

JAPAN INTERNATIONAL COOPERATION AGENCY

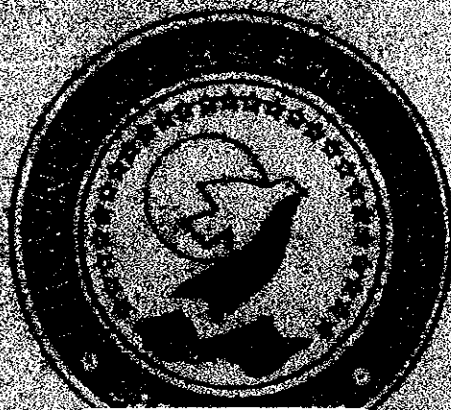
DEPARTMENT OF THE INTERIOR AND LOCAL GOVERNMENT  
THE REPUBLIC OF THE PHILIPPINES

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

VOLUME III - [3]

DATA REPORT

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



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REPUBLIC OF THE PHILIPPINES  
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**PROVINCIAL WATER SUPPLY, SEWERAGE AND  
SANITATION SECTOR PLAN**

**VOLUME III DATA REPORT**

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

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# 1. INTRODUCTION

## 1.3 The Provincial Plan for the Province of Misamis Oriental

### 1.3.2 Outline of the Report

Table 1.3.1 List of Collected Reports and Documents

No.	Title	Year	Source	G	C	R	P	M	B
<b>I. GENERAL</b>									
1.	The Philippine National Development Plan Program Master Planning	1998	NEDA		■				
2.	Report and Recommendation of the President to the Board of Directors on Proposed Loans to the Republic of the Philippines for the Rural Water Supply and Sanitation Sector Project	May 1996	ADB		■				
3.	Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Republic of the Philippines for the Regional Municipal Development Project	Aug. 1995	ADB		■				
4.	Long Term and Medium Term Sector Dev't. Planning Workshop No. 2	1998	DILG						
5.	Philippine Agenda - A National Agenda for Sustainable Development for the 21st Century	1997	PCSD		■				
6.	Updated Medium-Term Philippine Development Plan 1996 - 1998	Dec. 1995	NEDA		■				
7.	Water Supply, Sewerage and Sanitation Master Plan of the Philippines 1988 - 2000	1988	NEDA		■				
8.	Catalogue Products and Services	1993	NAMRIA		■				
9.	The Philippines in 1995: Our Time Has Come	June 1995	OP		■				
10.	Australian Development Corporation with the Philippines - Philippine Program Profile (Section C.3)	July 1997	LGU						
11.	Social Reform Agenda Policy Directives		Social Reform Council Secretariat		■				
<b>II. SOCIO-ECONOMIC</b>									
1.	Socio-Economic Profile (Misamis Oriental)		PPDO				■		
2.	Census-Based National and Regional Population Projection Volume I	1995	NSO		■				
3.	Report No. 1-P: Population by Province, City/ Municipality and Barangay Region X 1995 Census	1995	NSO			■			
4.	Physical Framework Plan, Misamis Oriental		PPDO				■		
5.	Report No. 2-87P: Socio Economic and Demographic Characteristics Misamis Oriental 1995 Census	1995	NSO				■		
6.	Philippine Statistical Yearbook	1997	NSCB		■				

No.	Title	Year	Source	G	C	R	P	M	B
7.	NSO Census by Province, Male, Female and Age Bracket	1995	NSO POPCEN			■			
8.	Geographic Coding and Urban and Rural Classification (Region X)	1990	NSO POPCEN			■			
9.	Total Population, Household Population and Number of Households by Province, City/ Municipality and Barangay	1995	NSO Census		■				
<b>III. WATER SOURCE</b>									
1.	Master Plan Study on Water Resources Management in Republic of the Philippines Vol. I	Jan. 1998	NWRB		■				
2.	Master Plan Study on Water Resources Management in Republic of the Philippines Vol. II	Jan. 1998	NWRB		■				
3.	Philippine Water Resources Data Volume II Streamflow and Lake or River Stage	Jan. 1980	NWRC		■				
4.	Philippine Water Resources Data Volume II Streamflow and Lake or River Stage	June 1991	DPWH-BRS		■				
5.	Master Plan Study on Water Resources Management in the Republic of the Philippines	July 1997	NWRB		■				
6.	Topographic Maps 1:250,000 Misamis Oriental	Reprinted in 91, 93 and 96	NAMRIA				■		
7.	Rapid Assessment of Water Supply Sources Misamis Oriental	1982	NWRB				■		
8.	Groundwater Resources Investigation Report Misamis Oriental	Unpublished	NWRB				■		
9.	Water Resources Summary Data (Volume 1 and 2)	1970	NWRB		■				
10.	Individual Well Inventory Misamis Oriental	1990	NWRB				■		
11.	Groundwater of the Philippines	June 1980	NWRC		■				
12.	LWUA Water District Database	1997	LWUA		■				
13.	Road Network Map						■		
14.	Well Inventory		NWRB		■				
15.	Well Inventory	1998	DPWH-DEO				■		
16.	Well Drilling Record	1998	DPWH-DEO				■		
<b>IV. WATER SUPPLY</b>									
1.	Assessment of the Domestic WS and Sanitation Sector of Northern Mindanao Volume V	Aug. 1996	NEDA			■			
2.	Assessment of the Domestic Water Supply and Sanitation Sector of Northern Mindanao Vol. I	Aug. 1996	NEDA			■			
3.	Technical Assistance to the Republic of the Philippines for the Water Supply and Sanitation Sector and Study	July 1997	ADB		■				
4.	Working Group on Urbanization (WG/U) of the Water Supply and Sanitation Collaborative Council (WSCC)	Sept. 1993	WSCC-WG/U	■					

No.	Title	Year	Source	G	C	R	P	M	B
5.	Water Supply Feasibility Study Methodology Manual (LWUA-Mala Columbus)	1996	LWUA		■				
6.	Overview of Water Pricing Policies and Structures in the ESCAP Region	1996	UN						
7.	Report and Recommendation of the President to Board of Directors on a Proposed Loan to the LWUA in the Republic of the Philippines for the Small Towns Water Supply Sector Project	Sept. 1996	ADB		■				
<b>V. ENVIRONMENTAL SANITATION</b>									
1.	Trainer's Training Kits for Sanitation	Mar. 1996	UNDP/DILG		■				
2.	Ecological Alternatives in Sanitation	Aug. 1997	SIDA	■					
3.	The Code Sanitation of the Philippines	1976	DOH		■				
<b>VI. INSTITUTIONAL</b>									
1.	General Primer - Local Government Code of 1991	1991	DILG		■				
2.	The Barangay and the Local Government Code	1994	DILG		■				
3.	NEDA Board Resolution No. 4 (S. 1994)	1994	NEDA		■				
4.	Implementing Rules and Regulations of NEDA Board Resolution No. 4 (S. 1994), Clause (G)	Nov. 1997	NEDA		■				
5.	NEDA Board Resolution No. 5, S-94	1994	NEDA		■				
6.	NEDA Board Resolution No. 5, S-96	1996	NEDA		■				
7.	NEDA Board Resolution No. 5, S-89	1989	NEDA		■				
<b>VII. COMMUNITY DEVELOPMENT</b>									
1.	Community Development Manual First Water Supply, Sewerage and Sanitation Sectors Projects (FW4SP)		DPWH/DILG/ LWUA/DOH		■				
2.	BWSA Formulation Operations Manual Community Development Manual First Water Supply, Sewerage and Sanitation Sectors Projects (FW4SP)		DPWH/DILG/ LWUA/DOH		■				
3.	Institution Building for Decentralized Implementation of Community-Managed Water Supply and Sanitation Projects		DILG		■				
4.	Institution Building for Decentralized Implementation of Community-Managed Water Supply and Sanitation Projects	June 1997	DILG		■				
5.	Guidebook for Community Managed WATSAN Project		UNDP/PHI		■				

No.	Title	Year	Source	G	C	R	P	M	B
6.	A Manual for Training Trainers in Participatory Techniques	1990	PROWWFSS/ UNDP		■				
7.	Interception Report for Special Assistance for Projects Sustainability for the Rural Water Supply III Project	1997	SAPS Team		■				
8.	Interim Report for Special Assistance for Projects Sustainability for the Rural Water Supply III Project (SAPS)	1997	SAPS Team		■				
9.	Participatory Action Planning for the Development of Two PSF Project	1994	UP						
10.	Water and Sanitation for All: A World Priority Achievements and Challenges	1995	IRC International Water & Social Center		■				
11.	Community Organizers' Manual. Part I	1990	CSWCD-UP/DCD/ DOPI						
12.	A Handbook on Community Development	1975	UP		■				
13.	Achieving Success in Community Water Supply and Sanitation Projects		UNDP	■					
14.	Handbook on Community Organizing for Water Sanitation		DILG		■				
15.	Draft Final Report for Special Assistance for Projects Sustainability for the Rural Water Supply III Project	Feb. 1997	SAPS Team		■				
16.	A Manual on Community Participation in Water Supply and Sanitation (RWSSP)				■				
17.	Achieving Success in Community Water Supply and Sanitation Projects	1980	WHO	■					
18.	Community Development Manual	Nov. 1995	PIC		■				
<b>VIII.</b>	<b>GENDER</b>								
1.	Sourcebook for Gender Issues at the Policies Level in the Water and Sanitation Sector	Oct. 1996	IBRD/WB	■					
2.	Gender Issues Sourcebook for Water and Sanitation Projects	Jan. 1995	IBRD/WB	■					
3.	Toolkit on Gender in Water and Sanitation Series No. 2	Aug. 1996	UNDP	■					
4.	Domestic Shallow Well Water Supplies the Family Handpump Scenario	Feb. 1990	UNDP	■					
5.	United Nations Decade for Women	1976-1985		■					
6.	Gender Mainstreaming		NCRFW		■				

No.	Title	Year	Source	G	C	R	P	M	B
7.	Regional Memorandums	Feb. 1997	DILG			■			
8.	Philippine Plan for Gender Development	1995-2025	NCRFW		■				
9.	Philippine Country Report on Women	Sept. 1995	NCRFW		■				
10.	A Primer on the GAD Focal Point	1996	NCRFW		■				
<b>IX.</b>	<b>FINANCIAL</b>								
1.	Annual Investment Plans Misamis Oriental		PPDO				■		
2.	Family Income and Expenditures Survey Vol. I	1994	NSO		■				
3.	Family Income and Expenditures Survey Vol. II	1994	NSO		■				
4.	DILG Memorandum Circular 96-263	1996	DILG		■				
5.	Presidential Decree 1914 (MDF)	1984	OP		■				
6.	Joint Circular No. 6-87	Aug. 1987	DBM		■				
7.	Misamis Oriental Accomplishment Reports. 1993-1996	1993-1996	PPDO				■		
8.	Statement of Income-Expenditures of Municipalities		PPDO					■	

**Legend:**

ADB - Asian Development Bank  
 BRS - Bureau of Research and Standards  
 CSWCD - College of Social Work and Community Development  
 DCD - Department of Community Development  
 DEO - District Engineer Office  
 DILG - Department of Interior and Local Government  
 DOH - Department of Health  
 DOP1 - Development Options Philippines, Inc.  
 DPWH - Department of Works and Highways  
 IBRD - International Bank for Reconstruction and Development  
 LGU - Local Government Unit  
 LWUA - Local Water Utilities Administration  
 MDF - Municipal Development Fund  
 NAMRIA - National Mapping & Resource Information Authority  
 NCRFW - National Commission in the Role of Filipino Women  
 NEDA - National Economic Development Authority  
 NSCB - National Statistical Coordination Board  
 NSO - National Statistics Office  
 NWRB - National Water Resource Bureau  
 NWRC - National Water Resource Council  
 OP - Office of the President  
 PCSD - Philippine Counsel for Sustainable Development

PHI - Philippine Island  
 PIC - Project Implementation Consultants  
 POPCEN - Population Census  
 PPDO - Provincial Planning and Development Office  
 PROWWESS - Promotion of the Role of Women in Water,  
 Environmental and Sanitation Sources  
 RDC - Regional Development Council  
 SIDA - Swedish International Development Cooperation Agency  
 UN - United Nations  
 UNDP - United Nations Development Project  
 UP - University of the Philippines  
 WATSAN - Water and Sanitation  
 WB - World Bank  
 WHO - World Health Organization  
 WSCC-WG/U - Water Supply & Sanitation Collaborative  
 Council-Working Group on Urbanization  
 G - Global  
 C - Central Government Level  
 R - Regional Government Level  
 P - Provincial Level  
 M - Municipal Level  
 B - Barangay Level

## 1.4 Acknowledgement

Table 1.4.1 List of Persons and Institutions Who Participated in the Preparation of PW4SP

Name	Position	Office
<i>Provincial Sector Planning Team:</i>		
1. Mr. Genie J. Gallogo	Acting Prov'l Planning & Devt Coordinator	Provincial Planning & Dev't. Office
2. Engr. Rey T. Tolinero	Project Devt. Officer IV	Provincial Planning & Dev't. Office
3. Engr. Carmela A. Roa	Sanitary Engineer III	Provincial Health Office
4. Engr. Benjamin Canales	Engineer III	Provincial Engineer's Office
5. Engr. Isabelo Actub	Water Supply Engineer	Provincial Engineer's Office
6. Engr. Roel Waminal	Waterworks Engineer	Provincial Engineer's Office
7. Ms. Rosita Chu	LG00 IV	DILG, Mis. Or.
8. Mr. Edwin Waga	PDO II	Provincial Planning & Dev't. Office
9. Mr. Alfredo Tumacas	PPDO Staff	Provincial Planning & Dev't. Office
10. Ms. Ruby Lyn G. Roa	S. I. III	Provincial Health Office
11. Mr. Lemar G. Canios	Draftsman	Provincial Planning & Dev't. Office
<i>Water Supply and Sanitation - Project Management Office:</i>		
1. Ms. Ellen I. Pascua	Program Manager	WSS-PMO, DILG
2. Mr. Rogelio B. Ocampo	Chief, Planning Division	- do -
3. Ms. Fe Crisilla M. Barluta	PW4SP Project Officer	- do -
4. Ms. Contessa C. Navarro	Area Coordinator	- do -

## 2. PLANNING APPROACH FOR FUTURE SECTOR DEVELOPMENT

### 2.6 Planning Principles and Data Management

#### 2.6.1 Planning Principles

B-4 Composition of Figures and Tables by Chapter/Section

Table of Contents		Contents	Main Report	Tables & Figures Supporting Report	Data Report
1.	INTRODUCTION				
1.1	Sector Development in the Philippines	Nationwide sector development			
1.2	Provincial Sector Planning	Outline of provincial sector planning			
1.2.1	Objectives of Sector Planning				
1.2.2	Scope of Sector Planning				
1.2.3	Financing of Sector Plan				
1.3	The Provincial Plan for the Province	- Planning process and contents of the provincial plan	F1.3.1 Flow Diagram of Sector Planning	F1.3.1 Organization Chart for the Study Implementation PW4SP	T1.3.1 List of collected Reports and Documents
1.3.1	Preparation of the Plan				
1.3.2	Outline of the Report				
1.4	Acknowledgments	- Persons/Institutions responsible in the plan preparations			T1.4.1 List of Persons and Institutions Who Participated in the PW4SP

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Questionnaire form

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Contents		Main Report	Data Report
2. PLANNING APPROACH FOR FUTURE SECTOR DEVELOPMENT			
2.1 General			
2.2 Planning Framework			
2.3 Sector Objectives	<ul style="list-style-type: none"> <li>- Sector Arrangements with Reference to National Master Plan and Medium-Term Development Plan</li> <li>- Water Supply Coverage</li> <li>- Sanitation and Sewerage Coverage</li> </ul>	T2.2.1 National Sector Coverage Targets	
2.4 Current Sector Policies and Strategies	<ul style="list-style-type: none"> <li>- Self-Reliance and Community Participation</li> <li>- Integrated Approach</li> <li>- Cost Sharing Arrangement</li> <li>- Cost Recovery</li> <li>- Sustainability</li> <li>- Private Sector Participation</li> <li>- Water Resources Management</li> </ul>		
2.5 Major Legislation and Regulations Affecting the Sector	<ul style="list-style-type: none"> <li>- Local Government Code</li> <li>- Water Code of the Philippines</li> <li>- Philippine Environmental Code</li> <li>- Provincial Water Utilities Act</li> <li>- Metropolitan Water Works and Sewerage System Charter</li> <li>- National Drinking Water Standards</li> <li>- Plumbing Code of the Philippines</li> <li>- Code on Sanitation</li> <li>- National Building Code</li> </ul>		

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\* Questionnaire form



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				Main Report	Supporting Report
					Data Report
2.6	Planning Principles and Data Management	- Constraints and required arrangements to undertake planning work - Data storage processing and retrieval	F2.6.1 Institutional Hierarchical System of the Philippines F2.6.2 Structure of Questionnaire	T2.6.1 Key Parameter T2.6.2 Composition of Well Sources and Specific Capacity T2.6.3 Annual Investment T2.6.4 Level of Safe & Unsafe Percentage T2.6.5 Unit of Construction Cost of Different facilities T2.6.6 Scoring Factor for Municipal Investment Ranking for Urban Water Supply T2.6.7 Scoring Factor for Municipal Comprehensive Investment Ranking	
3.	PROVINCIAL PROFILE				
3.1	General	- Location of Province - Administrative composition	T3.1.1 Outline of Municipality		
3.2	Natural Conditions and Geographical Features				
3.2.1	Meteorology	- Classification of climate by type and its characteristics - Average rainfall, temperature and wind direction			
3.2.2	Land Use	- Current land use	T3.2.1 Current Land Use		
3.2.3	Topography and Drainage	- Topographical characteristics of the province: mountains, major rivers and its flow rates, and water quality of typical rivers	F3.2.1 Major River Networks T3.2.2 Drainage Areas and Flow Rates of Major Rivers		

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Table of Contents		Contents		Main Report		Supporting Report		Data Report
3.3	Socio-economic Conditions	(1) Brief description of major economic activities (2) Discussion on (a) household income level and (b) occupation	F3.3.1	Distribution of Families by Income Class	F3.3.1	Distribution of Families by Income Class	F3.3.1	Number of Elementary School, High School and Other Service Facilities
3.3.1	Economic Activities and Household Income	(1) Description of current basic infrastructure in the province (roads, electricity, telecom, postal services, transportation, banking facilities, tourism facilities, schools, etc.) (2) Discussion of public facilities and services (schools, public markets, banks and hospitals) by municipality	F3.3.2	Employment Distribution by Major Industry Group	T3.3.2	Employment by Major Industry Group and Class of Worker, 1994		
3.2.3	Basic Infrastructure	Description of (a) education levels and (b) literacy level	T3.3.1	Provincial Outline of Public Services				
3.3.3	Education	(1) Population data of NSO for the census periods from 1960 to 1995 (2) Special issues, if any, which affected the present population of the province, i.e., special development and those of resettlement/evacuation.	T3.3.3	Population Distribution by Highest Education Attainment	T3.3.3	Household Population by Highest Educational Attainment		
3.4	Population		T3.4.1	Previous Population Development by Municipality				
3.4.1	Previous Population Development		F3.4.1	Previous Population Development of the Province				
3.4.2	Classification of Urban and Rural Areas	(1) Urban and rural areas classified at barangay level based on the definition of NSO	F3.4.2	Present Population Distribution	F3.4.1	Distribution of Urban and Rural Areas		

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				Supporting Report		
3.4.3 Present Population Distribution	(2) Re-classification of urban and rural areas based on actual condition by PSPT	T3.4.2	Outline of Urban and Rural Areas in the Province			
3.5 Health Status	(1) No. of barangays, households & population, household size by urban and rural area	T3.4.3	Household Numbers and Household Sizes			
3.5.1 Morbidity, Mortality and Infant Mortality	- Ten leading causes of morbidity, mortality and infant mortality and comparison with national level - Identification and rank of diseases related to water among the 10 leading causes	T3.5.1	Number and Rates of Ten Leading Causes of Morbidity, Mortality and Infant Mortality	T3.5.1	Number and Ratio of Population to Health Facilities and Medical Practitioners	Morbidity, Mortality and Infant Mortality by Municipality (Annual Incidence per 100,000 persons)
3.5.2 Water Related Diseases	- Classification of water-borne, base, washed, vector related diseases - Enumeration of water related diseases and their incidence - Discussion on the health implications of sanitation	T3.5.2	Reported Cases and Deaths of Notifiable Water Related of Notifiable Water Related Diseases. (Year)			
3.5.3 Health Facilities and Practitioners	- No. of medical facilities and practitioners, its ratio to population and comparison with national level			T3.5.1	Number and Ratio to Population of Health Facilities and Medical Practitioners	
3.6 Environmental Conditions						
3.6.1 General	- Scope of the subject limited to the sector			T3.6.1	Types of Drainage Facilities	Municipal Solid Waste Collection and Disposal by Municipality
3.6.2 Water Pollution	- Evaluation of existing drainage system, its function as a disposal point of domestic wastewater - Evaluation of industrial wastewater discharge - Existing classification of rivers in terms of water quality and extent of water pollution of water bodies			T3.6.2	DENR Water Quality Criteria/Water Usage and Classification for Fresh Water	

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Data Report			
3.6.3 Solid Waste Disposal	- Evaluation of solid waste collection and disposal	T3.6.1 Municipal Solid Waste Collection and Disposal, and Service Coverage	
4. EXISTING FACILITIES AND SERVICE COVERAGE			
4.1 Water Supply			
4.1.1 General	(1) Types and composition of existing water supply facilities by service level (2) Survey results compiled from questionnaire by service level shall be arranged to urban and rural areas at municipal level. (3) Service coverage shall be counted as percentage of population served by the existing facilities. Further classification by safe and unsafe sources together with adequacy of service are incorporated in the service coverage	T4.1.1 Details on Existing Level III Systems T4.1.2 Existing Level II Systems	
4.1.2 Types of Facilities and Definition of Service Level Standard	(1) Adequacy of service defined by NEDA Board Resolution and DOH	T4.1.1 Composition of Water System/Facility by Service Level	
4.1.3 Level III Systems	(1) Description of existing Level III system: - No. of WD & Level III (being operated by LGUs) - Type of major water sources - Range of water consumption (2) Operating conditions of WDs: - Range of service (No. of connection) - Range of charge collection efficiency - Problems and countermeasures	T4.1.2 Information on Existing Level III Systems T4.1.3 Information on Water Districts	T4.1.1 Details on Existing Level III Systems

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\* Questionnaire form

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Contents		Main Report	Supporting Report
Data Report			
4.1.4 Level II Systems	<p>(1) Description of existing Level II system</p> <ul style="list-style-type: none"> <li>- No. of operating Level II systems</li> <li>- Type of major water source</li> <li>- Range of household coverage</li> </ul> <p>(2) Operating conditions:</p> <ul style="list-style-type: none"> <li>- Water supply interruption</li> <li>- Water quality</li> <li>- Collection efficiency</li> <li>- Other Problems and countermeasures</li> </ul>	T4.1.4 Information on Existing Level II Systems	T4.1.2 Details on Existing Level II Systems
4.1.5 Level I Facilities	<p>(1) Description of existing Level I facilities:</p> <ul style="list-style-type: none"> <li>- No. of operational and non-operational facilities</li> <li>- Safe and unsafe sources</li> <li>- Ownership by public and private</li> </ul> <p>(2) Problem areas:</p> <ul style="list-style-type: none"> <li>- Needs for rehabilitation and replacement of existing facilities</li> </ul>	T4.1.5 Information on Existing Level I Facilities T4.1.6 Operating Status of Existing Wells in the Province	T4.1.3 Percentage of Unsafe Water Sources by IPHO T4.1.4(a) No. of Level I Facilities by Safe and Unsafe Classification T4.1.4(b) Public and Private Level I Facilities for Rural Water Supply
4.1.6 Water Supply Service Coverage	<p>(1) Criteria of adequate service based on the national standard</p> <p>(2) Service coverage (percent of population served by safe sources) in urban and rural areas by municipality</p> <p>(3) On-going projects by municipality</p>	T4.1.7 Water Supply Service Coverage by Municipality F4.1.1 Water Supply Coverage of the Province	T4.1.5 Estimation of Unserved Population by Municipality T4.1.6(a) Estimation of Population Covered by Safe and Unsafe Source by Municipality T4.1.6(b) Estimation of Population Covered by Safe and Unsafe Source by Municipality

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Table of Contents		Contents	Main Report	Supporting Report	Data Report
4.2	Sanitation and Sewerage				
4.2.1	General	<ul style="list-style-type: none"> <li>- Brief discussion of government policies/guidelines on sanitation and sewerage as spelled out in the Code of Sanitation and NUSSMP</li> <li>- Coverage of the PW4SP (HH, school toilets and public toilets)</li> </ul>			
4.2.2	Types of Facilities and Definition of Service Level Standard	<ul style="list-style-type: none"> <li>- DOH/DECS classification by service level</li> <li>- Types of toilet facilities considered as sanitary and unsanitary in this sector plan</li> <li>- Definition of served and underserved/unserved</li> </ul>		F4.2.1 Standard Structure of Private Toilet Facility  F4.2.2 Standard Structure of School Toilet Facility	
4.2.3	Sanitation Facilities and Service Coverage				
	(1) Household Toilets	<ul style="list-style-type: none"> <li>- No. of Households with sanitary toilet facilities and underserved, by municipality</li> <li>- Service coverage (percent of household with sanitary toilet facilities and underserved/unserved in urban and rural areas by municipality</li> <li>- Problems and countermeasures</li> </ul>	T4.2.1 Sanitation Facilities and Service Coverage of Household Toilets, Urban and Rural  F4.2.1 Provincial Service Coverage of Household Toilet Facilities	T4.2.1 Sanitation Facilities and Service Coverage of Household Toilets, by Type, by Municipality, Urban and Rural, 1997  T4.2.2 Number of Student and School Toilet Facilities by Municipality	
	(2) School and Public Toilets	<ul style="list-style-type: none"> <li>- No. of School and public toilets by municipality</li> <li>- Service coverage (percent of students adequately served by sanitary facilities and percent of public utilities with sanitary facilities)</li> </ul>	T4.2.2 School Toilet Facilities and Service Coverage in 1994  T4.2.3 Public Toilet Facilities and Service Coverage in 1994		

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Table of Contents		Contents	Main Report	Supporting Report	Data Report
(3) On-going Projects	- Problems encountered with regards to physical and social standpoints and countermeasures - On-going projects by municipality (service coverage)				
(4) Problem Areas	- Common problems encountered with regards to physical and social standpoints				
4.2.4 Sewerage Facilities	- Presence/absence of sewerage facilities. If none, description of existing condition on sewage disposal - If present, description of sewerage system				
5. EXISTING SECTOR ARRANGEMENTS AND INSTITUTIONAL CAPACITY					
5.1 General					
5.2 Sector Reforms	- NEDA Board Resolution No. 4 - NEDA Board Resolution No. 5				
5.3 Sector Institutions	- Existing Institutional Arrangements - Sector Financing (cost sharing arrangement and financing and management systems)		F5.3.1 TS.3.1		Functional Relationships Transition Functions of the DPWH, DILG and DOH
5.4 Sector Agencies at the National Level	(To be discussed for each of the major agencies) - Existing mechanisms and processes to deliver or support services to provinces, municipalities and barangays (financial, technical and institutional) - Mechanisms for coordination and collaboration with LGUs				
(1) DILG					
(2) LWUA					
(3) DPWH					

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Table of Contents		Tables & Figures	
Table of Contents	Contents	Main Report	Data Report
<p>(4) DOH</p> <p>(5) Other Agencies (NEDA, DOF, NWRB, DBM, DENR, DECS, MWSS)</p> <p>S.5 Sector Agencies at the Local Level</p> <p>(1) Provincial Level</p> <ul style="list-style-type: none"> <li>- PPDO</li> <li>- PEO</li> <li>- PHO</li> <li>- Others</li> </ul> <p>(2) Municipal and Barangay Levels</p> <ul style="list-style-type: none"> <li>- MDO</li> <li>- MEO</li> <li>- Barangay Councils</li> <li>- RHU/BHS</li> </ul> <p>(3) Field Offices of Central Sector Agencies</p> <ul style="list-style-type: none"> <li>- DPWH DEO</li> <li>- DILG P/MLGOO</li> <li>- NEDA RO and RDC</li> </ul> <p>(4) Water Districts</p> <p>(5) RWSAs/BWSAs</p> <p>(6) Others (including CBOs)</p>	<ul style="list-style-type: none"> <li>- Existing capacity of national agency to implement sector projects (technical, financial, institutional)</li> <li>- Actual programs being implemented by national sector agencies focusing on transfer of appropriate technologies and approaches</li> <li>- Actual experiences and practices of national agency in project implementation</li> <li>- Problem areas</li> </ul> <p>(To be discussed for each of the agencies)</p> <ul style="list-style-type: none"> <li>- General description of mandate and responsibility</li> <li>- Present capacity of local agency to undertake: the LGU level within the sector</li> <li>* Project identification and priority-setting</li> <li>* Establishment of community-based organization</li> <li>* Project preparation and planning</li> <li>* Project implementation</li> <li>* Operation and maintenance</li> <li>* Monitoring and evaluation</li> <li>- Financial resources (Refer to Chap 6)</li> <li>- Actual experiences and practices of local agencies on project implementation</li> <li>- Mechanism for coordination and collaboration level among local offices to implement, coordinate and monitoring of program activities</li> <li>- Extent of private sector participation</li> <li>- Linkage with national government agencies</li> </ul>	<p>FS.5.1 Organization Chart of the PHDO</p> <p>FS.5.2 Organization Chart of PEO</p> <p>FS.5.3 Organization Chart of PHO</p>	

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Table of Contents		Contents	Main Report	Supporting Report	Data Report
5.8	Community Development				
5.8.1	General	<ul style="list-style-type: none"> <li>- Structure and Linkage of CD</li> <li>- Existing CD approaches to promote participation of local beneficiaries</li> <li>- Experiences/practices on participation of project beneficiaries</li> <li>- Health and Hygiene Education</li> <li>- Strategies for targeting involvement of women</li> <li>- Training of LGUs and beneficiaries</li> <li>- Result of survey/interview</li> </ul>			
5.8.2	Provincial CD Structure and Linkages for WATSAN Sector Project	<ul style="list-style-type: none"> <li>- Staffing situation (quality and quantity)</li> <li>- Existing training programs of sector agencies and mechanisms for implementation (technical and management training)</li> <li>- Access to technical information</li> <li>- Available training and information materials               <ul style="list-style-type: none"> <li>* Types and contents</li> <li>* Mode of dissemination</li> </ul> </li> <li>- Actual experiences and practices of sector agencies</li> </ul>			
5.8.3	Assignment of CD Specialist to Sector Projects	<ul style="list-style-type: none"> <li>- Existing health/hygiene education programs of sector agencies and mechanisms for implementation               <ul style="list-style-type: none"> <li>* DOH (Implementing program on Public Toilets)</li> <li>* DECS (Implementing program on School Toilets)</li> </ul> </li> <li>- Mechanisms and resources for mass dissemination of information and other social marketing programs</li> </ul>			

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Table of Contents		Tables & Figures	
Table of Contents	Contents	Main Report	Supporting Report
5.8.4 Training on CD	- Hygiene educational materials available * Types and content * Mode of dissemination		
5.8.5 Utilization of NGOs	- Actual experiences and practices of sector agencies (national-and local-level)		
5.8.6 Existing Community Development Processes	- Manner of participation in sector development - Typical CD work		
5.8.7 Information, Education and Communication As Foundation Activities for Community Development	- Existing IEC program on sector plans in province, municipality and barangay and WD - Importance of IEC programs		
5.8.8 Health and Hygiene Education	- Existing HHE programs and medium of dissemination - Importance of HHE programs		
5.9 Gender	- Gender Participation in WATSAN Projects - Gender Training - LGUs and Gender Awareness		
5.9.1 General			
5.9.2 The Evolution of Gender and Development			
5.9.3 The LGUs and Gender			

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Table of Contents		Contents	Tables & Figures		
			Main Report	Supporting Report	Data Report
5.9.4	Gender in WATSAN Sector Project	- Gender participation in sector development projects - Gender in water supply and sanitation practices			
5.10	Existing Project and Monitoring	- Sector monitoring, primary sources of sector data - Project monitoring system of related WATSAN project	F5.10.1 UNDP/PII/93/010 Project Participatory Monitoring Feedforward and Feedback Management Mechanism		
6.	<b>PAST FINANCIAL PERFORMANCE IN WATER SUPPLY AND SANITATION</b>				
6.1	General	- Basic idea and brief contents of this chapter	T6.2.1 Income and Expenditures, 1994-1998	T6.2.1 Statement of Income and Expenditures, 1994-1998	
6.2	LGUs Past Financial Performance		T6.2.2 Past Internal Revenue Allotment to the Province	T6.2.2 Past Internal Revenue Allotment for Municipalities from the Central Gov.	
6.2.1	Sources and Uses of Funds	- Discussion on LGUs Major Sources of revenues and its expenditures	T6.2.3 Available Funds for Capital Expenditures, 1994-1998		
6.2.2	Available of Funds	- IRA is the target income source	T6.2.4 Other Sources of Funds for Capital Expenditures and 20% DF, 1994-1998		
6.2.3	Financial Indicators				
6.3	Past Public Investment and Present Plans	(1) Study on the previous public investment to the province by concerned agencies	T6.3.1 Previous Sector Investment to the Province by Concerned Agencies		
6.3.1	Past and Current Annual Investment Plans	(2) Discussion on the manners of using the 20% DF (profile of sector investment to allotted IRA in the province)	T6.3.2 Annual Investment Plan, 1995-1998		

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Table of Contents		Contents	Main Report	Supporting Report	Data Report
6.3.2	Past and Current Breakdown of 20% Dev. Fund		T6.3.3	T6.3.3	
6.3.3	Existing Plans of LGUs for the sector	- LGUs existing program for WATSAN Sector	T6.3.3	T6.3.3	
6.4	LGUs Financing Sources and Management Participation in the Sector	- LGUs Financial involvement in WATSAN	T6.3.4	T6.3.4	
6.4.1	Cost Sharing Arrangements/ Counterpart Funding	- New Cost sharing scheme	T6.4.1	T6.4.1	
6.4.2	ODA Assisted Projects and Grant Aid	- Past Experience with Funding Organization	T6.4.2	T6.4.2	
6.4.3	LGU - Financed and Managed Waterworks/ Water District	- Describe the Past Performance of WDS/ RWSAs/BWSAs			
6.5	Existing Practices by the LGU on Cost Recovery	- Discuss LGU's means of cost recovery of Capital Cost and O&M of Water Supply			
6.5.1	Capital Cost				
6.5.2	Operation and Maintenance	- Describes user's affordability by level of services			
6.6	Affordability by Users				
6.6.1	Capital Cost Contribution	- Discuss user's WTP for water fees to cover O & M and Capital Cost	T6.6.1	T6.6.1	
6.6.2	Operation and Maintenance Cost				

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Table of Contents		Contents	Main Report	Supporting Report	Data Report
7.3	Groundwater Sources	<ul style="list-style-type: none"> <li>- Classification of Groundwater Availability</li> <li>- Groundwater Availability in the Province</li> <li>- Groundwater Quality</li> </ul>	F7.3.1 Groundwater Availability Map F7.3.2 Groundwater Quality map	F7.3.1 Work Flow of Groundwater Availability Map F7.3.2 Groundwater Potential Area F7.3.3 potential Area High Yielding F7.3.4 Area Category by Groundwater Utilization	T7.3.1 Well Inventory by Municipality T7.3.2 Well Inventory by Municipality T7.3.3 Water Quality Analysis Data
7.3.1	Classification of Groundwater Availability				
7.3.2	Groundwater Availability in the Provinces				
7.3.3	Groundwater Quality	<ul style="list-style-type: none"> <li>- Distribution of spring sources</li> <li>- Technical information</li> </ul>		T7.4.1 Existing Spring Sources	
7.4	Spring Sources				
7.5	Surface Water Sources				
		<ul style="list-style-type: none"> <li>- Major rivers in the province</li> <li>- Technical information</li> </ul>	T7.5.1 Surface Water Quality	T7.5.1 Gauging Station & River Water Use by Major River Basin F7.5.1 Gauging Station & River Water Use by Major River Basin F7.5.2 River Flow Duration Curve T7.5.2 Probability of Surface Water	T7.5.1 Surface Water Quality

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7.6	Future Development Potential of Water Sources	- Potential water sources in the provinces standard specification for preparation of Medium-term development plan. Additional detailed development plan for groundwater and spring sources	T7.6.1 Groundwater Development Potential in the Province T7.6.2 Spring Development Potential in the Province T7.6.3 Individual Well Allocation and Specification Map	T7.6.1 Existing Well Source T7.6.2 Hydrological Description by Municipality T7.6.3 Untapped Spring Sources Identification	T7.6.1 Individual Well Location and Specifications Map				
7.7	Water Source Development for Medium-term Development Plan		T7.7.1 Standard Specification of Wells by Municipality T7.7.2 Additional Detailed Groundwater Investigation	T7.6.3 Untapped Spring Water Source Identification T7.7.1 Spacing Arrangement for Planned Wells					
8.	<b>FUTURE REQUIREMENTS IN WATER SUPPLY AND SANITATION IMPROVEMENT</b>								
8.1	General	(1) Physical targets  - Provincial sector targets in context of the National Sector Master Plan and the National Medium-Term Development Plan - Population to be served by target year based on the NSO population projection and broken down to urban and rural areas at municipal level by sub-sector - Public school students to be served by target year based on projected school enrollment at municipal level - Projected number of public utilities with sanitary toilets by target year at municipal level							

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Table of Contents		Contents		Tables & Figures	
				Main Report	Supporting Report
					Data Report
8.2 Targets of Provincial Sector Plan	(2) Physical requirements - Required facilities classified by urban and rural areas by sub-sector with implementation criteria - Equipment for construction, rehabilitation and O&M be identified				
	(3) Identification of priority projects - Criteria for identifying priority projects - Priority projects by sub-sector				
	(1) Percentages of beneficiaries or utilities to be served as target indicator	T8.2.1	Provincial Sector Targets	T8.2.1	Estimation of Base Year Service Coverage of Water Supply
	(2) Setting up of provincial sector targets by sub-sector - Water supply - Sanitation - Sewerage - Solid waste	T8.2.2	Base Year Service Coverage of Water Supply	T8.2.2	Population Coverage in Phase I Provided by Served Population in the Base Year (Water Supply)
		T8.2.3	Base Year Service Coverage of Household Toilets	T8.2.3	Number of Households Served by Sanitary Toilets in the Base Year (1995)
		T8.2.4	Base Year Service Coverage of Public School Toilets and Public Toilets	T8.2.4	Number of Public School Students Served by School Toilets in the Base Year (1995)
		T8.2.5	Base Year Service Coverage of Municipal Solid Waste System in 1995	T8.2.5	Number of Public Utilities with Sanitary Toilets in the Base Year (1995)
				T8.2.6	Household Coverage in Phase I Provided by Existing Facilities in the Base Year (Household Toilets)

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Table of Contents		Contents	Main Report	Supporting Report	Data Report
8.3	Projection of Frame Values				
8.3.1	Population Projection	<p>(1) Methodology for population projection by urban and rural areas by municipality</p> <ul style="list-style-type: none"> <li>- Base figures and conditions: 1990 population census and future population by urban and rural areas by municipality by target year as projected by NSO</li> <li>- Review/verify past population development characteristics by urban and rural areas at regional and provincial level</li> <li>- Review/compare past population in urban and rural areas at provincial level</li> <li>- Identify areas/municipalities where adjustment of projected population is necessary</li> <li>- Identify areas/municipalities to be excluded from PW4SP</li> <li>- Establish future population of urban and rural areas by municipality by target year for</li> </ul>	<p>T8.3.1 Future Population by Urban and Rural Area by Municipality</p>	<p>T8.2.7 Public School Students and Public Utilities Coverage in Phase I Provided by Existing Facilities in the Base Year</p> <p>T8.3.1 Past Population Development</p> <p>T8.3.2 Population Distribution in Urban and Rural Areas (1995 Census)</p> <p>T8.3.3 Growth Rates and Population Projection for Target Years: Region and Province</p> <p>T8.3.4 Provincial Population for the Base Year and Target Year</p> <p>T8.3.5 Projected Number of Households by Urban and Rural Area by Municipality by Target Year</p> <p>T8.3.6 Projected School Enrollment by Municipality by Target Year</p>	
8.3.2	School Enrollment Projection	<p>(1) Methodology for school enrollment projection by municipality</p> <ul style="list-style-type: none"> <li>- Determine school age population</li> <li>- Determine participation rate of total school enrollment and participation rate of public school enrollment</li> <li>- Establish future participation rate of total school enrollment and participation rate of public school enrollment</li> </ul>	<p>T8.3.2 Projected Public School Enrollment and Number of Public Utilities by Municipality</p>		

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Table of Contents		Contents	Main Report	Supporting Report	Data Report
8.3.3	Projection of the Number of Public Utilities	- Conditions used for projection of the number of public utilities toilets		18.3.7	Projected Number of Public Utilities by Municipality by Target Year
8.3.4	Planning Area and Population to be Served by the Sewerage System	- Conditions used to define planning area and population to be served			
8.3.5	Number of Households to be Served by Municipal Solid Waste Collection System	- Condition used to determine population to be served			
8.4	Types of Facilities and Implementation Criteria				
8.4.1	Water Supply	<ul style="list-style-type: none"> <li>- Classification of service level by urban and rural area</li> <li>- Optimum number of persons to be served by type and level of service</li> <li>- Limited utilization/application of Levels I &amp; II systems</li> <li>- Rehabilitation/replacement of Level I facilities</li> </ul>	<p>T8.4.1 Potential Water Source for Urban Water Supply</p> <p>T8.4.2 Groundwater Productivity</p> <p>T8.4.3 Standard Specifications of Level I Wells</p>	<p>T8.4.1 Rapid Evaluation of Untapped Spring for Use in Urban Water Supply</p> <p>T8.4.1 Typical Structure of Level I Well facility</p>	
8.4.2	Sanitation	<p>(1) HH toilets: One sanitary toilet per household is considered. Type of facility is dependent on the existing or planned water supply level of community</p> <p>(2) School and public utilities toilets</p> <ul style="list-style-type: none"> <li>- Future assumption on the number of public schools/utilities toilets</li> <li>- Standard DECS coverage based on a 1:50 facility-student ratio will be followed and the standard designs of RESIP will be adopted.</li> </ul>			

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8.4.3	Urban Sewerage	<ul style="list-style-type: none"> <li>- Standard FW4SP designs (with modification) for public toilets will be adopted</li> <li>- Staged implementation of the sewerage program for limited urban area.</li> <li>- Requirement of garbage collection trucks is considered.</li> </ul>		FR.4.2	Staged Improvement in Sewage Collection Method
8.4.4	Solid Waste				
8.5	Service Coverage by Target Year				
8.5.1	Water Supply	<p>(1) Assumptions/conditions adopted.</p> <ul style="list-style-type: none"> <li>- Criteria on number of persons served by type and level of service through the future</li> <li>- Limited utilization/application of Levels I &amp; II systems</li> </ul> <p>(2) Additional population to be served by target year</p> <ul style="list-style-type: none"> <li>- Present population served in urban and rural areas at each municipality (1995)</li> </ul>	<p>T8.5.1 Population to be served by Target Year (Water Supply)</p> <p>T8.5.1 Population to be Served by Level II System in Phase I</p> <p>T8.5.2 Population to be Served in Phase I (Water Supply)</p> <p>T8.5.3 Population to be Served in Phase II (Water Supply)</p>		
8.5.2	Sanitation	<p>(1) Household toilets</p> <ul style="list-style-type: none"> <li>- Present household served by type of toilet facility in urban and rural areas at municipal level (1995)</li> <li>- Households to be served by type of toilet facility in urban and rural areas at municipal level by target year</li> <li>- Additional households to be served by type of toilet facility in urban and rural areas at municipal level by target year</li> </ul>	<p>T8.5.2 Additional Number of Households to be Served by Target Year (Household Toilets)</p> <p>T8.5.4 Additional Number of Households to be Served in Phase I (Household Toilets)</p> <p>T8.5.5 Additional Number of Households to be Served in Phase II (Household Toilets)</p>		

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Contents		Main Report	Supporting Report
Data Report			
8.5.3 Urban Sewerage	(2) School toilets - Present number of public school students adequately served at municipal level (1995) - Number of public school students to be served at municipal level by target year - Additional public school students to be served at municipal level by target year	T8.5.3 Additional Number of Public School Students to be Served by Target Year (School Toilets)	T8.5.6 Additional Number of Public School Students to be Served in Phases I and II (School Toilets)
	(3) Public toilets - Present number of sanitary public toilets at municipal level (1995) - Projected number of sanitary public toilets at municipal level by target year (new construction) - Additional public toilets at municipal level by target year	T8.5.4 Additional Number of Public Utilities with Sanitary Toilets by Target Year	T8.5.7 Number of Public Utilities with Sanitary Toilets in Phases I and II
	- Assumptions adopted to define service coverage - Population to be served by target year (2010)	T8.5.5 Population to be Served by Urban Sewerage in Phase II	
8.5.4 Solid Waste	- Assumptions adopted to define service coverage - Additional number of households to be served by the municipal system by target year (2000)	T8.5.6 Additional No. of Urban Households to be Served by Municipal Solid Waste System in Phase I	
8.6 Facilities, Equipment and Rehabilitation to Meet the Target Services			
8.6.1 Water Supply	(1) Water supply facilities by service level by target year	T8.6.1 Water Supply Facilities Required by Target Year	T8.6.1 Urban Water Supply Facilities Required by Target Year

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Contents		Main Report	Supporting Report
		Data Report	
8.6.2 Sanitation	<p>(2) Equipment:</p> <ul style="list-style-type: none"> <li>- Well drilling equipment for water source development</li> <li>- Workshop bldg. and its equipment/tools</li> <li>- Major transportation equipment for construction and O&amp;M</li> </ul> <p>(3) Rehabilitation</p> <ul style="list-style-type: none"> <li>- Wells and handpumps</li> </ul> <ul style="list-style-type: none"> <li>- Urban household toilets required by target year</li> <li>- Rural household toilets required at municipal level by target year</li> <li>- Public school toilets required at municipal level by target year</li> <li>- Public toilets required at municipal level by target year</li> </ul>	<p>T8.6.2 Sanitation Facilities Required by Target Year</p>	<p>T8.6.2 Plan for Expansion of Existing Level III System</p> <p>T8.6.3(a) Rural Water Supply Facilities Required by Target Year</p> <p>T8.6.3(b) Public facilities Required by Rural Water Supply by Target Year</p> <p>T8.6.4 Urban Household Toilets Required by Target Year</p> <p>T8.6.5 Rural Household Toilets Required by Target Year</p> <p>T8.6.6 Public School Toilets Required by Target Year</p> <p>T8.6.7 Public Toilets Required by Target Year</p>
8.6.3 Urban Sewerage and Solid Waste	<ul style="list-style-type: none"> <li>- Additional units of truck required to meet service coverage</li> </ul>	<p>T8.6.3 Number of Garbage Collection Trucks Required in Phase I</p>	
8.7 Identification of Priority Projects for Medium-Term Development	<p>(1) Criteria for identifying priority projects</p> <p>(2) Description of identified projects by mode of service in each sub-sector</p>		

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Table of Contents		Contents	Main Report	Supporting Report	Data Report
9.	<b>SECTOR MANAGEMENT FOR MEDIUM-TERM DEVELOPMENT PLAN</b>				
9.1	General				
9.2	Sector Management	<ul style="list-style-type: none"> <li>- Situational Analysis: Developing the Vision</li> <li>- Service Provision Policies and Objectives</li> <li>- Operating Policies</li> <li>- Regulatory Policies</li> <li>- Financing System</li> </ul>	F9.2.1 Sector Management Model		
9.3	Institutional Arrangements				
9.3.1	Roles and Responsibilities of Agencies Concerned				
9.3.2	Institutional Arrangements		F9.3.1 PWSO in the Province		
9.4	Project Management Arrangements	<ul style="list-style-type: none"> <li>- Level I</li> <li>- Level II</li> <li>- Level III</li> </ul>			
9.4.1	Project Approach/Strategy			F9.4.1 Project Implementation Arrangement and Procedure (for Water Supply Component)	
9.4.2	Project Implementation Arrangement	<ul style="list-style-type: none"> <li>- Level I</li> <li>- Level II</li> <li>- Level III</li> </ul>		F9.4.2 Project Implementation Arrangement and (for Sanitation Component)	

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Table of Contents		Tables & Figures		
		Main Report	Supporting Report	Data Report
9.5	Community Development	<ul style="list-style-type: none"> <li>- Policy, responsibilities on CD/CO</li> <li>- Policy, responsibilities on IEC</li> <li>- Policy on Gender Responsive Projects</li> <li>- Potential future development needs</li> </ul>		
9.5.1	General			
9.5.2	CD Structure and Linkage for Sector Projects			
9.5.3	Training on CD			
9.5.4	Utilization of NGOs			
9.5.5	Approaches to CD			
9.5.6	Information, Education and Communication (IEC)			
9.5.7	Health and Hygiene Education			
9.6	Gender			
9.6.1	General			
9.6.2	LGUs and Gender			
9.6.3	Gender participation in WATSAN Projects			
9.7	Human Resources Development and Training		<ul style="list-style-type: none"> <li>- Policy; responsibilities</li> </ul>	

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10. COST ESTIMATES FOR FUTURE SECTOR DEVELOPMENT			
10.1 General	<p>(1) Methodology adopted to cost estimates</p> <p>(2) Composition of cost estimates</p> <ul style="list-style-type: none"> <li>- Costs for required facilities by urban and rural areas at municipal level together with equipment for construction/rehabilitation and O&amp;M</li> <li>- Costs for sector management and recurrent costs</li> </ul>		
10.2 Assumptions for Cost Estimates	<p>(1) Unit Cost of facilities</p> <p>Establish unit cost (per capita/HH or facility) by type and level of service based on:</p> <ul style="list-style-type: none"> <li>- Existing standard unit costs of sector agencies concerned (DPWH, LWUA and DOH)</li> <li>- Typical standards development for PW4SP (i.e., deep wells by different depths)</li> </ul> <p>(2) Unit costs of equipment based on the standard unit cost and recent procurement record at sector agencies concerned (DPWH, LWUA, DOH)</p> <p>(3) Sector management costs</p> <p>Establish percentages to base cost or unit cost for following sector management activities:</p>	<p>T10.2.1 Unit Cost of Facilities by Type and Service Level</p> <p>T10.2.2 Unit Cost of Equipment and Vehicle</p> <p>T10.2.1 Price of Major materials by facility</p> <p>T10.2.2(a) Unit Cost of Level I (Deep Well - 40m Depth)</p> <p>T10.2.2(b) Unit Cost of Level I (Deep Well, Natural Gravel Pack - 40m Depth)</p> <p>T10.2.3(a) Unit Cost of Level I (Deep Well - 80m Depth)</p> <p>T10.2.3(b) Unit Cost of Level I (Deep Well, Natural Gravel Pack - 80m Depth)</p> <p>T10.2.4(a) Unit Cost of Level I (Deep Well - 120m Depth)</p>	

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10.3 Cost of Required Facilities and Equipment	<ul style="list-style-type: none"> <li>- Engineering studies</li> <li>- Community development and training</li> <li>- Health and hygiene education</li> <li>- Logistics support</li> </ul> <p>(4) Recurrent costs</p> <p>Establish unit cost or percentage to base cost for following purposes:</p> <ul style="list-style-type: none"> <li>- Regular operation cost</li> <li>- Spare parts and equipment replacement, and</li> <li>- Management cost</li> </ul>		
		T10.2.4(b)	Unit Cost of Level I (Deep Well - natural Gravel Pack - 120m Depth)
		T10.2.5	Unit Cost of Level I (Deep Well Rehabilitation)
		T10.2.6	Unit Cost of Level I (Shallow Well - 18m Depth)
		T10.2.7	Unit Cost of Level I (Spring Development)
		T10.2.8	Unit Cost of Level II (600 Service Population)
		T10.2.9	Unit Cost of Level III (5,000 Service Population)
		T10.2.10	Unit Cost of Level III (10,000 Service Population)
		T10.2.11	Unit Cost of Level III (15,000 Service Population)
		T10.2.12	Unit Cost of Flush Water Sealed with Septic Tank Toilet
		T10.2.13	Unit Cost of Pour Flush with Double Pit Latrine
		T10.2.14	Unit Construction Cost of Ventilated Improved Pit Latrine

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10.3.1 Cost of Required Facilities	- Costs of required facilities by type and service level of each sub-sector by municipality	T10.3.1 Construction Cost of Required Facilities by Municipality	T10.2.15 Unit Construction Cost of Pit Latrine T10.2.16 Unit Cost of School Toilet T10.2.17 Unit Cost of Public Toilet T10.2.18 Cost for New Laboratory T10.2.19 Cost for Upgrading Laboratory
10.3.2 Cost of Required Equipment and Vehicle	- Costs of required equipment (by municipality and province)	T10.3.2 Cost of Equipment and Vehicle	T10.3.1 Construction Cost of Water Supply Facilities Required for Phase I (2003) T10.3.2 Construction Cost of Water Supply Facilities Required for Phase II (2010)
10.3.3 Cost for Laboratory			T10.3.3 Costs of Sanitation Facilities Required for Phase I (2003) T10.3.4 Costs of Sanitation Facilities Required for Phase II (2010)
10.4 Recurrent Cost	- Recurrent costs	T10.4.1 Recurrent Cost	T10.4.1 Breakdown of Community Development and Training Cost

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II.1 General	- Scope of the study with limitations and future development needs for medium-term (Phase I)	F11.1.1 Sector Budget Allocation Describe the Flow of Funds from NG to PG and Municipalities		
		F11.1.2 General Flow of Financial Arrangements for Relevant Sector Development		
II.2 Projection of IRA	- Study on fund availability: Internal Revenue Allotment and other sources to be negotiated/arranged by sub-sector and by municipality	F11.2.1 Trial Allocation of Internal Revenue Allotment (IRA) to Municipalities for Relevant Sector Development		
		T11.2.1 Projected Internal Revenue Allotment for Medium-Term Sector Development		
		T11.2.2 Projected Allotment of IRA to the Relevant Sector by Component, 1999-2003		
II.3 Additional Funding Requirements	- Identification of Financial shortfall to implementation Medium-Term Development Plan	T11.3.1 Financing Requirements for Sector Component for the Province	T11.3.1 Percentages for Annual Investment	
		T11.3.2 Additional Fund Requirements for the Medium-Term Plan		
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11.4.1	Reference Scenarios in Different Funding Levels	- Trial calculation on the allocation of projected IRA to municipalities for Medium-Term Development		F11.4.2	Relationship Between Funding Levels and Percent of Coverage for Sanitation Sector				
11.4.2	Alternative Counter-measures	- Acquisition of external funds - Augmentation of sector finance - Private sector participation - Effective and economical investment		T11.4.1	Municipal Investment Need Ranking for Urban Water Supply				
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11.5	National Government Assisted Level I/Water Supply and Sanitation Project	- Level I Water Supply and Sanitation improvement with possible assistance from GOP		T11.4.3	Municipal Investment Need Ranking				
11.5.1	Project Components	- Level I Water Supply and Sanitation System in the rural area (5th and 6th class municipalities)		T11.5.1	New Cost Sharing Arrangement between NG and LGUs	T11.5.1	Available IRA from GOP-Assisted Level I Water and Rural Sanitation Project for Eligible Municipalities		
11.5.2	Project Requirements	- Arrangement to meet NEDA requirements		T11.5.2	Cost Sharing for the Project (Case I) 1997 price level	T11.5.2	Available IRA from GOP-Assisted Urban Sanitation Project for Eligible Municipalities		

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<p>12. MONITORING FOR MEDIUM-TERM DEVELOPMENT PLAN</p> <p>12.1 General</p> <p>12.2 Sector Monitoring</p> <p>12.3 Project Monitoring</p> <p>12.4 Evaluation of Plan Implementation and Updating the PW4SP</p>	<ul style="list-style-type: none"> <li>- Monitoring activities with responsibilities in different administrative levels</li> <li>- Monitoring activities at project level</li> <li>- Manner of follow-up and feed back in planning and project implementation</li> </ul>		<p>T12.4.1 Draft Formats for Annual Sector Performance Summary Report (Provincial and Municipal Levels)</p>	<p>T12.4.1 Draft Formats for Annual Sector Performance Summary Report (Provincial and Municipal Levels)</p>

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