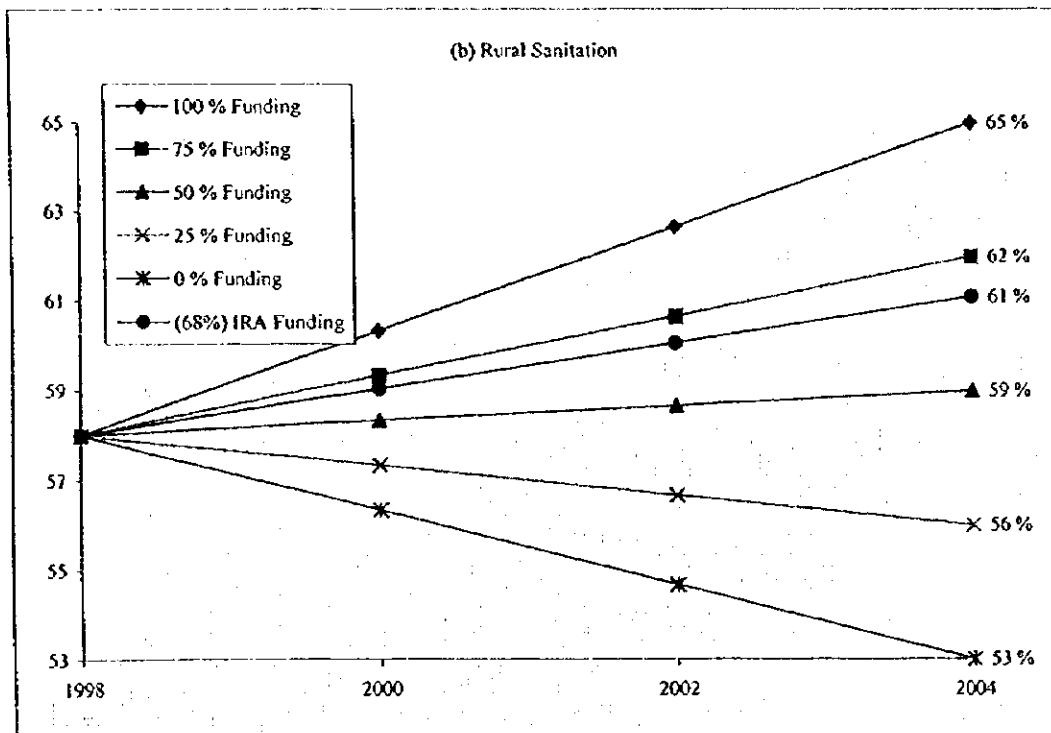
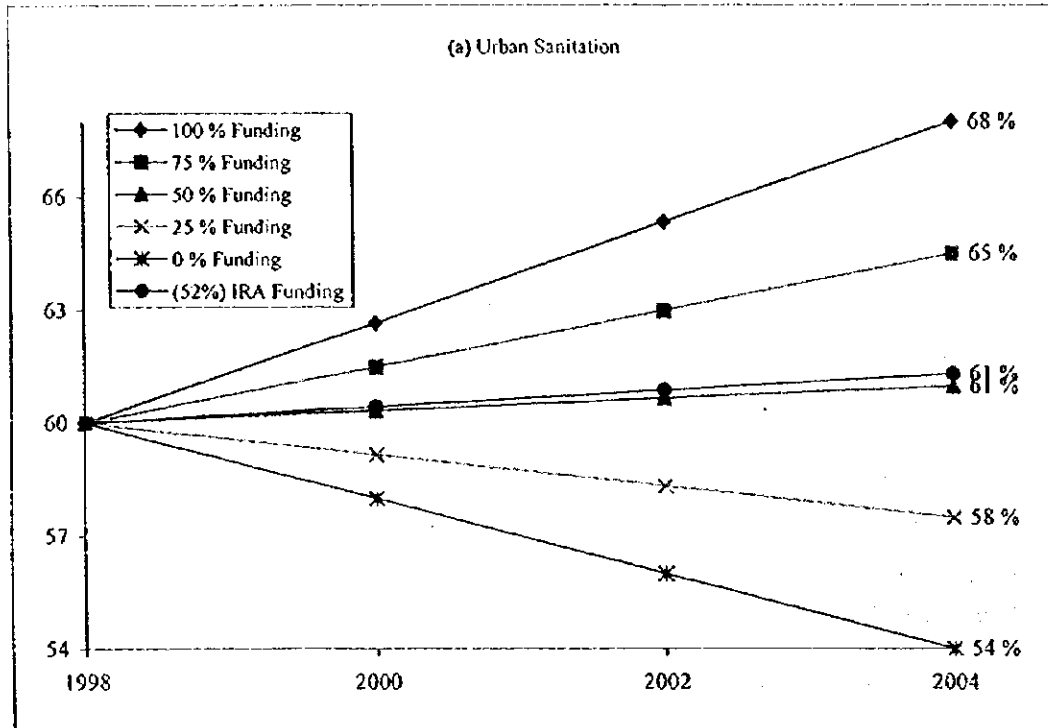
An intermediate scenario with 50 - 75 % funding ranges are considered. Under this scenario, urban and rural water supply coverage in the year 2004 is attained between 62-64% and between 57-59%, respectively. For urban and rural sanitation (household toilets), coverage will reach 61-65% and 59-62%, respectively based on the assumption that required private investments are followed.

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



Note: Percentages of the coverage between 1998 and 2004 are simply prorated as the reference

Figure 11.4.2 Relation Between Funding Levels and Percent of Coverage for Sanitation Sector



Note: Percentages of the coverage between 1998 and 2004 are simply prorated as the reference

(3) The Third Reference Scenario

In the scenario of 25% funding against the total requirements of Phase I, urban and rural water supply coverage in the year 2004 will be attained at 61% and 56%, respectively, while urban and rural sanitation coverage will be at 58% and 56%. At this funding level, all sub-sectors will not be able to keep current service levels.

The allocated IRA funding of urban and rural water supply in the year 2004 will be 48% and 45% which will cover 62% and 57% of the population. In order to attain the Phase I development target of 65% and 60% service coverage, it needs an additional IRA funding of 52% and 55% respectively.

For urban and rural sanitation, 100% funding shall have coverage percentage of 68% and 65%, respectively. However, at IRA funding of 52% and 68%, service coverage will only be at 61% and 61%, respectively. Thus, in order to meet the Phase I development targets of 68% and 65% of service coverage population an additional IRA funding of 48% and 32% are required, respectively.

11.4.2 Alternative Countermeasures

This sub-section presents the means of financing the shortfall for the investment program.

(1) Acquisition of external funds

Foreign assistance has played a significant role in the development of the relevant sector 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.

As a matter of fact, Local Government Empowerment Fund (LGEF) was established in 1996 to provide a mechanism for channeling external grants and loans to 19 priority provinces under the Social Reform Agenda and/or those classified as 5th or 6th class LGUs (details are referred to Chapter 11.4.2, Supporting Report).

The foreign loan may be availed of at the maximum financing limit of 75% of the overall project cost. This can be secured by GOP and channeled through the MDF.

(2) Augmentation of sector finance under current arrangements

Increase of the IRA to the Relevant Sector

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 although the share of local taxes in the provincial total budget is small.

Utilization of Other Local Funds

Utilization of other funds, Countryside Development Fund (CDF) in particular, shall be sought for development of the relevant sector.

(3) Introduction of private sector

Privatization of Level III Waterworks System

Privatization of Level III systems helps expedite sector development and sustainability of the system as suggested by NEDA Board Resolution No. 4 (series 1994).

LGU Guarantee Organization

LGU Guarantee 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 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 con-

cerned 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 essential 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. First, these factors are scored by the range of underserved and unserved percentage and totaled by municipality with the 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. There are three (3) municipalities identified as top three (3) priority municipalities namely; Las Navas, Lope de Vega and Silvino Lobos.

With reference to the provincial fund allocation, it is assumed that 60% of the fund for urban water supply from provincial government is distributed equally to the top fifth ranking municipalities, while the remaining 40% are equally distributed to the rest of the municipalities. The result of distribution is shown in Table 11.4.2. The available funds for about half of the municipalities are adequate to meet the Phase I requirements for urban water supply.

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). The top ranking municipalities are Lope de Vega, Las Navas and Biri, which indicate that they are given priority for investments in all sub-sectors. The municipality of Laoang is the least priority in terms of investment ranking.

Table 11.4.1 Municipal Investment Need Ranking for Urban Water Supply

Name of 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 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			
Afien	41	52	100	1.00	0.80	1.00	0.93	4	
Bin	38	38	100	0.80	0.60	1.00	0.76	12	
Bobon	29	42	100	0.60	0.60	1.00	0.66	18	
Capul	20	23	100	0.40	0.40	1.00	0.49	23	
Caraman (Capital)	27	30	92	0.60	0.40	1.00	0.59	20	
Catubig	50	52	100	1.00	0.80	1.00	0.93	4	
Gamay	48	50	100	1.00	0.80	1.00	0.93	4	
Laotang	27	27	100	0.60	0.40	1.00	0.59	20	
Lapinig	37	46	100	0.80	0.80	1.00	0.83	9	
Las Navas	50	63	100	1.00	1.00	1.00	1.00	1	
Lavezates	35	35	100	0.80	0.60	1.00	0.76	12	
Lopez De Vega	62	68	100	1.00	1.00	1.00	1.00	1	
Mapanas	44	57	100	1.00	0.80	1.00	0.93	4	
Mondragon	37	48	100	0.80	0.80	1.00	0.83	9	
Palapug	46	52	100	1.00	0.80	1.00	0.93	4	
Pambujan	40	49	100	0.80	0.80	1.00	0.83	9	
Rosario	1	1	100	0.20	0.20	1.00	0.32	24	
San Antonio	36	36	100	0.80	0.60	1.00	0.76	12	
San Isidro	25	32	68	0.60	0.60	0.80	0.63	19	
San Jose	38	40	100	0.80	0.60	1.00	0.76	12	
San Roque	33	39	100	0.80	0.60	1.00	0.76	12	
San Vicente	40	40	100	0.80	0.60	1.00	0.76	12	
Silvino Lobos	55	66	100	1.00	1.00	1.00	1.00	1	
Victoria	23	23	100	0.60	0.40	1.00	0.59	20	
Provincial Total	35	41	97						

Note: 1. Scoring to Underserved and Unserved Percentage.

2. Weight Allocation to Score.

Score	Range of Underserved and Unserved Percentage				50	35	15	Allocated Weight
1.0	41	< %	61	< %	81	< %		
0.8	31	< %	40	< %	60	< %	30	
0.6	21	< %	30	< %	45	< %	60	
0.4	11	< %	20	< %	30	< %	40	
0.2	%	<	10	%	15	%	20	

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

Unit: 1,000 pesos

Ranking	Name of Municipality	Fund Distribution		IRA to Municipalities from National Government (2)	Available Fund Distributed to Municipalities (1) + (2)	Phase I Requirements	Accomplishment Percentage (%)
		Fund Distribution From Provincial Government (1)	Distribution Percentage (%)				
4	Allen	1,046	7.50	1,711	2,757	8,033	34.32
12	Biri	797	5.71	886	1,682	2,001	84.07
18	Bobon	797	5.71	1,157	1,953	4,762	41.02
23	Capul						
20	Catarman (Capital)						
4	Catubig	1,046	7.50	757	1,803	3,699	48.74
4	Gamay	1,046	7.50	461	1,507	2,215	68.03
20	Laoang						
9	Lapinig	797	5.71	791	1,588	3,300	48.12
1	Las Navas	1,046	7.50	1,232	2,277	6,615	34.42
12	Lavezares						
1	Lope De Vega	1,046	7.50	842	1,887	2,355	80.15
4	Mapanas	1,046	7.50	687	1,732	2,149	80.61
9	Mondragon	797	5.71	3,049	3,845	5,139	74.83
4	Palapag	1,046	7.50	996	2,042	5,331	38.30
9	Pambujan	797	5.71	1,722	2,519	9,067	27.78
24	Rosario						
12	San Antonio			642	642	642	100
19	San Isidro						
12	San Jose	797	5.71	675	1,472	2,451	60.04
12	San Roque	797	5.71	1,488	2,285	7,118	32.10
12	San Vicente			1,240	1,240	1,240	100
1	Silvino Lobos	1,046	7.50	907	1,952	2,673	73.01
20	Victoria						
Total		13,942	100	19,244	33,185	68,790	48.24

Table 11.4.3 Municipal Investment Need Ranking

Name of Municipality	Weighted Score by Sub-sector					Synthetic Municipal Investment Need Ranking
	Urban Water Supply	Rural Water Supply	Urban Sanitation	Rural Sanitation	Total Weighted Score	
Allen	0.23	0.15	0.25	0.15	0.78	8
Biri	0.19	0.15	0.25	0.25	0.84	3
Bobon	0.17	0.10	0.25	0.15	0.67	16
Capul	0.12	0.10	0.25	0.20	0.67	17
Catarman (Capital)	0.15	0.15	0.20	0.10	0.60	19
Catubig	0.23	0.20	0.25	0.05	0.73	13
Gamay	0.23	0.15	0.25	0.20	0.83	4
Laoang	0.15	0.05	0.15	0.05	0.40	23
Lapinig	0.21	0.10	0.25	0.25	0.81	6
Las Navas	0.25	0.25	0.25	0.10	0.85	2
Lavezares	0.19	0.25	0.10	0.05	0.59	20
Lope De Vega	0.25	0.25	0.25	0.20	0.95	1
Mapanas	0.23	0.15	0.25	0.20	0.83	4
Mondragon	0.21	0.05	0.25	0.20	0.71	14
Palapag	0.23	0.15	0.15	0.25	0.78	8
Pambujan	0.21	0.10	0.25	0.20	0.76	10
Rosario	0.08	0.05	0.20	0.15	0.48	23
San Antonio	0.19	0.05	0.20	0.10	0.54	21
San Isidro	0.16	0.05	0.25	0.20	0.66	18
San Jose	0.19	0.15	0.20	0.15	0.69	15
San Roque	0.19	0.10	0.15	0.05	0.49	22
San Vicente	0.19	0.05	0.25	0.25	0.74	12
Silvino Lobos	0.25	0.25	0.05	0.25	0.80	7
Victoria	0.15	0.10	0.25	0.25	0.75	11

11.5 National Government Assisted Level I Water Supply and Sanitation Project

Of the overall project requirements for the medium-term development, those for Level I water supply and sanitation improvement with possible assistance from the GOP were studied in application of new cost-sharing arrangement. In 1997, the six provinces in the Luzon area (after completion of PW4SP) jointly submitted the project proposal, as a package of 23rd OECF assisted loan, to the NEDA through the DILG for the limited sub-sectors under the above conditions. The loan agreement between the two parties was made on September, 1999.

In the same context as proposed by the six provinces, project components with scope of work and financial viability were studied. The project is a part of medium-term development plan for Level I water supply and sanitation for limited classes of the municipality. The DILG is assumed to be Executing Agency and the province Implementing Agency in the meantime. The project may be merged together with those of the 4th batch provinces in preparation of the PW4SP. The implementation of a packaged project may be realized in the near future.

11.5.1 Project Components

(i) Water Supply and Sanitation Component

There are fifteen (15) eligible municipalities in terms of 5th and 6th municipalities for GOP-assisted Level I rural water supply in the province. The Level I facilities for the municipalities consist of 123 deep wells, 7 shallow wells and 42 spring development.

While all municipalities (24) in the province meet the condition for GOP-assisted projects (limited to 3rd to 6th municipalities) in sanitation sub-sector. The sanitation component comprises 6 public toilets and 125 school toilets to the rural communities. Distribution of toilet bowl (pour flush type only) is one of the components of sanitation sub-sector, however, it shall be excluded from GOP-assisted projects due to the current practice of NEDA. With the integration of sanitation in the water supply projects, equal emphasis shall be given to sanitation component to ensure a greater health impact in the rural communities. School toilet will be constructed for public school in the rural areas (50%: toilet facility/classroom and 50% standard toilet building), while public toilets will be constructed at public markets and bus terminals in urban areas. Health consciousness among the rural people will also be bolstered with the provision of health education training and IEC materials.

(2) Equipment/Commodity Assistance

Due to budgetary constraint and cost-sharing arrangement required (heavy burden to the LGUs), the provision of drilling machine and its service truck is excluded in the medium-term plan (to be considered for long-term plan). While each one unit of service vehicle and well rehabilitation equipment is considered. In addition, maintenance tool and water quality testing kits are to be procured and one unit will be provided to each municipality to maintain the facilities.

(3) Consultancy Services

Considering the magnitude and complexity of the project, consulting services and technical assistance may be availed to strengthen the executing and implementing agencies' capabilities in undertaking the project. The services will cover technical and institutional/community development aspects of the project.

During the detailed design stage, the services will cover hydrogeological survey, finalization of well/spring construction sites based on site selection criteria to be developed, and preparation of bidding documents. Guidelines and training program for strengthening the capability of implementing agencies and NGOs will be prepared and carried out. The construction stage will include assistance to LGUs in the supervision of construction works, community organizing and training works.

(4) Institutional Development

The project entails community development with people's active participation to assure the responsibility for O&M of the facilities and strengthening of existing institution/organization and/or formation of new ones. Thus, various activities will be undertaken from national to beneficiary levels. A sufficient cost for the purpose will be taken into account.

11.5.2 Project Requirements

The province will manifest its willingness to participate in the project entailing timely arrangements to meet NEDA requirements. These requirements are (1) RDC Endorsement, (2) ECC clearance and (3) Letter of Commitment. Water right permit from the National Water Resources Board will be fulfilled after site selection and preparatory works have been undertaken. In addition, Memorandum of Agreement (MOA) on the cost-sharing and other arrangements required for the project will be exchanged between the province and concerned municipalities.

11.5.3 Funding Requirements

(1) New Cost Sharing Policy

The project finance was studied in accordance with the 50%-50% cost sharing arrangement (50% is an average municipality's share among concerned municipalities) between the GOP and the LGUs. Financial sharing among the province, municipality and barangay shall then be clarified based on the estimated cost requirements through MOA.

The new policy of the national government grants for devolved activities stated that "this scheme shall be applied to all new ODA-assisted projects that are currently being packaged in support of LGUs". With regard to this, 50% national government share will be applied for Level I water supply and even 70% of NG share for 5th and 6th classes of municipalities for sanitation component (refer to Table 11.5.1).

Table 11.5.1 New Cost-Sharing Arrangement between NG and LGUs

Sector/Activity	LGU Income	Devised NG	Remarks
Water Supply: Level I only	1 st to 4 th	0	No GOP grants for Level II & III water
	5 th to 6 th	50	
Sanitary Support Faci. for Public Markets and Slaughterhouses	1 st to 2 nd	0	
	3 rd and 4 th	50	
	5 th and 6 th	70	

(2) Financial Viability

1) Conditions and Assumptions for Financial Study

- The cost-sharing between the GOP and LGUs is 50% : 50% of the overall project cost. While, it is assumed that the 50% share of LGU is further allocated to the LGUs and beneficiaries with 47% and 3% to the overall cost, respectively.
- The financial sources of the national government are the loan from foreign donor and GOP counterpart budget, and LGUs from the budget of the province and municipalities. The cost-sharing part by beneficiaries is equity contribution including land, material purchase cost, right of way, labor, etc.
- The O&M cost is managed by the beneficiaries.

2) Project Cost

The cost estimate was made based on 1998 price level in Chapter 10. Then, physical and price contingencies as well as value-added tax were added. The project cost for

the concerned municipalities in line with above conditions/assumptions is shown in Table 11.5.2. Overall aggregate cost for the implementation period of 2000 - 2004 arrived at is about ₱194.1 million (₱143.9 million in 1998 price level) referring to the implementation schedule of the project.

3) Financial Arrangement

The two alternatives for the financial arrangements are studied to prepare required cost to be shared among concerned parties: i) Utilization of IRA only and ii) Utilization of IRA and MDF.

Case I: Utilization of IRA fund only

Currently, there is no projection on drastic increase of LGUs' budget through the future. Under such a condition, the following are considered.

- Potential fund is the IRA annually allotted from the GOP to municipalities and from province to municipalities. Municipal tax is negligible small in the allocation to the sector. The total municipal budget available was projected by sub-sector in Section 11.3.
- Arrangements by the municipalities with MDF and banks are disregarded considering current financial capability of the municipalities.
- 5-year development program (from 2000 to 2004) is applied to increase project fund using available IRA

Applying the cost-sharing arrangement, the IRA available was estimated for the eligible municipalities in provision of national government grant fund based on the following conditions.

- a) The available fund of sub-sectors is a sum of municipal and provincial allotments of IRA
- b) For water supply sub-sector, IRA to municipalities with income classification of 5th and 6th classes is counted. The IRA allotted to the province is divided into two groups; classes 1st to 4th and 5th & 6th in proportion to the construction cost required. The provincial IRA for the eligible municipalities is considered for this project.
- c) For sanitation sub-sector, IRA to the eligible municipalities is regarded as available fund. The manner of allocation of provincial IRA to the eligible municipalities is same as that in water supply sub-sector.

Table 11.5.2 GOP-Assisted Level I Water Supply and Sanitation Project Cost

(Unit: Peso)

Category	Qty.	Unit Cost	Amount	GOP		LGU
				Foreign Loan	GOP/CP	
A. Const. & Civil Works						
Water Supply						
1. Deep Well (40m)	0	370,235	0			
2. Deep Well (80m)	48	546,285	26,221,680			
3. Deep Well (120m)	27	722,300	19,502,100			
4. Shallow Well	11	82,400	906,400			
5. Spring Development	32	747,000	23,904,000			
Sub-total a			70,534,180	28,631,867		41,902,313
Sanitation						
1. School Toilets	118	233,500	27,553,000			
2. Public Toilets	6	368,400	2,210,400			
Sub-total b			29,763,400	12,081,826		17,681,574
Land acquisition						
Land acquisition & Right of Way			750,000			750,000
Sub-total A			101,047,580	40,713,693		60,333,887
B. Equip./Logistic Support						
1. Support Vehicle	1	590,000	590,000	590,000		
2. Well Rehab. Eq.	1	280,000	280,000	280,000		
3. Maintenance Tools	15	10,000	150,000	150,000		
4. Water Quality Test Kits	15	15,300	229,500	229,500		
Sub-total B			1,249,500	1,249,500		
C. Consultancy Services						
1. Hydrogeological Survey			1,148,000	1,148,000		
2. D/D and Const. Sv.			11,115,234	11,115,234		
Sub-total C			12,263,234	12,263,234		
D. Institutional Devt.						
1. Capacity Enhanc. Prog.	L.S.		3,200,000	2,650,000	550,000	
2. Commu. Manag. Prog.	118	10,770	1,270,860	427,009	843,851	
3. Health & Hygiene Educ.	118	1,800	212,400		212,400	
4. Water Quality Surveil.	118	700	82,600		82,600	
5. NGO Assistance	118	1,200	141,600		141,600	
6. Administrative Support	L.S.		1,200,000		1,200,000	
Sub-total D			6,107,460	3,077,009	3,030,451	
E. Physical Contingency						
			12,066,777	5,730,344	303,045	6,033,389
Total (A+B+C+D+E)			132,734,551	63,033,779	3,333,496	66,367,276
GOP Total					66,367,276	
LGUs						62,385,239
Equity						3,982,037
LGUs + Equity						66,367,276
F. Others						
1. Price Contingency			40,765,629	21,072,246	941,852	18,751,531
2. Value Added Tax (VAT)			5,422,643		5,422,643	
Sub-total F			46,188,272	21,072,246	6,364,495	18,751,531
Grand Total			178,922,823	84,106,025	9,697,991	85,118,807

Note: (1) Equity of users includes land cost, right of way, labor, etc., equivalent to 3% of direct cost (excluding item F).

(2) N.A.: Not applicable

(3) Assumption/Conditions for Cost estimate

1) Direct cost: based on 1998 price level.

2) Physical contingency: 10% of materials procured.

3) Price contingency: Forex 3%; local 7%; compounded annually, base year 1998

4) Value added tax; 10% materials produced.

The total IRA of the province available for the eligible municipalities in the subject sector was estimated at P77,981,000 as a total of 5-year development program, consisting of water supply; P48,398,000 and sanitation, P29,583,000 (details are included in Table 11.5.1, 11.5.2 and 11.5.3, Supporting Report). The estimated IRA available is shown below.

<u>Sub-sector</u>	<u>Provincial IRA</u>	<u>Municipal IRA</u>	<u>Total</u>
Rural Water Supply:	21,959,000	26,439,000	48,398,000
Rural Sanitation:	6,714,000	15,734,000	22,449,000
Urban Sanitation:	2,725,000	4,409,000	7,134,000
Total:	31,398,000	46,583,000	77,981,000

Table 11.5.3 shows the cost sharing for the project among the GOP, LGUs and beneficiaries (BWSAs).

Table 11.5.3 Cost-Sharing for the Project (Case 1): 1998 price level

Financial Source	x 1,000 Peso	Percentage		Remarks
GOP	3,333	2.5	50	GOP counterpart
	63,0343	47.5		Foreign Loan
LGUs	62,385	47	50	IRA
	3,982	3		BWSA equity
Total	132,734	100		

The GOP shall shoulder 50% of the overall project cost, utilizing the foreign assisted loan of 47.5% or P63.0 million and 2.5% or P3.3 million of the government counterpart fund. The remaining 50% of the overall cost shall be shared between the LGUs by 47% or P62.4 million and BWSAs (beneficiaries) by 3% or P4.0 million.

The cost comparison was made between the estimated project cost to be shared by the LGUs and available IRA of LGUs. When considering price contingency, the IRA to be used by LGUs will increase to P80.0 million from P62.4 million (1998 price level). Finally, it was identified that there was a shortage of about P2.0 million, achieving 97% of the proposed requirements in comparison between available IRA (P78.0 million) and the cost to be shared by LGUs.

As an option to solve this financial shortage, the provincial government may utilize sector IRA allotted (concerned municipalities and province) to urban water supply or other sub-sector without limiting to the available IRA for rural water supply sub-

sector, as the possible financial source, to supplement municipal IRA allotted to the eligible municipality.

Case 2 Utilization of IRA and MDF

The utilization of the MDF is considered in case that the LGUs will fail to furnish IRA for the cost to be shared (even if estimated IRA available meets the required cost to be shared by the LGUs). The foreign loan may be availed of at the maximum financing limit of 75% of the overall project cost.

Thus, the GOP shall possibly support the LGUs through the MDF in case that manageable IRA will not be able to fill up the cost requirement of the project. Table 11.5.4 shows cost sharing scheme for the project between the GOP and the LGUs.

Table 11.5.4 Cost Sharing for the Project (Case 2): 1998 price level

Financial Source	x 1,000 Peso	Percentage			Remarks
GOP	3,333	2.5	2.5	50	GOP counterpart
	63,034	47.5	75		Foreign Loan
	(36,517)	(27.5)			Foreign Loan for MDF
LGUs	25,868	19.5	47	50	IRA
	36,517	27.5			MDF through Foreign Loan
	3,982	3			BWSA Equity
Total	132,734	100			

GOP shall possibly finance up to P99.6 million or 75% of the total project cost in the portion of the loan. Out of GOP finance through the loan, P63.0 million or 47.5% of the total project cost shall be granted to the LGUs, aside from 2.5% GOP counterpart fund.

The remaining P36.5 million or 27.5% of the total project cost shall be utilized for financing the LGUs to secure their budgetary capacity through MDF.

Under this case, the IRA to be used by the LGU will increase to P29.9 million from P25.9 million (1998 price level), considering price contingency, which is about 40% of available IRA estimated in the previous study (P78.0 million).

4) Project Implementation Schedule

The proposed implementation of the project is scheduled for five years after hiring the consultants. Figure 11.5.1 presents the proposed schedule.

Figure 11.5.1 Proposed Project Implementation Schedule

Activities	2000				2001				2002				2003				2004								
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th					
Project Implementation																									
1. Detailed Design	█																								
2. Community Development/ BWSA Formation		█																							
3. PQ, Bidding and Contractor Selection			█																						
4. Procurement and Delivery of Materials and Equipment						█																			
5. Construction of Water Supply and Sanitation Facilities (Construction supervisory services)									█																
Project Monitoring										█															

11.6 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, cost sharing between the LGUs and beneficiaries is required for the capital costs, even the portion of the beneficiaries is limited according to the current national policy. Currently, the percentage shared by the beneficiaries seems to be 3 to 5% of total requirements based on the experience.

Beneficiaries are also responsible for all recurrent costs. Monthly recurrent cost is estimated at about 8 Pesos per household in the base year price level (refer to recurrent cost in Chapter 10). The figure will be increased up to about 12 Pesos per household in the year 2004, assuming an annual inflation rate of 7%. This monthly fee seems to be affordable to the users considering the current income level (refer to affordability in Chapter 6), but willingness to pay shall be promoted.

Depending on the users' income level, water charges shall be determined and agreed upon among the water users. The estimated water charge for O&M cost is P8 per household per month, which is less than 1% of the median monthly household income of P3,241 in 1998. However, the users will have to pay water charge of up to 2% of their monthly income or P65 /household/month to manage not only for repair of hand-pump, but also rehabilitation and reconstruction of deep well, assuming that well life is 20 years.

(2) Level II water supply systems

Full cost recovery is required for all capital costs for Level II systems. Based on a standard design of Level II system under PW4SP, population to be served is 600 people. The average capital cost to be paid is estimated at P11,565 per household (refer to Chapter 10). Applying the capital recovery factor to the capital costs with conditions of 7% interest rate and 20 years repayment period, monthly payment amounts to P91 per household.

The annual recurrent cost per household is estimated to be P180 (P15/household/month) in the base year (refer to Chapter 10). It will reach to P22.50 in the year 2004 at an annual inflation rate of 7%. Thus, the total amount of repayment and recurrent cost in the year 2004 is P114, which is 2.3% of the family income as shown below.

(a) Estimated water rate (flat rate; Pesos)	:	114.00
(b) Percentage of (a) to monthly median household income in 2004	:	2.3%

Notes:

- 1) Provincial average monthly median income in 2004 (P4,864 per household) is derived from 1994 Family Income and Expenditure Survey considering annual inflation rate of 7%. The monthly median income in 1997 is P3,241.

(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; 15m³ per household) and projected income in year 2004. Total capital cost of Level III water supply system is P46.58 million for 1,705 households to be served. Assuming an annual inflation rate of 7% and 20 years repayment period, the annual capital cost to be paid is P2,579 per household. The monthly capital cost to be paid by each household is P215.

The monthly recurrent cost per household is estimated to be ₱35 (₱417/ year; refer to recurrent cost in Chapter 10 where operating cost is ₱0.578 million in base year for 98,793 households). Using an annual inflation rate of 7%, this recurrent cost is projected to be ₱52 per household in the year 2004.

The combined amount of capital repayment and recurrent cost in the year 2004 is ₱267/ household/month. The cost shall be recovered as a monthly water charge to be paid by users. The percentage of the water rate against income with more or less 5% is commonly affordable. In this regard, monthly water rate seems to be affordable.

(a) Estimated water rate for 15 m ³ (Pesos) ¹⁾	:	267
(b) Estimated minimum water rate (1-10 m ³) (Pesos) ²⁾	:	230
(c) Percentage of (a) to monthly median household income in 2004	:	5.5%

Notes:

- 1) Water rate for the III with monthly consumption rate of 10m³ is estimated under the same assumption of a).
- 2) Monthly median household income is ₱4,864 in the year of 2004.

(4) Sanitation

The provision of sanitary toilet facilities for public markets and schools is under LGUs in coordination with parent-teacher association. However, recurrent cost for the public markets shall be collected from the users including stakeholders of the market.

Household toilet shall be managed by individual household. However, the facility is costly with reference to the current income level, especially in the rural area (flush-type toilet; ₱23,000 and pour-flush toilet; ₱14,800). Governmental support is also limited to the provision of toilet bowl for pour-flush toilets as an incentive to increase the distribution of water-sealed toilets. Thus, cost recovery in application of loan shall be considered.

Applying the capital recovery factor to the construction cost with assumptions of 7% interest rate and 5 years repayment period, monthly repayment amounts to ₱467 for a flush type and ₱301 for a pour-flush type, respectively (details of unit cost are referred to in Chapter 10, Supporting Report). The percentages of repayment to household income in the year 2004 are calculated in the same manner as the study for Level III water systems and are shown below.

(a) Repayment for Flush Type (Pesos)	:	468
(b) Repayment for Pour Flush Type (Pesos)	:	301
(c) Percentage of (a) to monthly median household income in 2004 ¹⁾	:	9.6%

Notes:

1) Monthly median household income is P4,864 in the year of 2004.

To expedite the sanitation sector improvement, introduction of specific loans that are revolving in character with low interest rates 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.