

JAPAN INTERNATIONAL COOPERATION AGENCY  
DEPARTMENT OF THE INTERIOR AND LOCAL GOVERNMENT  
THE REPUBLIC OF THE PHILIPPINES

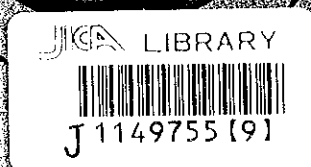
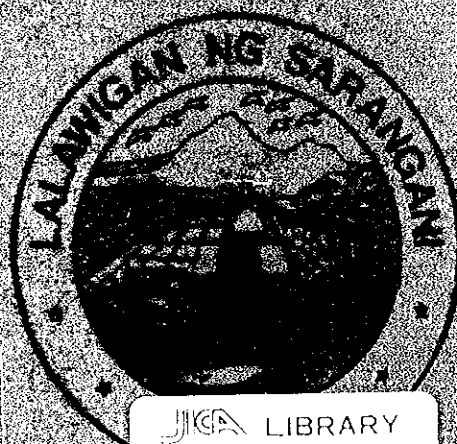
THE STUDY ON THE  
PROVINCIAL WATER SUPPLY, SEWERAGE AND  
SANITATION SECTOR PLAN  
IN  
THE REPUBLIC OF THE PHILIPPINES

VOLUME I - [4]

MAIN REPORT

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

SARANGANI

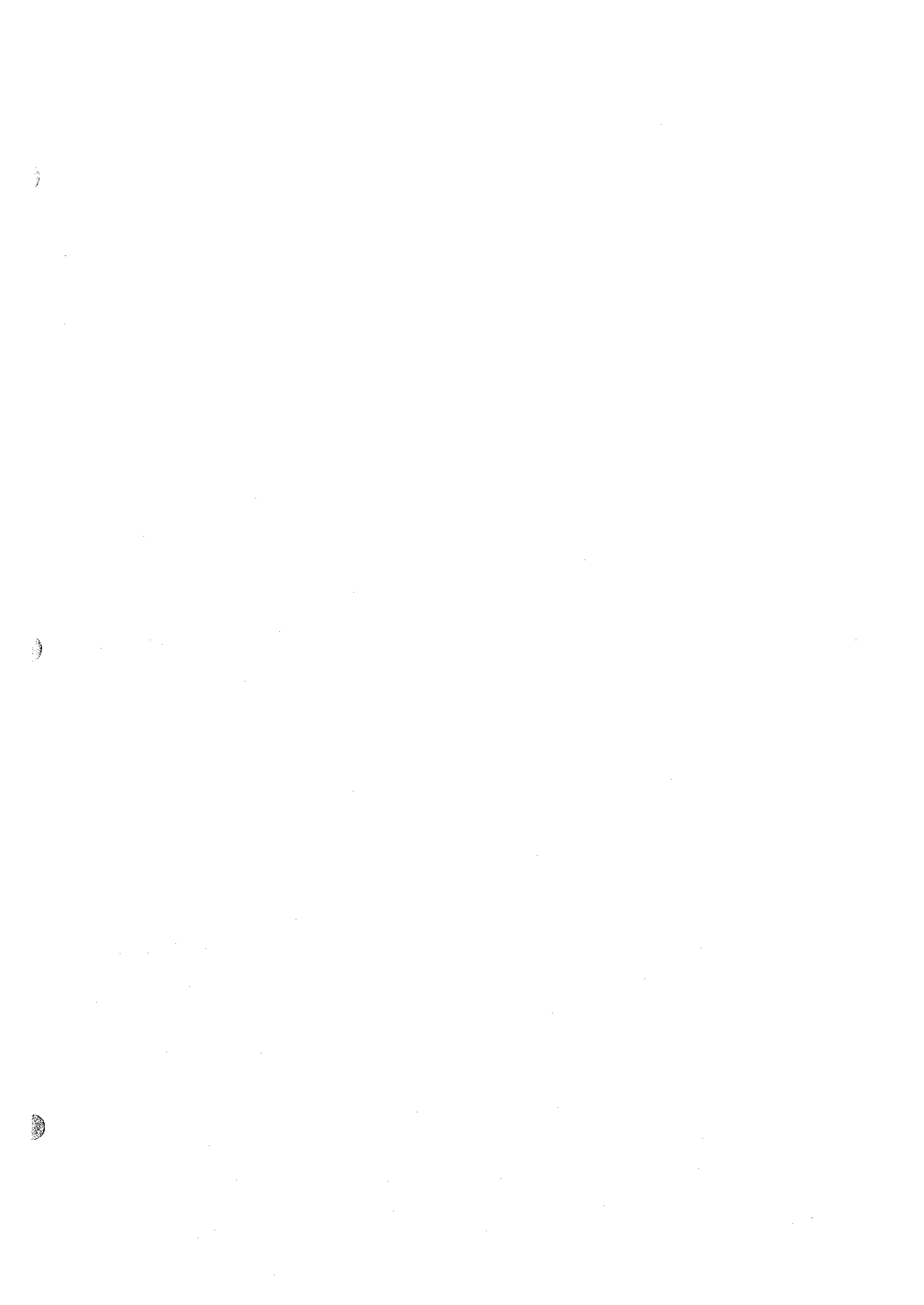


MARCH 1999

NIHON JOGESUDO SEKKEI CO., LTD.

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**NIPPON JOGESUIDO SEKKEI CO., LTD.**



1149755 [9]





Republic of the Philippines  
**OFFICE OF THE GOVERNOR**  
Alabel, Sarangani Province



**MESSAGE**

This study sets the definitive direction for Sarangani's water supply, sewerage and sanitation security. Though it does not attempt to provide the cure-all to the water problem the Provincial Water Supply, Sewerage and Sanitation Sector Plan (PW4SP) serves as the blueprint for future water-related development activities.

We should plan and focus on what direction to take considering that water is essential to life.

Water is humanity's most precious natural resources. But it can also be the most destructive cause of ruin, disease and death. The specter of water-borne damage is real.

Flashfloods had occurred in the province. Water-borne diseases had afflicted some of our constituents, sometimes even as far as death.

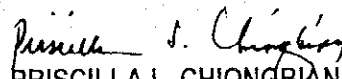
Meanwhile, we must protect the watersheds – the natural state of which cannot be fully restored. In addition, we must avoid the contamination of our water systems from industrial waste, sewage, and chemical and agricultural waste.

In the midst of fast-changing and unpredictable global weather disturbances involving water or lack of it, there is more need for us – water-users – to think critically, judiciously and creatively about its management. Each constituent should accountably and equitably share for its use.

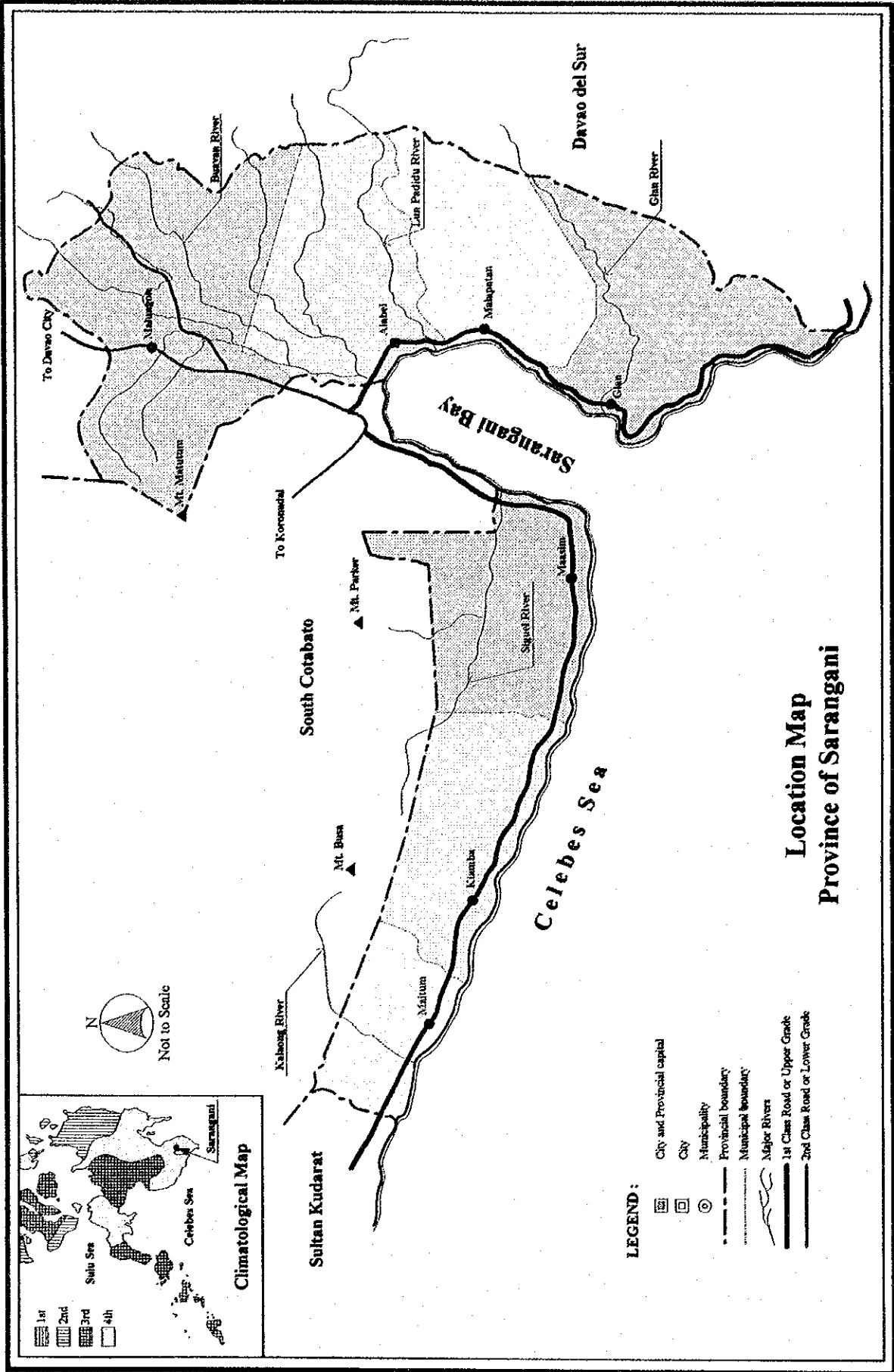
The Provincial Sector Planning Team (PSPT), assisted principally by the Department of the Interior and Local Government (DILG), partner agencies and the Japanese Government through Japan International Cooperation Agency (JICA), prepared this document for the people of Sarangani.

As the people's instrument to attain water security, the provincial government will pursue the PW4SP's objectives: to provide safe and adequate water supply and sanitation; proper operation and maintenance of facilities for sustainable water supply; and to undertake the installation of sewerage facilities.

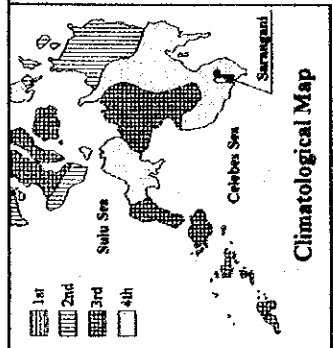
These are everybody's concern. I therefore encourage all stakeholders to work towards the realization of this plan in order to secure for ourselves and our children the continuous enjoyment of our remaining water resources.

  
PRISCILLA L. CHIONGBIAN  
Governor 1/14

*"A Public Office is A Public Trust"*



**Location Map  
Province of Sarangani**



- LEGEND:**
- City and Provincial capital
  - City
  - Municipality
  - Provincial boundary
  - Municipal boundary
  - Major Rivers
  - 1st Class Road or Upper Grade
  - 2nd Class Road or Lower Grade



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

**VOLUME I MAIN REPORT**

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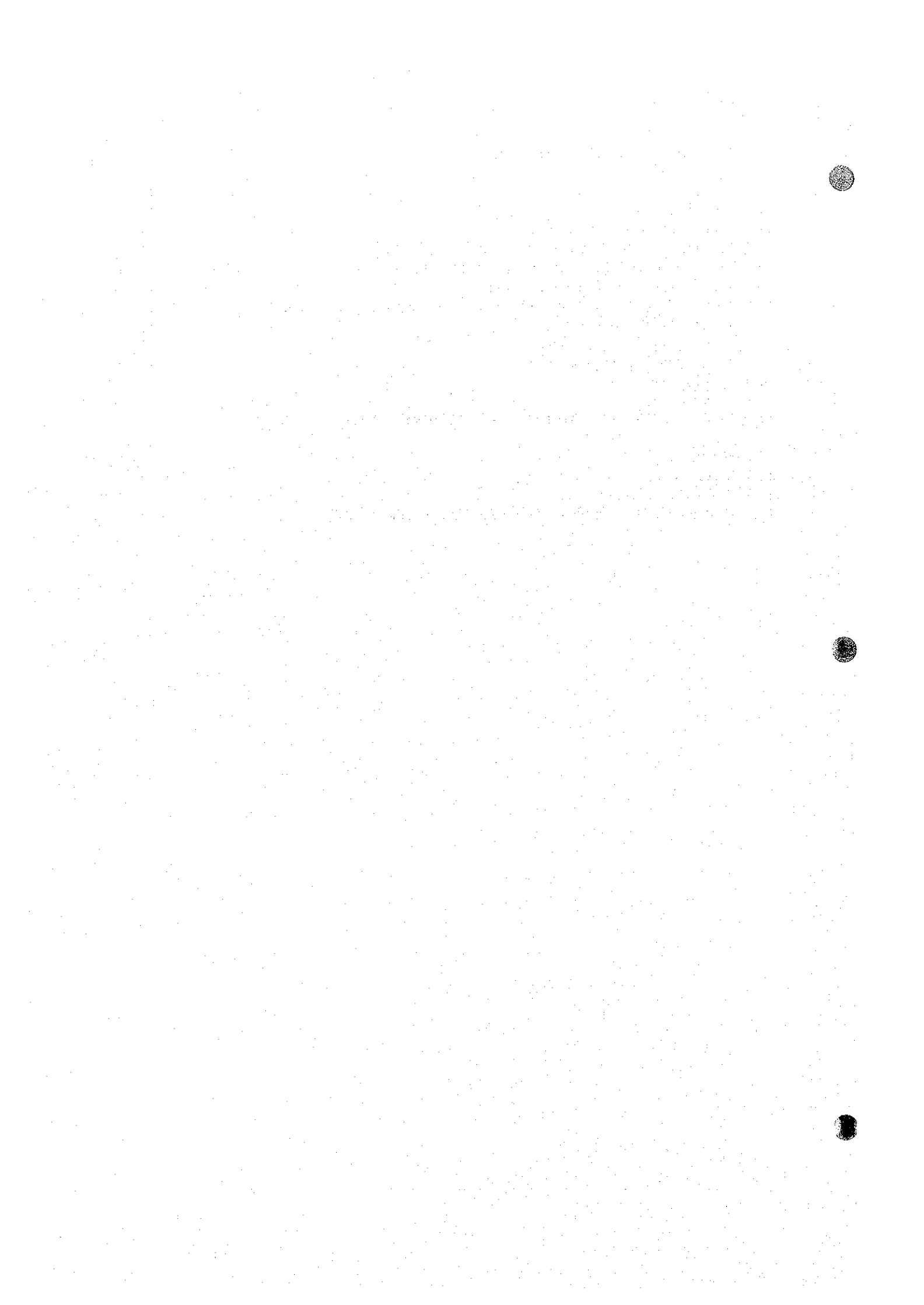
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**PROVINCIAL WATER SUPPLY, SEWERAGE AND  
SANITATION SECTOR PLAN**

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# PROVINCIAL WATER SUPPLY, SEWERAGE AND SANITATION SECTOR PLAN

## LIST OF ABBREVIATIONS

---

AC-PO	-	Area Coordinator-Project Officer
ADB	-	Asian Development Bank
AIDAB	-	Australian International Development Assistance Bureau
AIM	-	Asian Institute of Management
AIP	-	Annual Investment Plans
BC	-	Barangay Council
BDC	-	Barangay Development Council
BLGF	-	Bureau of Local Government Finance
BMGS	-	Bureau of Mines and Geo-Sciences (defunct), the now Mines and Geo-Sciences Bureau
BOD	-	Biochemical Oxygen Demand
BOD/Officers	-	Board of Director/Officers
BWP	-	Barangay Water Program
BWSA	-	Barangay Waterworks and Sanitation Association
CBO	-	Community-Based Organizations
CD	-	Community Development
CDA	-	Cooperative Development Authority
CDF	-	Countryside Development Fund
CDTS	-	Community Development and Training Specialist
CEP	-	Capacity Enhancement Program
CIDA	-	Canadian International Development Agency
CLGOO	-	City Local Government Operations Officer
CO-CD	-	Community Organization-Community Development
CPC	-	Country Program for Children
CPH	-	Census on Population and Housing
CPSO	-	Central Project Support Office
CSC	-	Civil Service Commission
D/D	-	Detailed Design
DA	-	Department of Agriculture
DAP	-	Development Academy of the Philippines
DBM	-	Department of Budget and Management
DECS	-	Department of Education, Culture and Sports
DENR	-	Department of Environment and Natural Resources
DEO	-	District Engineering Office
DF	-	Development Fund
DILG	-	Department of the Interior and Local Government
DOF	-	Department of Finance
DOH	-	Department of Health
DPWH	-	Department of Public Works and Highways
DSWD	-	Department of Social Welfare and Development
DTI	-	Department of Trade and Industry
EVS	-	Environmental Sanitation
F/S	-	Feasibility Study
FHSIS	-	Field Health Service Information System
FW4SP	-	First Water Supply, Sewerage and Sanitation Sector Project
GAD	-	Gender and Development
GFI	-	Government Financial Institution
GO	-	Government Office
GOP	-	Government of the Philippines

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## List of Abbreviations

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GOJ	-	Government of Japan
HH	-	Household
IBRD	-	International Bank for Reconstruction and Development
IEC	-	Information, Education and Communication
IRA	-	Internal Revenue Allotment
IRR	-	Implementing Rules and Regulations
ITN	-	International Training Network
JICA	-	Japan International Cooperation Agency
LBP	-	Land Bank of the Philippines
LGC	-	Local Government Code
LGU	-	Local Government Unit
LWUA	-	Local Water Utilities Administration
MDC	-	Municipal Development Council
MDF	-	Municipal Development Fund
MEO	-	Municipal Engineer's Office
MHO	-	Municipal Health Office
MLGOO	-	Municipal Local Government Operations Officer
MOA	-	Memorandum of Agreement
MOOE	-	Maintenance Operating and Overhead Expenses
M/P	-	Master Plan
MPDO	-	Municipal Planning and Development Office
MS	-	Monitoring Specialist
MSL	-	Municipal Sector Liaison
MSLT	-	Municipal Sector Liaison Team
MTPDP	-	Medium-Term Philippine Development Plan
MWSS	-	Metropolitan Waterworks and Sewerage System
MWSTF	-	Municipal Water and Sanitation Task Force
NAMRIA	-	National Mapping and Resource Information Authority
NCRFW	-	National Commission on the Role of Filipino Women
NDCC	-	National Disaster Coordinating Council
NEDA	-	National Economic and Development Authority
NGOs	-	Non-Governmental Organizations
NIA	-	National Irrigation Administration
NMP	-	National Master Plan
NMYC	-	National Manpower Youth Council
NSDW	-	National Standard for Drinking Water
NSO	-	National Statistics Office
NSMP	-	National Sector Master Plan
NWRB	-	National Water Resources Board
O&M	-	Operation and Maintenance
ODA	-	Overseas Development Assistance
OECF	-	Overseas Economic Cooperation Fund
PA	-	Provincial Administrator
PAIASO	-	Provincial Accounting and Internal Audit Service Office
PBO	-	Provincial Budget Office
PD	-	Presidential Decree
PDC	-	Provincial Development Council
PEO	-	Provincial Engineer's Office
PHO	-	Provincial Health Office
PIO	-	Public Information Office
PGSO	-	Provincial General Services Office
PLGOO	-	Provincial Local Government Operations Officer
PMC	-	Project Monitoring Committee
PMO	-	Project Management Office
PMU	-	Provincial Monitoring Unit

## List of Abbreviations

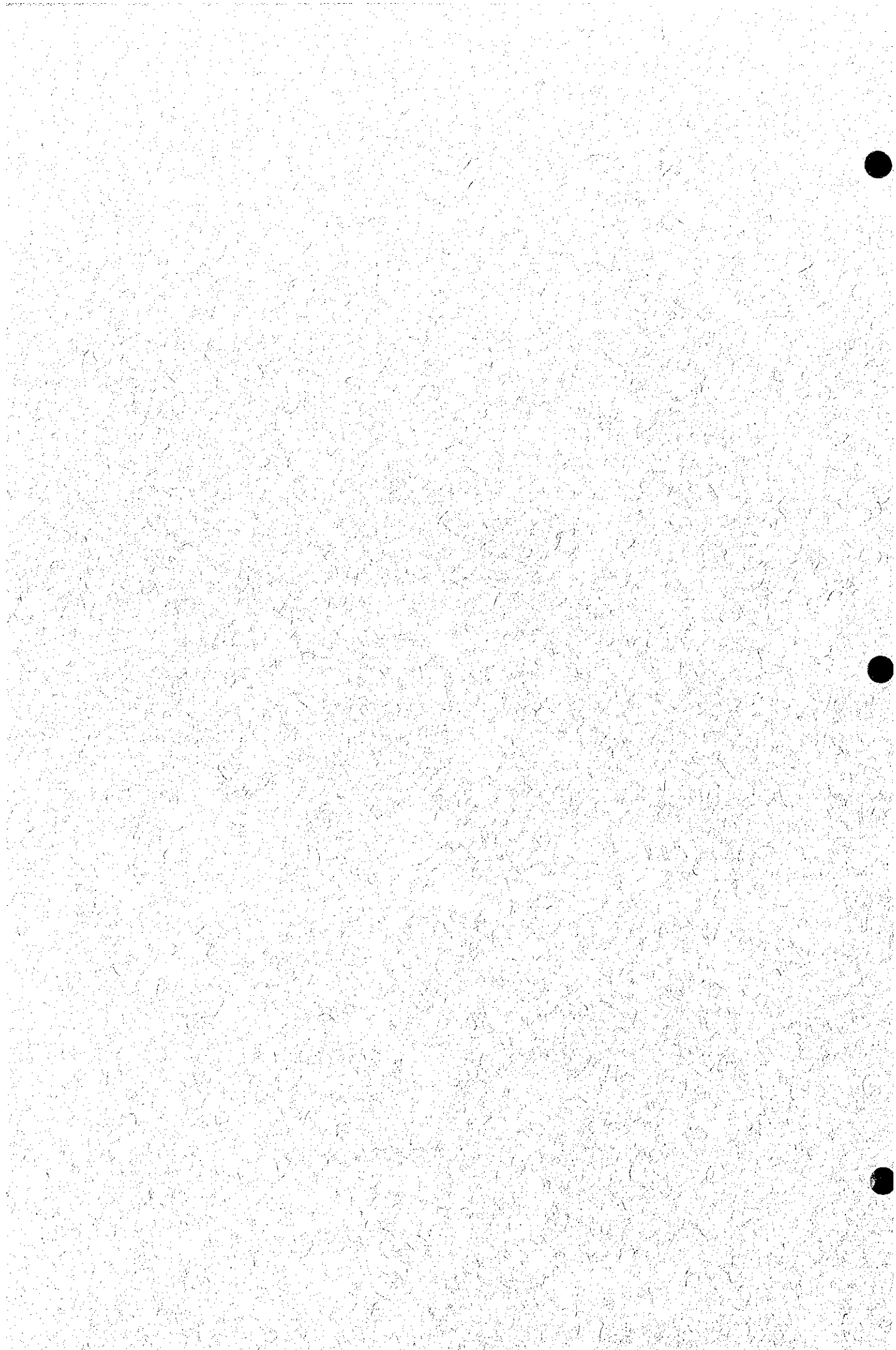
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POPCOM	-	Population Commission
PoW	-	Program of Work
PPAC	-	Philippine Plan of Action for Children
PPDC	-	Provincial Planning and Development Coordinator
PPDO	-	Provincial Planning and Development Office
PSPT	-	Provincial Sector Planning Team
PST	-	Provincial Sector Team
PTA	-	Parent Teacher Association
PTO	-	Provincial Treasury Office
PW4SP	-	Provincial Water Supply, Sewerage and Sanitation Sector Plan
PWSC	-	Provincial Water Supply and Sanitation Coordinator
PWSO	-	Provincial Water and Sanitation Office
RA	-	Republic Act
RDC	-	Regional Development Council
RDCC	-	Regional Disaster Coordinating Council
RHO	-	Regional Health Of
RHUs	-	Rural Health Units
RPMC	-	Regional Project Monitoring Committee
RSI	-	Rural Sanitary Inspector
RWSA	-	Rural Waterworks and Sanitation Association
SB	-	Sanggunian Bayan
SP	-	Sanggunian Panlalawigan
SSI	-	Supervicing Sanitary Inspector
SWL	-	Static Water Level
TESDA	-	Technical Education and Skills Development Authority
TCP	-	Teacher-Child-Parent
UNDP	-	United Nations Development Programme
UNICEF	-	United Nations International Children's Emergency Fund
VIP	-	Ventilated Improved Pit Latrine
WASAMS	-	Water and Sanitation Monitoring System
WATSAN	-	Water and Sanitation
WC	-	WATSAN Center
WD	-	Water District
WHO	-	World Health Organization
WID	-	Women in Development
WSSE	-	Water Supply and Sanitation Engineer
WSS-PMO	-	Water Supply and Sanitation-Project Management Office

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**EXECUTIVE SUMMARY**

**ES**





## EXECUTIVE SUMMARY

### 1. Introduction

#### Background and Objectives

The Provincial Water Supply, Sewerage and Sanitation Sector Plan (PW4SP) for the province of Sarangani was prepared by the Provincial Sector Planning Team with technical assistance from Japan International Cooperation Agency (JICA). The PW4SP will be the basis for execution of sector development from proceeds of sector loan by foreign donors, LGU's budget including internal revenue allotment from the National Government and private sector investments.

The PW4SP covers a Long-Term Development Plan (2004-2010) and a Medium-Term Investment Plan (1999-2003) to achieve the provincial targets of water supply, sewerage and sanitation sector. The plan includes arrangements and logistics for implementation and measures to strengthen operational frameworks and institutional capabilities that embody community development and gender responsiveness. As an initial step towards capability building, the Study was designed with the end view of strengthening the LGUs capability in sector plan preparation through conduct of series of workshop and hands-on training.

#### Planning Approach for Future Sector Development

The primary bases of the PW4SP are national sector policies and strategies, as well as major legislation and regulations relevant to the sector. The guidelines for setting the provincial sector targets are the three national level plans: the Philippine National Development Plan (1999-2024), the Water Supply, Sewerage and Sanitation Master Plan of the Philippines (1988-2000) and the Updated Medium Term Philippine Development Plan (1996-1998). The GOP recently approved the IRR providing detailed arrangements on the devolution of WATSAN responsibilities and resources. Parallel to this are the current sector policies and strategies, to wit: i) self-reliance and local community management of services; ii) an integrated approach to water, sanitation and hygiene education; iii) cost sharing arrangement; iv) cost recovery of capital and O&M; v) private sector participation; and vi) an integrated water resources strategy.

The PW4SP will help ensure that sector investments are optimized in consideration of fund and water source availability constraints as well as planning capacity. It is envisaged that the Plan

will be progressively updated as its implementation proceeds. Furthermore, future detailed studies and plans for project implementation shall be conducted in the context of the PW4SP.

A data management system was established as a tool to come up with the outputs commensurate to the objectives of the provincial plan and at the same time reflect the planning approach. It will provide a map of relative needs in the province allowing for adjustment and updating when further information becomes available. Different scenarios maybe worked out by planners using the program by changing key parameters based on planning assumptions and conditions.

#### Report Composition

Three (3) study reports were prepared as follows: i) Main Report (Volume I) which presents the results of the whole study consisting of 12 chapters; ii) Supporting Report (Volume II); and iii) Data Report (Volume III). Supporting materials including alternative studies and detailed calculations, and data/information constitute the last 2 reports.

## **2. Provincial Profile**

Sarangani is one of the 6 provinces in Region XI, the Southern Mindanao Region. The capital town of Alabel is about 16km from General Santos City, one of the region's growth centers. The province is composed of 7 municipalities with 140 barangays, of which 17 are urban and 123 rural. The province is classified as 4<sup>th</sup> class. At the municipal level, the municipalities are either 2<sup>nd</sup> or 3<sup>rd</sup> classes. The population of the province was 367,006 in 1995 with an annual growth rate of 5.33% between 1990 to 1995.

#### Physical Features

Climate in the province belongs to Type IV under the Coronas classification. It is characterized by a rainfall that is more or less distributed throughout the year. The province is considered as an area outside the typhoon belt. The 2 major geomorphic features of the province are the Cotabato Cordillera and the Central Mindanao Cordillera. The former is a mountain range of moderate relief extending from Cotabato City to Sarangani Bay, while the latter, is generally composed of young volcanic mountains, the most prominent is Mt. Matutum with an elevation of 2,286 meters.

The principal river systems commonly flow southward and empty into Sarangani Bay or Celebes Sea. These are Glan, Lun Padidu, Kalaong, Buayan and Siguel rivers. About 31% of the total land area of the province constitute forestland and another 31% are devoted to

agricultural use. Built-up area is a mere 1%. About 37% comprise grassland/openland/inland water areas. The existing land use pattern must be enhanced by rehabilitation of watersheds in order to pursue a sustainable growth of the province.

#### Socio-economic Aspects

Agriculture is the major economic activity in the province. The average annual family income in 1994 was ₱ 44,861 which, was well below the national average of ₱ 83,161. Moreover, about 60% of the total number of families lived within and below the established poverty threshold income of ₱ 41,579 in Region XI.

All municipalities have electric supply service, but with only 21% household coverage. Telecommunication service is also available in all municipalities. Inter-municipal transportation on land can be obtained by means of jeepneys and buses and on sea, by motorboats. There are only 7 banking institutions and 553 industrial/commercial establishments and 14 tourism-related facilities. With regard to social services, there are 179 schools, 6 hospitals, and 75 health units and barangay health stations.

Provincial population growth rates had been increasing for the last 6 censal years. The 1997 population was estimated to provide the planning base for this provincial plan. Considering the 1995 urban-rural classification of barangays, rural population accounts for 70%, while the remaining 30% are urban.

An indicator of health problem related to water supply and sanitation is the high incidence of water-related diseases. The reported cases in the province were typhoid/paratyphoid, intestinal parasitism, conjunctivities, viral hepatitis, diarrhea, cholera, filariasis, malaria, skin diseases, scabies and dengue fever.

Environmental problems related to wastewater discharge and unsanitary solid waste disposals are occurring in parts of the province. Major pollution sources in urban areas are domestic wastewater and dumped garbage. Only 11% of the total households in the province relied on the municipal refuse collection services. Unserved households primarily depend on individual disposal such as dumping in vacant lots or bodies of water, burying and composting.

### **3. Existing Facilities and Service Coverage**

The service coverage of each sub-sector is estimated as percentages of served population/households/utilities against the total number. In water supply, safe classification of Level I

facilities is introduced and further categorized into public or private. Aside from household toilets, school toilets and public toilets are included in the sanitation components in view of public hygiene improvement. Preliminary discussions on sewerage and solid waste management are also considered.

### Water Supply

The province has 7 Level III systems in 4 municipalities, namely; Alabel, Glan, Maasim and Malapatan. Majority of the systems utilizes deep well sources. Spring source is only utilized at one system, in Maasim. Common issues are low service coverage (6 to 23% even in urban area) and delays of system expansion. Collection efficiency of water charges is high in bigger systems, which is in contrast with smaller waterworks that experienced very poor collection performance due to weak management practice.

There are a total of 56 Level II systems in all municipalities and majority is utilizing spring sources (49 systems) except for the 6 systems in Malapatan and the system in Malungon. These systems are covering 4 urban and 52 rural barangays at present. Most of the systems utilizing deep well sources have experienced intermittent water supply (less than 8 hours a day) due to difficulty in collecting electric bills and insufficient capacity of facilities to meet the demand. Some of the waterworks using spring sources supply water free of charge. Regarding repair works, they request for assistance from the PEO, as the need arises. Such practice has negative implications on the financial savings to cope with future repair and depreciation. Furthermore, cost recovery is a prerequisite in sector management.

Level I facilities are common in rural barangays, majority of which are privately owned. Of the 6,728 operational Level I facilities, 62% are shallow wells. According to the PHO, as a provincial average, 30% of these shallow wells are estimated to be unsafe. All deep wells, covered/improved dug wells and developed springs are regarded as safe water sources. Applying the unsafe percentage to shallow wells for each municipality, 3,780 Level I facilities are safe sources, while 2,948 facilities are under unsafe sources. Percentage shares between public and private Level I facilities for rural water supplies are 16% and 84%, respectively. The share of developed springs in public facilities is 11%.

About 57% or 220,500 of the present population (386,200 comprising 30% in urban area and 70% in rural area) are adequately served. Under area classification, 70% of the urban population and 52% of the rural population have access to safe water sources/facilities. Of the served population, only 11% or 24,800 persons are served by Level III systems. About 89% or 195,700 persons depend on Level I facilities.

### Sanitation and Sewerage

The service coverage with sanitary toilets in the province is 49% or 36,550 of the total households, which is much lower than the national coverage of 60%. These toilets are mostly the pour-flush type. The flush type and the recently introduced VIP type are altogether a mere fraction of 0.25%. In municipalities that have high water service coverage (Alabel, Maitum), high sanitation coverage occurs and adversely, in low water supply coverage (Glan, Malungon), low sanitation coverage also occurs. Service coverage in urban area is 62%, while in rural area, the coverage is 44%. Although, high percentage of sanitary toilets is disclosed in urban areas, problems arise from the unsatisfactory disposal of the effluent from the septic tanks or the direct discharge of wastewater to the local drains. Sullage management is unheard of. In urban areas, there are no sewerage systems.

The province has a total of 988 toilets installed in 177 schools. Sanitary toilets adequately serve only 47% of the total number of students. The present average ratio of 85 students per sanitary toilet is far below the service level standard of 40 students per sanitary facility. Some of these facilities are not being used due to lack of water supply, destroyed plumbing fixtures and water tank seepage. There are 51 public utilities; public markets, bus/jeepney terminals, and parks or plazas. All these public utilities have sanitary toilets rendering 100% coverage. However, the manner of usage and maintenance are improper making the facilities unsanitary. At present, no specific arrangements are made for the operation and maintenance, as well as the collection of fees to cover such cost.

#### **4. Existing Sector Arrangements and Institutional Capacity**

##### Institutional Framework

The Local Government Code has essentially re-defined the roles, relationships, and linkages of central, provincial, municipal and barangay institutions in the provision of social basic services, including water and sanitation. The new direction mandates the LGUs to play a larger role in planning and implementing water supply and sanitation projects. However, this has raised serious institutional capacity and resource reallocation issues.

Drastic changes took place among the DPWH, DILG, DOH and LGUs after the government's decentralization and issuance of NEDA Board Resolution No.4 (1994). To ensure common interpretation of the Resolution, the Implementing Rules and Regulations (IRR) for the relevant sector was prepared. The role of implementing water supply projects, which DPWH used to undertake, has been transferred to the LGUs. The functions of the then IPHO under the DOH have also been devolved to the LGUs. It is now the DILG, which provides overall

coordination over the implementation of WATSAN projects of LGUs. The Water Supply and Sanitation-Project Management Office (WSS-PMO), a unit within DILG, is the main office responsible for water and sanitation activities.

At the provincial and municipal levels, there are central agency field offices (DPWH and DILG) and LGU offices working on the sector. Water districts, RWSAs, and BWSAs have been organized to deliver the services. Some LGUs implement and operate municipal or provincial water and sanitation systems. Project management offices (PMOs at the central level), ad hoc inter-agency committees, and task forces have been organized to address coordination issues.

The current major institutional issues are: (1) managing the transition process, and (2) re-establishing the leadership for the sector. Major resource realignments and capacity building initiatives are needed. At the local level, the LGUs' capability to handle sector projects is insufficient and will require substantial input and support.

There is wide dissatisfaction among implementors themselves over the existing monitoring system. This leads to the problem of reliability of information coming from the field. There is a need to establish a system similar to project-based monitoring which will have a direct link to performance.

#### Community Development

The Province of Sarangani has had relevant experience in community development work that can be utilized for the WATSAN sector. This is the approach through which the barangay development plans are formulated where the participation and decisions of the formal and informal community leaders and their constituents are actually embodied in the plan. Although the PPDO and the PHO both have units that conduct community development work, their personnel are not confined to doing CD work solely for the WATSAN sector. WATSAN is looked upon as one component in the over-all planning process, albeit an important cog in the wheel of the Province's development. For the sector, therefore, there still remains an apparent lack of a permanent structure and of the identified major responsible players on CD. These create a gap to the critical linkage and support of sector projects, from the provincial to the municipal and as far down as the barangay levels.

There have been numerous training programs on CD conducted by different project proponents. For the WATSAN sector, CD training should be conducted with regularity and be brought down to the level of the municipal and barangay LGUs. On the matter of NGOs, the

brought down to the level of the municipal and barangay LGUs. On the matter of NGOs, the Province sees these organizations as partners in well-planned development and has tapped the expertise of the NGOs particularly in community mobilizing and organizing.

#### Gender Consideration

The Province of Sarangani is very well aware of the importance of gender and development when it ensured the institutionalization of GAD in the planning, programming and budgeting of all provincial and municipal agencies' programs, projects and activities. This was embodied in Executive Order No. 7, signed by Governor Priscilla L. Chiongbian last June 1997. Since then, several seminars and training on different gender issues and topics have been conducted for provincial, municipal and barangay officers and employees.

However, GAD was not integrated in the programming, planning and implementation of water sector projects. In this regard, a province-wide survey and group interviews were undertaken to assess gender sensitivity of barangay/BWSA officials and constituents in the roles of both women and men as well as their modes of participation in sector projects. The findings are enumerated below. In general, there is no gender bias in the manner by which WATSAN activities are being practiced:

- water fetching responsibility – Most men claimed that they or their sons fetch water. But according to women, there is no designated gender responsible for fetching water. The responsibility lies on whoever is available.
- operation and maintenance activities – Men were more involved in WATSAN activities, particularly in repair and maintenance of the facilities. But some women claimed that they are also responsible for minor repairs. However, they expressed that both women and men can participate in operating and maintaining WATSAN facilities.
- barangay organizations - These are still male-dominated. Most chairpersons/heads are males, while women occupy the traditional roles, such as secretary or treasurer. This is due to being traditionally patriarchal especially for indigenous communities.
- consultation and project participation – Both women and men were consulted and briefed on their roles and responsibilities in the planning, design and construction of WATSAN facilities. Actual participation during construction came mostly from men.
- WATSAN training – Most men received sector-related training. Both women and men have access to training and are interested to learn new skills.
- Health and hygiene – Both women and men equally recognized the importance of good health and hygiene practices. But women mostly attend health and sanitation training.



## 5. Past Financial Performance in Water Supply and Sanitation

Since the devolution of the water supply and sanitation project to the LGUs in 1992, the LGUs have been dependent on the Internal Revenue Allotment (IRA) for their financial requirements. For the period 1994-1998, IRA of the province represented about 89.32% of the total income. The province does not have an economic enterprise. On the other hand, actual expenditures for the same period were mainly broken down into capital outlay (22.8%), personnel expenses (35.96%) and operation and maintenance expenses (32.21%).

The funds for the water supply sector are part of the capital outlay of the province. The amount of debt servicing capacity of the provincial government is computed to be ₱41.52 million for the year 1998, which represents the maximum loanable amount through the MDF.

Funds for the capital outlay is mainly derived from 20% DF of the IRA and part of which is the water supply and sanitation sector allotment. Except for 1994 and 1995, in most years, the 20% DF was sufficient to finance the capital outlay requirements. Due to the low availability of funds, the relevant sector accounts between less than 10.35% to 37.65% of 20% DF or about 2% to 7.5% of IRA, although it is noted that in recent years the water supply sector has been given more funds.

Planned sector investments during the period 1995-1998 amounted to about ₱57.05 million but the actual expenditures disbursed for the sector out of the 20% DF was lower at ₱45.1 million. Of the investments, Level II obtained planned allocation of ₱28.32 million, which is almost half of the planned investments for the water supply sector. The provincial government and the DPWH implemented the sector projects in previous years. The funds from the CDF (Countrywide Development Fund) were also availed of.

With regard to the capital cost recovery for Level I water supply, it was free to the community in the past. For Level II systems, the capital cost is shouldered by the RWSAs through a loan or grant, while for Level III, the WDs or RWSAs bear the entire cost. Those for Level III are usually financed by the LWUA for a period of up to 30 years with interests ranging from 8.5-12.5 %. For less capable WDs, soft loans without interest for the first 5 years of operations are available. Regarding sanitation sector, construction of the superstructure and the depository of household toilet is through self-help.

In 1998, a cost-sharing scheme was authorized, which prescribed that for any central government grants that are provided for the development of Level I water supply and sanitation facilities to the limited municipalities, the LGUs and beneficiaries concerned shall share the capital cost required. No subsidies from the central government will be provided for the construction of Level II and Level III water supply systems.

The O&M cost for Level I and II water supply systems is the responsibility of the users. It is mandatory that the community shall organize themselves into an association, which handles collection of water charges as well as O&M of the facility. However, most of the RWSAs and BWSAs reportedly has difficulty to manage the systems, since beneficiaries do not recognize the cost requirements. The monthly fees for Level I in the active association range from ₱10 to ₱40/household/month. For Level III systems, the O&M cost are basically covered by the user's fees. LWUA's policy is to make WDs financially viable, self-sufficient and be able to repay their loans obtained to improve water supply services. There are 7 Level III water systems in the province; 2 WDs, 3 LGU-managed and 2 are managed by water co-operatives.

The percentage of water fee to median monthly household income is about 3.23% for Level III, 1.07% for Level II and less than 1% for Level I. Thus, the current water rates in all service levels are within an affordable range. On the other hand, construction cost of household toilet seems to be expensive comparing with the family income.

## **6. Water Source Development**

The study on water source development covers the entire province. It gives an emphasis on groundwater availability rather than surface water considering its economic advantages and current practices in potable water use.

The geologic rock units observed in the province are classified into three (3) main groups based on the ages of the rock formations: the Miocene and Older Systems, the Plio-Pleistocene Series, and Recent Deposits. The Miocene and Older systems are mainly distributed in the eastern mountainous areas as a narrow belt along the provincial boundary from south to north and in most parts of the western mountainous areas. The Plio-Pleistocene series are widely distributed in the eastern part of the province, extending from south to north in the western side of the Miocene and Older systems. Two thirds of the western part of the eastern mountainous areas are covered by these formations. The Recent Deposits cover a

wide alluvial plain, which fringes the Sarangani Bay area and the southwest coastal area along the Celebes Sea.

For planning purposes in the development of groundwater sources, the provincial area is divided into shallow well, deep well and difficult areas. The province has solo shallow well areas but very limited in the municipalities of Maitum and Kiamba along the seashore side of the western part of the province. Deep well areas cover about 50% of Sarangani, and are widely distributed in the southern and western coast of the eastern peninsula. In the southern seashore of the western part of the province, deep well areas are quite limited. Difficult areas fall on the remaining area outside the shallow and deep well areas. Saline water intrusion occurs in the coastal areas of Alabel, Malapatan, Glan, and Maasim. Groundwater with high Ca and Mg contents is distributed in the reef limestone area in the eastern part of the province, in the municipalities of Alabel, Malapatan, and Glan.

Based on the inventory of water sources prepared during the study, the province has 136 developed springs currently serving the province, which come out from the high mountain areas in the southeastern and the western parts of the province. A total of 45 untapped springs for future development are reported in the mountainous areas of all municipalities.

According to the existing well inventory, the depth of the potential aquifers occurs between 15 to 120m in the Recent alluvium and the Plio-Pleistocene rocks. The development of deep wells is more advantageous than shallow wells considering the safe quality and invariable yield of deeper aquifers.

For the preparation of the medium-term development plan in terms of water source development, utilization of spring sources was given first priority, with special attention to the development of Level III systems. Groundwater source availability as second priority was presented by municipality with standard specifications of wells, including parameters such as well depth, static water level and specific capacity.

For the furtherance to design the concrete specifications of the planned wells, recommendations are made to conduct detailed groundwater investigations entailing the construction of test wells, prior to the detailed design or in the pre-construction stage. The municipalities that fall on this group are Alabel and Maasim.

Untapped springs shall also be surveyed to confirm the development possibility in the detailed groundwater investigation. This will include items on the following: i) locations and

type of spring sources; ii) fluctuation of discharge rates through the year; iii) distance from spring sources and proposed served areas; and iv) elevation differences between the two points.

## 7. Future Requirements in Water Supply and Sanitation Improvement

### Physical Targets and Service Coverage

Phased requirements for the sector development in the province are assessed to meet the provincial targets established as percentages of beneficiaries or utilities to be served by sub-sector. Targets of service coverage for water supply in Phase I development are established to maintain the existing service coverage, that is, a very slight increase from the base year both in urban (2% increase) and rural area (3%) as shown Table 7.1. Sanitation sector target is applied in order to attain sufficiency and balanced distribution of the facilities in urban and rural area as embodied in the PNDP. Sewerage target is set for only part of urban centers in the long-term development, while solid waste management considered the medium-term household requirements. Logistic support is considered as a minimum requirement of LGUs for the implementation of PW4SP. The types and number of well drilling/rehabilitation equipment and supporting vehicle for Level I facilities are identified as reference information. Also, minimum requirements for setting up a provincial laboratory to support drinking water quality surveillance and monitoring activities are described.

**Table 7.1 Present Service Coverage and Sector Targets**

<i>Sub-Sector</i>	<i>Area/Type</i>	<i>Base Year Service Coverage</i>	<i>Provincial Sector Targets</i>	
			<i>Phase I</i>	<i>Phase II</i>
<i>Water Supply</i>	<i>Urban Area</i>	70	72	95
	<i>Rural Area</i>	52	55	93
<i>Sanitation</i>	<i>Urban HH Toilet</i>	61	80	93
	<i>Rural HH Toilet</i>	44	60	80
	<i>Public School Toilet</i>	46	60	90
	<i>Public Toilet</i>	100	100	100
<i>Sewerage</i>	<i>Urban Area</i>	0	<i>Not applicable</i>	50
<i>Solid Waste</i>	<i>Urban Area</i>	38	60	<i>Not applicable</i>

Frame values are projected by municipality for respective sub-sectors; future population by urban and rural area, the number of students in public schools and the number of public utilities.

### Required Facilities to Meet Target Services

Types of required facilities and their implementation criteria are determined according to service level standards as adopted by the NSMP and NEDA Board Resolutions. Urban population is planned to be served by Level III systems, however, existing Level I and II

facilities are to be used during Phase I period. Level I facilities are adopted for rural water supply with limited application of Level II system where houses are clustered and suitable untapped springs are confirmed. However, it does not exclude from being implemented Level I and II facilities in urban area as individual cases in the future as well as Level III systems in rural area. Rehabilitation work is planned only for new deep wells (Level I) to be constructed under PW4SP, considering the difficulty of rehabilitation for existing wells constructed by means of traditional methods. Facilities for the provincial laboratory are determined, taking into account the existing facilities and the exigency to examine the water samples at the right time.

In sanitation sector, pour flush and/or flush type household toilets are planned, while VIP type household toilet and sanitary pit latrine are considered in rural area as an intermediate measure. Sewerage program is planned in Phase II for limited urban area. The study on solid waste considered only the number of required trucks for the year 2000. Additional service coverage of the sector by phase is shown in Table 7.2.

**Table 7.2 Additional Service Coverage by Phase**

<i>Sub-Sector</i>	<i>Area/Type</i>	<i>Unit</i>	<i>Additional Service Coverage</i>	
			<i>Phase I</i>	<i>Phase II</i>
<i>Water Supply</i>	<i>Urban Area</i>	<i>Persons</i>	<i>16,194</i>	<i>135,077</i>
	<i>Rural Area</i>	<i>Persons</i>	<i>48,905</i>	<i>140,942</i>
<i>Sanitation</i>	<i>Urban HH Toilet</i>	<i>No. of Households</i>	<i>7,422</i>	<i>19,011</i>
	<i>Rural HH Toilet</i>	<i>No. of Households</i>	<i>16,640</i>	<i>32,018</i>
	<i>Public School Toilet</i>	<i>No. of Public School Students</i>	<i>26,191</i>	<i>52,301</i>
	<i>Public Toilet</i>	<i>No. of Utilities</i>	<i>43</i>	<i>53</i>
<i>Sewerage</i>	<i>Urban Area</i>	<i>Persons</i>	<i>Not applicable</i>	<i>84,458</i>
<i>Solid Waste</i>	<i>Urban Area</i>	<i>No. of Households</i>	<i>4,931</i>	<i>Not applicable</i>

The necessary water supply facilities for Phase I include 7 deep wells/springs for 3,000 house connections in urban area, and 17 Level II systems with spring sources and 77 Level I wells/springs for rural area. For Phase II, 21 deep wells/springs for additional 33,800 connections and 2,352 Level I wells/springs are required for urban and rural water supplies, respectively. It is assumed that 20% of Level I facilities will be implemented by the LGUs and 5% of these public facilities will be allocated to spring development. Rehabilitation requirements are considered to be 10% of the total number of deep wells to be constructed under PW4SP. Two (2) new laboratory buildings will be constructed in Alabel and Glan. Kiamba will utilize the existing municipal hospital to house the new laboratory. Three (3) sets of water quality test instruments/equipment will be necessary; one set to upgrade the existing provincial laboratory in Alabel, and the other 2 sets, for the new laboratories in Glan and Kiamba.

For urban water supply, one Level III system is, in principle, considered for urban area of every municipality. In the municipalities with existing Level III system/s, the expansion of the existing system/s was first considered. In case there are no Level III system/s, a new system was recommended. Existing plan/s on the development of Level III/WD are also taken into account to determine respective systems of the municipalities.

Currently, 3 out of the total 7 municipalities have no Level III system, namely; Kiamba, Maitum and Malungon. At present, there are no particular planned/on-going projects for the municipalities in the province. The municipality of Maitum is going to prepare F/S for the establishment of a Level III system with spring source development. Individual systems by municipality shall be operated where urban areas are geographically scattered.

Among various untapped spring sources identified during the course of PW4SP preparation, the untapped sources, located in Alabel, Maitum, Malapatan and Malungon are considered to have favorable conditions for Level III service. However, detailed survey to ensure appropriate spring source development shall be conducted in the implementation of the projects.

Integration of small Level III systems for operation and management shall be sought, although, these systems are currently managed individually.

Moreover, Phase I sanitation will require 7,422 household toilets, 40 public school toilets and 43 public toilets for urban area. In rural area, 16,640 household toilets and 91 public school toilets are necessary. Solid waste disposal will need 6 refuse collection trucks. For Phase II, urban area will require 19,011 household toilets, 84 public school toilets and 53 public toilets. In rural area a total of 32,018 household toilets and 373 public school toilets are necessary.

## **8. Sector Management for Medium-Term Development Plan**

### Institutional Framework

To effectively manage the water and sanitation sector, the provincial and municipal governments will have to make adjustments in their current policies and structures. One glaring basic institutional need at the local level is a common vision and mission statement for the sector. A critical mass of people with resources who share in the vision must be

identified and harnessed for sector management. Local planners need to focus on the long-term requirements.

The following policy and strategy statements will be adopted by the Provincial Government:

- Facility management with emphasis on sustainability
- Project selection and prioritization based on commitment of the beneficiaries, beneficiaries' willingness to pay, current water and sanitation and health conditions, and potential for growth
- Technologies appropriate to local conditions and resources. Economical facilities, without necessarily insisting on low-cost construction
- An integrated approach to the provision of potable water supply, sanitation, and hygiene education
- Equitable provision of water supply and sanitation between rural and urban areas; between wealthy and depressed areas
- Self cost recovery and rational cost sharing (subsidy)
- Private sector participation
- Seeking potential sources of local and external funds (loans and grants) to finance the capital requirements of the sector
- Broader concern for environmental protection and management in sector development
- Provision of water supply and sanitation services under emergency conditions

In coordination with appropriate national and local agencies, the LGU shall endeavor to set up a coordinated regulatory framework considering, among others, the following: water allocation and water rights policies (conflict resolution); water rate review; association registration; water quality, etc.

It is assumed that national and external funds although diminishing, will continue to be channeled through local offices of central agencies in the medium-term.

In the medium-term, a full-time Provincial Water Supply and Sanitation Unit (PWSU) shall be operational, which may be augmented at the PPDO/PEO. The LGU should ensure that adequate logistics and incentives are provided for the Unit. In the long term, the Unit may be promoted to the same level as the PPDO. The PWSU will continue to implement, assist and monitor all water supply and sanitation services in cooperation with the municipalities. The DILG-PMO shall continue to provide technical and managerial assistance in the formative years of the PWSU.

For institutional arrangements, the formation of BWSAs for Level I systems and RWSAs for Level II and III systems will be a prerequisite. The community, especially the women's sector, shall be involved in all phases of project management (planning, construction and O&M) and in undertaking health and hygiene education programs. To provide the members with the necessary skills, training programs will be implemented by concerned national agencies and by the provincial and municipal governments.

#### Community Development

To ensure, therefore, that the full and active participation of the beneficiary community in sustaining sector projects is realized, it is recommended that the LGUs provide the needed human, financial and other material resources for community development work to take-off. To institute the linkage among all the actors in sector development, a CD Unit should be established within the proposed Provincial Water Supply and Sanitation Unit. A permanent CD Specialist shall be appointed to take charge of promoting, developing and coordinating CD and IEC programs of the province, even looking into how it can harness the participation of the private sector and train project beneficiaries. It is also recommended that a CD Specialist be assigned to the existing Municipal WATSAN Liaison Task Force to coordinate and implement all CD/CO and IEC work at the municipal level. At the barangay level, it is recommended that each Barangay Development Council (BDC) establish a WATSAN Committee that will coordinate all sector projects in the barangay as well as designate one person who can be trained on CD work.

The power of information, education and communication as a necessary foundation activity for CD has not been fully realized and maximized. It is, therefore, recommended that a comprehensive IEC program be conceptualized and implemented on the national, provincial and municipal levels. The program will promote a better awareness and understanding of the responsibilities of sector planners as well as the benefits due to the project beneficiaries so that the gains of the sector can be sustained on a long term basis.

It shall be the DILG who shall retain the central role as the national government agency that promotes and develops the capacities of the province and the municipalities in participatory CD approaches and IEC programs for the sector. It shall also encourage and institutionalize the participation of national NGOs, with local networks or offices that specialize in community management program and utilize these to enhance and assist the LGUs in organizing project beneficiaries. Another national agency, the LWUA, shall on the other hand, continue to promote community participation in the formation of LGU-WS into water districts and to



provide regular CD assistance particularly in consultation with the community on projects, loans, and water rates adjustments.

The LGUs and the intended beneficiaries can both participate in sector development: Level I – for the planning and implementation of sector projects and in the formation and management of a water supply and sanitation association/cooperative; Level II – for the formation of a water supply and sanitation association/cooperative or a waterworks; while Level III – for the formation of water districts or LGU-operated waterworks. Thus, it is important that the LGUs make the decision on the projects it can afford to implement.

To achieve this, the LGU must encourage active community participation and involvement through four approaches. These are: (1) sharing relevant information on the project with the beneficiaries, (2) consulting with users on all phases of project development utilizing the KASFALA method; (3) giving ample room to the beneficiaries to make project-related decisions; and (4) providing opportunities to the community to initiate actions for their own benefit.

On the other hand, recommended are four ways that beneficiaries themselves can participate in sector projects, some of which have been tried in the province. These are: (1) the provision of free labor and/or materials by community members; (2) the sharing of costs between project proponent and the users; (3) expressed participation of all parties through MOAs and, (4) the participation through a firm involvement and commitment of the community in the management, operation, maintenance of the system itself.

For Level I and II, the WATSAN Unit should utilize the recommended Community Development Framework (modified from the UNDP-WATSAN Project) consisting of three phases of activities: Phase 1 is Formation of Organization; Phase 2 is Development of Organization; and, Phase 3 is Consolidation of Organization.

#### Gender Consideration

Since sustainability of WATSAN services depends on responding to the demands of men and women in the community, LGUs must recognize and give vital emphasis on the role of gender sensitive participation because the use, maintenance and financing of WATSAN systems require the participation of both the men and women. Thus, they should be given equal voice and opportunities in serving the community as well as in the planning, implementation and monitoring and evaluation of sector projects. To ensure the gender responsiveness of WATSAN projects, the LGUs should be trained through a Trainor's Training Program on

Gender Responsive Planning as envisioned by the Philippine Plan for Gender Responsive Development (1995-2025).

## 9. Cost Estimates for Future Sector Development

The investment cost includes direct cost for construction/rehabilitation of required facilities, procurement of vehicle/equipment, construction/upgrading of laboratory, sector management, physical and price contingencies, and value-added tax. The recurrent cost is incurred for operation and maintenance of facilities. Unit construction cost per person/household/facility was first prepared under contract-out basis in 1997 price level. In this regard, the cost for procurement and distribution of toilet bowl for pour-flush toilets is only counted for household toilets. Investment cost required by phase for the province is summarized in Table 9.1.

**Table 9.1 Investment Cost Required by Phase**

Unit: 1,000 Pesos

<i>Item</i>	<i>Component</i>	<i>Phase I</i>	<i>Phase II</i>
<b>Construction/ Rehabilitation</b>	<b>Water Supply</b>		
	Urban Area	58,049	421,832
	Rural Area	56,097	123,310
	<b>Sanitation</b>		
	Household Toilet	7,346	22,275
	School Toilet	35,907	125,264
	Public Toilet	14,796	18,237
	Disinfection of Well	141	0
	Urban Sewerage	N/A	616,543
	<b>Sub-Total</b>	<b>172,555</b>	<b>1,327,632</b>
<b>Procurement of Vehicle/ Equipment/Maintenance Tools</b>	Well Drilling Rig & Service Truck	0	26,782
	Support Vehicle	590	0
	Well Rehabilitation Equipment	280	0
	Maintenance Tools	70	0
	Water Quality Testing Kits	15	0
	<b>Sub-Total</b>	<b>955</b>	<b>26,782</b>
<b>Water quality Laboratory</b>		2,032	0
<b>Sector Management</b>	Engineering Studies	21,503	89,793
	Community Development and Training	14,558	62,165
	<b>Sub-Total</b>	<b>36,060</b>	<b>151,958</b>
<b>Total Direct Cost</b>		<b>211,602</b>	<b>1,506,372</b>
<b>Contingencies</b>	Physical Contingency	21,153	150,637
	Price Contingency	54,773	N/A
	Value-Added Tax (VAT)	19,697	N/A
<b>Total Investment Cost</b>		<b>307,226</b>	<b>1,657,009</b>
<b>Total Investment Cost (excluding Price Contingency)</b>		<b>252,380</b>	<b>1,657,009</b>

The investment cost for Phase I is estimated at about ₱307.2 million. A total of ₱172.6 million (in 1997 price level) is required as the construction/rehabilitation cost (including cost for disinfection of well) in Phase I, of which urban water supply and rural water supply share are 33.6% and 32.5%, respectively. While, the remaining 33.9% is required for urban and rural sanitation.

Required equipment and vehicle for construction/rehabilitation of Level I facilities and solid waste management are roughly estimated: 1 set/unit each of well drilling equipment and service truck with crane; 1 set/unit each of well rehabilitation equipment and support vehicle; and 6 units of refuse collection truck. The total procurement cost is estimated at approximately ₱40 million. Out of the requirements, however, only one set/unit each of well rehabilitation equipment, support vehicle and maintenance tools/water quality testing kits is incorporated in the medium-term investment plan due to budgetary constraints and technical capability of LGUs at present.

Likewise, annual recurrent cost in 1997 price level is estimated at ₱8.7 to ₱14.4 million/year during Phase I period.

#### **10. Financial Arrangements for Medium-Term Development Plan**

Financial arrangements to attain medium-term (Phase I) targets were sought focusing on available Internal Revenue allotment (IRA). The financial shortfall was first identified for this sector and recommendations were made to seek comprehensive logistics in terms of acquisition of various funds, augmentation of current practices in Government assistance to this sector and effective investments and cost recovery.

The projection of IRA to the relevant sector for Phase I period was made covering different administrative levels. Referring to the experience in other provinces, provincial allocation to the relevant sector was assumed to be 4% of total IRA (20% of 20% Development Fund) and the same percentage was applied for the allocation of municipal IRA to the sector. The fund available for this sector for 5-year implementation period from 1999 to 2003 was calculated as a sum of municipal and provincial allotments.

The combined provincial and municipal IRA to the sector was estimated at ₱103.04 million (provincial IRA is 45.4% of the total IRA). In the overall IRA allocation to the sub-sectors, urban water supply has the largest allotment of 32.9%, followed by rural water supply (25.84%). While, the share of urban sanitation is 21.65%, which is higher than that of rural sanitation of about ₱20.18 million.

The shortfall in funding on the current price level was figured out comparing with available fund for the relevant sector (IRA) in the province over the Phase I requirements. IRA can fund only 40.83 % of the requirements as a provincial average. Hence, there is a big shortfall of ₱149.34 million in funding. It will become ₱183.37 million in consideration of price es-

calation with annual rate of 7%. In the municipal achievement percentage in finance, Maitum (100%) is the highest among municipalities, followed by Kiamba (96%). Others are in the range between 52% and 75% to the requirements, while the provincial average is 41%.

Under the above situation, different levels of funding availability are discussed with reference to service coverage. Alternative countermeasures are also discussed in view of; i) acquisition of external funds, ii) augmentation of sector finance under current arrangements (IRA and others), iii) introduction of private sector participation to mitigate public investment needs, and iv) effective and economical investments. It is common to all sub-sectors that the service coverage in the year 2003 would not sustain even the present levels in the provision of only the projected IRA. Using computer-based programs, these scenarios may be modified by policy makers according to the updated information and policy on available fund and sector targets.

Investment need ranking of the municipalities is discussed to serve as a guide for implementation in order for the provincial government to effectively arrange its financial resources. The ranking for urban water supply is specifically studied and the result is employed for allocation of provincial IRA to the municipalities in the concerned sub-sector. For the provincial fund allocation, as a currently effective arrangement, it is assumed that 90% of the fund for urban water supply from the provincial government is equally distributed up to the second ranking municipalities, while the remaining 10% are equally distributed to the rest of the municipalities. In the synthetic investment need ranking of municipalities covering four sub-sectors, the top ranking municipality is Malungon, which indicates that it is given priority for investments in all sub-sectors, while Alabel is the least priority in terms of investment.

With regard to Level I water supply and sanitation improvement for which GOP may provide possible assistance, the DILG is assumed to be the Executing Agency and the province the Implementing Agency in the meantime. The project may be merged with those of 1<sup>st</sup> batch provinces for preparation of the PW4SP. The implementation of a packaged project may be realized in the near future.

Project components including Level I water supply, public/school toilet facilities and distribution of toilet bowls were identified to meet the conditions in provision of GOP-assisted project. Since all municipalities of the province are 2<sup>nd</sup> and 3<sup>rd</sup> class municipalities, there is no water supply component to meet the conditions in the provision of the GOP-assisted Level I water supply in the rural areas (since these are limited to 5<sup>th</sup> and 6<sup>th</sup> class municipalities). While, in the sanitation sub-sector, there are four (4) municipalities such as Alabel, Kiamba,

Maasim and Maitum to meet the condition for GOP-assisted projects. The required services will cover technical and institutional/community development aspects of the project. The overall project cost for the implementation period 1999-2003 was estimated at ₱34.38 million or ₱ 24.56 million in 1997 price level.

Two alternatives for the financial arrangements were studied, these are; i) Case 1-Utilization of IRA only; and ii) Case 2-Utilization of IRA and MDF.

For Case 1, GOP shall share 50% of the overall project cost in combination of the foreign assisted loan and government counter part fund. The remaining 50% shall be shared by the LGUs (47%) and the beneficiaries (3%). Comparing the estimated project cost to be shared by the LGUs of ₱11.5 million (1997 price level) and the available IRA of LGUs (₱20.3 million), the cost to be shouldered by the LGU meets the available IRA.

For Case 2, the utilization of the MDF is considered in case the LGUs will fail to furnish IRA for the cost to be shared (even if the estimated IRA available meets the required cost to be shared by the LGU). The foreign loan may be availed of at the maximum financing limit of 75% of the overall project cost. GOP will possibly finance up to 75% of the total project cost in the portion of the loan. Out of GOP finance through the loan, 39.2% of the total project cost shall be granted to the LGUs, aside from the 10.8% GOP counterpart fund. The remaining 35.8% 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 is 14% of the available IRA.

Cost recovery and cost sharing shall be promoted to attain the planned target based on the principle that adequate water, sewerage and sanitation facilities should be paid for. For Level I water supply systems, LGUs and beneficiaries are required to share the capital cost. While users need to pay water charge up to 2% of their monthly income to sustain the system (₱100/HH/month in 2003). For Level II water supply systems, full cost recovery is required for all capital and recurrent cost (₱91/HH/month in 2003, less than 2% of monthly income). For Level III water supply systems, a full recovery of capital and O&M cost is required (₱ 221/HH/month in 2003). Based on the experience that water fee must not exceed 5% of income (average monthly water consumption of 15 m<sup>3</sup>), users will be able to pay.

For sanitation, governmental support is limited to the provision of toilet bowl for pour-flush toilets as an incentive to increase the distribution of water-sealed toilets. To expedite the sanitation sector improvement, introduction of specific loans with low interest rate and longer

repayment period may be effective. For urban sanitation, to cover the construction cost of sanitary toilets, a linkage with existing housing loan may be established.

## **11. Monitoring of the Medium-Term Development Plan**

The sector monitoring system must support a well-defined and accepted sector development process-model. This will include information collection, tracing the flow of raw data from the field to the central level, information analysis, and data feedback. With the sector monitoring system in place, planners should be able to take a fresh objective view of the way current strategies are implemented.

The sector monitoring system should reinforce the linkage between water, sanitation and health. It should be reliable and involve the beneficiaries. It should be accepted by all sectors. It should be practical. It should be followed through with effective feedback. The best monitors are the community members themselves since accurate monitoring reports are in their best interest. A consensus on common and practical definition of terms for monitoring purposes is needed.

A three-phased monitoring system is proposed with each phase progressively increasing the number and complexity of indicators to be used. Detailed implementation of the first phase requirements is presented in this PW4SP, including institutional arrangements. It is envisaged that this will be linked with the national sector monitoring system being developed.

There are existing Project Monitoring Committees (PMCs) at the provincial and municipal levels tasked with the monitoring of local government projects funded by national and local governments. At the provincial level, projects to be monitored will be those implemented and managed at this level with funds directly released to the province as provided under MO 175. The PMC shall be established in the province and it shall consist of representatives from NGOs and the administration.

This PW4SP should be updated at least every five years. Based on the monitoring reports, an annual review of sector accomplishments compared with objectives and efficiency will be done. This will lead to the reformulation of objectives, strategies, new policies and policy revisions, and an updated sector investment program.