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
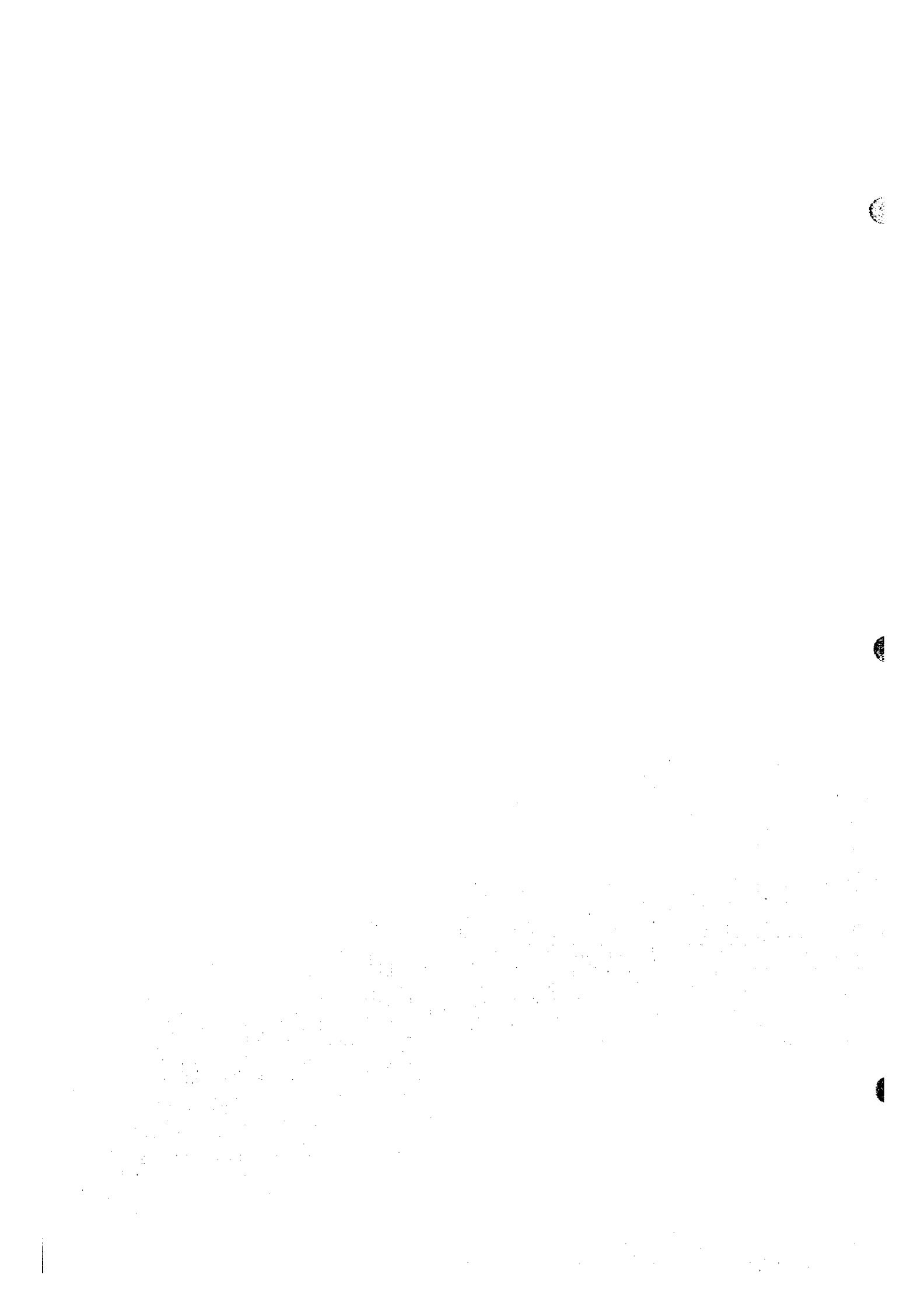### SANITATION SECTOR PLAN
FOR THE PROVINCE OF

LEYTE

DECEMBER 1999

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NIPPON JOGESUIDO SEKKEI CO., LTD.

PROVINCIAL WATER SUPPLY, SEWERAGE AND SANITATION SECTOR PLAN

VOLUME III DATA REPORT

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Table 1.3.1 List of Collected Reports and Documents

No.	Title	Year	Source	G	C	R	P	M	B
I.	**GENERAL**								
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		■				
II.	**SOCIO-ECONOMIC**								
1.	Socio-Economic Profile (Leyte)		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 VIII 1995 Census	1995	NSO				■		
4.	Report No. 2-87P: Socio Economic and Demographic Characteristics Leyte 1995 Census	June-05	NSO				■		
5.	Philippine Statistical Yearbook	1997	NSCB		■				
6.	NSO Census by Province, Male, Female and Age Bracket	1995	NSO				■		
7.	Geographic Coding and Urban and Rural Classification (Region VIII)	1990	NSO				■		

No.	Title	Year	Source	G	C	R	P	M	B
8.	Total Population, Household Population and Number of Households by Province, City/ Municipality and Barangay	1995	NSO		■				
III.	**WATER SOURCE**								
1.	Master Plan Study on Water Resources Management in Republic of the Philippines Vol. 1	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 Leyte	Reprinted in 91, 93 and 96	NAMRIA				■		
7.	Rapid Assessment of Water Supply Sources Leyte	1982	NWRB				■		
8.	Groundwater Resources Investigation Report Leyte	Unpublished	NWRB				■		
9.	Water Resources Summary Data (Volume 1 and 2)	1970	NWRB		■				
10.	Individual Well Inventory Leyte	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				■		
IV.	**WATER SUPPLY**								
1.	Assessment of the Domestic WS and Sanitation Sector of Eastern Visayas	April-98	NEDA/UNIFEC			■			
2.	Technical Assistance to the Republic of the Philippines for the Water Supply and Sanitation Sector and Study	July 1997	ADB		■				
3.	Working Group on Urbanization (WG/U) of the Water Supply and Sanitation Collaborative Council (WSCC)	Sept. 1993	WSCC-WG/U	■					
4.	Water Suppy Feasibility Study Methodology Manual (LWUA-Mala Columbus)	1996	LWUA		■				
5.	Overview of Water Pricing Policies and Structures in the ESCAP Region	1996	UN						

No.	Title	Year	Source	G	C	R	P	M	B
6.	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		■				
V.	**ENVIRONMENTAL SANITATION**								
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		■				
VI.	**INSTITUTIONAL**								
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		■				
VII.	**COMMUNITY DEVELOPMENT**								
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 Decetralized 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		■				
6.	A Manual for Training Trainers in Participatory Techniques	1990	PROWWESS/ 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		■				

No.	Title	Year	Source	G	C	R	P	M	B
10.	Water and Sanitation for All: A World Priority Achievements and Challenges	1995	IRC International Water & Social Center		■				
11.	Community Organizers' Manual, Part 1	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		■				
VIII.	**GENDER**								
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		■				
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		■				
IX.	**FINANCIAL**								
1.	Annual Investment Plans Leyte		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		■				

No.	Title	Year	Source	G	C	R	P	M	B
6.	Joint Circular No. 6-87	Aug. 1987	DBM		■				
7.	Leyte Accomplishment Reports, 1993-1996	1993-1996	PPDO					■	
8.	Statement of Income-Expenditures of Municipalities		PPDO						■

Legend:

ADB - Asian Development Bank
BRC - 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
DOPI - 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
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

PIC - Project Implementation Consultants
PPDO - Provincial Planning and Development Office
PROWWESS - Promotion of the Role of Women in Water, Environmental and Sanitation Sources
SIDA - Swedish International Development Cooperation Agency
UN - United Nations
UNIFEC - United Nations International Children's Fund
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
Provincial Sector Planning Team:		
1. Ms. Evelia Q. Martin	Prov'l Planning & Dev't Coordinator	Provincial Planning & Dev't. Office
2. Ms. Corazon M. Alvero	Project Development Officer IV	Provincial Planning & Dev't. Office
3. Mr. Aniceto Andreilee C. Fernandez	Draftsman II	Provincial Planning & Dev't. Office
4. Mr. Erwin B. Dumaguit	Draftsman III	Provincial Planning & Dev't. Office
5. Mr. Sancho B. Samson	Engineer III	Provincial Engineer's Office
6. Ms. Estrella L. Vanilla	Sanitary Inspector V	Provincial Health Office
7. Mr. Alberto M. Bitangjol	LGOO II	DILG, Leyte
Water Supply and Sanitation – Project Management Office:		
1. Ms. Ellen I. Pascua	Program Manager	WSS-PMO, DILG
2. Mr. Rogelio B. Ocampo	Chief, Planning Division	- do -
3. Ms. Fe Crisilla M. Banluta	PW4SP Project Officer	- do -
4. Ms. Contessa C. Navarro	Area Coordinator	- do -

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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

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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 Implementation of PW4SP	
1.3.1 Preparation of the Plan				
1.3.2 Outline of the Report				
1.4 Acknowledgments	Persons/Institutions responsible in the plan preparation			*1.3.1 List of Report/Data/Information/Materials Collected; T1.4.1 List of Persons and Institutions who Participated in the
2. PLANNING APPROACH FOR FUTURE SECTOR DEVELOPMENT				
2.1 General	- Sector Arrangements with Reference to National Master Plan and Medium-Term Development Plan	T2.2.1 National Sector Coverage Targets		
2.2 Planning Framework				

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2.4	Current Sector Policies and Strategies	- Self-Reliance - Integrated Approach - Cost Sharing Arrangement - Cost Recovery - Sustainability - Private Sector Participation - Water Resources Management			
2.5	Major Legislation and Regulations Affecting the Sector	- Local Government Code - Water Code of the Philippines - Philippine Environmental Code - Provincial Water Utilities Act - Metropolitan Water Works and Sewerage System Charter - National Drinking Water Standards - Plumbing Code of the Philippines - Code on Sanitation - National Building Code			
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 I Safe & Unsafe Percentage T2.6.5 Unit 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	B-4 Composition of Figures and Tables by Chapter/Section
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2.6.2	Data Management				

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3.2 Natural Conditions and Geographical Features				T3.2.1 Flow Data of Major Rivers
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		
3.3 Socio-economic Conditions				
3.3.1 Economic Activities and Household Income	(1) Brief description of major economic activities (2) Discussion on (a) household income level and (b) occupation	F3.3.1 Distribution of Households by Income Class F3.3.2 Employment Distribution	T3.3.1 Distribution of Families by Income Class T3.3.2 Employment by Major Industry Group and Class of Worker	
3.2.3 Basic Infrastructure	(1) Description of current basic infrastructure in the province (roads, electricity, telecom, postal services, transportation, banking facilities, tourism facilities, schools, etc.)	T3.3.1 Provincial Outline of Public Services T3.3.2 Public Facilities and Services by Municipality		T3.3.1 Number of Elementary School, High School and Other Facilities

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		Description of (a) education levels and (b) literacy level	F3.3.3 Population Distribution by Highest Education Attainment	T3.3.3 Household Population by Highest Educational Attainment	
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3.4.1	Previous Population Development	(1) Population data of NSO for the census periods from 1960 to 1990 together with projected (1995) population	T3.4.1 Previous Population Development by Municipality		
		(2) Special issues, if any, which affected the present population of the province, i.e., special development and those of resettlement/evacuation.	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 Location Map of Urban Areas	
		(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		
3.4.3	Present Population Distribution	(1) No. of barangays, households & population, household size by urban and rural area	T3.4.3 Household Numbers and Household Sizes		
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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 Morbidity, Mortality and Infant Mortality

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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	
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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		T3.6.1 DENR Water Quality Criteria/Water Usage and Classification for Fresh Water	
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		T3.6.1 Municipal Solid Waste Collection and Disposal by Municipality
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4.1 Water Supply				
4.1.1 General	(1) Types and composition of existing water supply facilities by service level			

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	(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			
4.1.2 Types of Facilities and Definition of Service Level Standard	(1) Adequacy of service defined by DOH	T4.1.1 Composition of Water System/Facility by Service Level		T4.1.3 List of Subdivisions by Municipality
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 - Problems and countermeasures	T4.1.2 Information on Existing Level III Systems	T4.1.1 Details on Existing Level III Systems	
	(2) Operating conditions of WDs: - Range of service (No. of connection) - Range of charge collection efficiency - Problems and countermeasures	T4.1.3 Information on Water Districts		
4.1.4 Level II Systems	(1) Description of existing Level II system - No. of operating Level II systems - Type of major water source - Range of household coverage	T4.1.4 Information on Existing Level II Systems	T4.1.2 Details of Existing Level II Systems	
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4.2.2 Types of Facilities and Definition of Service Level Standard	- DOH/DECS classification by service level - Types of toilet facilities considered as sanitary and unsanitary in this sector plan - Definition of served and underserved/ unserved		F4.2.1 Standard Structure of Private Toilet Facility F4.2.2 Standard Structure of School Toilet Facility	

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(2) School and Public Toilets	- No. of school and public toilets by municipality		School Toilet Facilities and Service Coverage	T4.2.2	Number of Student and School Toilet Facilities by Municipality	T4.2.2	
	- Service coverage (percent of students adequately served by sanitary facilities and percent of public utilities with sanitary facilities)		Public Toilet Facilities and Service Coverage	T4.2.3	Number of Public Toilet Facilities	T4.2.3	
	- Problems and countermeasures						
(3) On-going Projects	- On-going projects by municipality (service coverage)						
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5.2 Sector Reforms	- NEDA Board Resolution No. 4 - NEDA Board Resolution No. 5			
5.3 Sector Institutions	- Existing Institutional Arrangements - Sector Financing	F5.3.1 Functional Relationships		
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(1) DILG	- Existing mechanisms and processes to deliver or support services to provinces, municipalities and barangays (financial, technical and institutional)			
(2) LWUA	- Mechanisms for coordination and collaboration with LGUs			
(3) DPWH	- Existing capacity of national agency to implement sector projects (technical, financial, institutional)			
(4) DOH	- Actual programs being implemented by national sector agencies focusing on transfer of appropriate technologies and approaches			
(5) Other Agencies (NEDA, DOF, NWRB, DBM, DENR, DECS, MWSS)	- Actual experiences and practices of national agency in project implementation - Problem areas			

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- PPDO	take: the LGU level within the sector			
- PEO	* Project identification and priority-setting			
- PHO	* Establishment of community-based	F5.5.1	Organization Chart of the PPDO	
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- MEO	* Operation and maintenance			
- Barangay Councils	* Monitoring and evaluation			
- RHU/BHS	- Financial resources (Refer to Chap 6)			
	- Actual experiences and practices of local			
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- DPWH DEO	- Mechanism for coordination and collabora-			
- DILG P/MLGOO	tion level among local offices to implement,			
- NEDA RO and RDC	coordinate and monitoring of program			
	activities			
	- Extent of private sector participation			
(4) Water Districts	- Linkage with national government agencies			
(5) RWSAs				
(6) BWSAs				
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	- The United Nations Development Program			
	and the United Nations Children's Fund			
	(UNICEF)			

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1. INTRODUCTION

The PW4SP Data Management User's Guide explains the procedure of encoding data and generating tables and figures for the PW4SP. The Guide consists of the following sections.

- Section 2: hardware and software required to successfully run the PW4SP Data Management System
- Section 3: the concept of the microcomputer architecture and an overview of hardware configurations
- Section 4: fundamentals to operate the system with internal architecture
- Section 5: basic concept of software operation
- Section 6: a complete list of data files and worksheets in the PW4SP Data Management System
- Section 7: data linkages
- Section 8: the procedure of updating the PW4SP
- Section 9: standard report format

2. SYSTEM REQUIREMENTS

The following are the basic requirements to successfully run the PW4SP data management.

Hardware: **Software:**

Computer:	Pentium Series	Operating System:	Window 95/98
RAM:	32 MB (minimum)	Windows Package:	MS-Office 97
Hard Disk:	3 GB (minimum)	Spreadsheet:	MS-Excel 97
Floppy Drive:	3.5 inch, High Density	Word Processing:	MS-Word 97
Monitor:	VGA Monitor		
Printer:	80 column (Can handle A4 size paper).		
Mouse:	Any brand that supported by MS-Windows		
Miscellaneous:	500 watts Automatic Voltage		
	Regulator and Surge Protector		
	UPS 450 watts		

3.   MICROCOMPUTER SYSTEM

All computers, whether large or small, basically operate on the same fundamental principles. The hardware and software of a mainframe computer and a microcomputer have the same components and fulfill the basic functions necessary to any computer system.

The computer is seen as a powerful tool that can enable us to expand the horizons of our knowledge. It allows processing of large volume of data or complex pattern of information that would otherwise be difficult to organize and understand. Moreover, it allows for an easy manipulation of data.

There are two major components of a microcomputer: the hardware and the software. These two components complement each other in order to fulfill their basic function.

A microcomputer hardware is made up of several components based on the functions they perform in the system and how they interact with the other components.

The principal elements of a computer system are:

- Central Processing Unit (CPU)
- Main Memory (RAM)
- Secondary Storage Devices (disk, drives, magnetic tapes, etc.)
- Input/Output Devices (monitors, printers, etc.)

The CPU does the actual computing. It is capable of simple arithmetic and logical operations, such as addition and data comparison, that are executed at exceedingly high speed. The power of a computer directly stems from the speed and accuracy with which the CPU can carry out computations and move information around. The main memory of the computer is usually referred to as *Random Access Memory* or RAM. This part of the computer contains the programs and information that are currently being processed by the CPU. Secondary storage device, such as magnetic disk, is capable of holding large amount of data. Programs and data are normally stored on these secondary devices and could be retrieved when needed. They are then loaded into the RAM and executed. The results of the processing can then be written into the secondary storage device or sent to an output device such as the monitor or printer. Peripheral devices or Input/Output (I/O) devices allow the user to put data into a computer or receive output from a computer. A terminal is a peripheral that contains both a keyboard for input and a monitor for output. Other peripherals include printers and plotters.

The diagram below presents the basic hardware component of a microcomputer system.
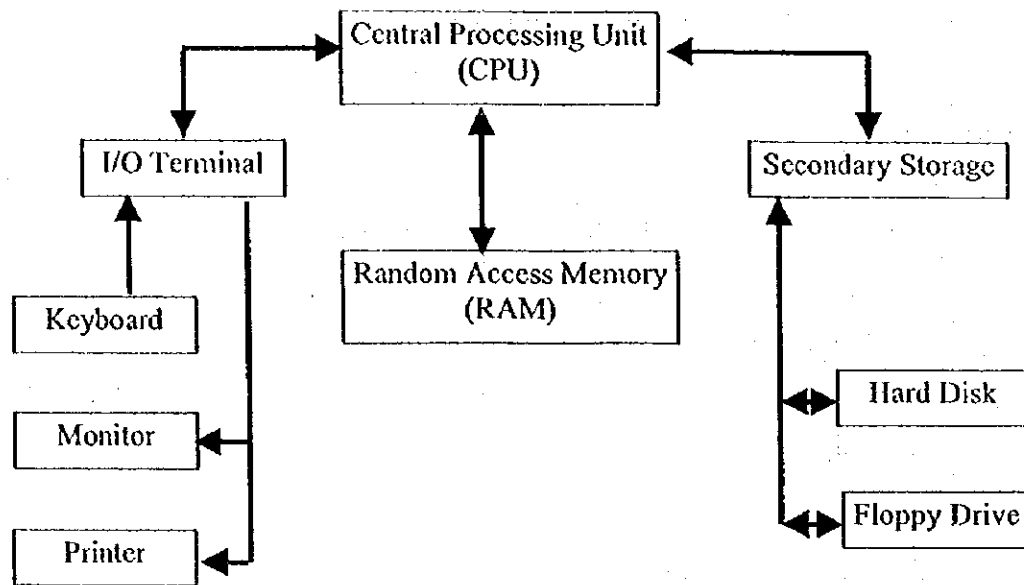
Floppy Drive is the most common type secondary storage used in personal computer today. It acts as an external drive from which the users insert the floppy disk to store and retrieve information. The floppy disk comes in three sizes: 3.5 inches, 5.25 inches and 8 inches. It is characterized by thin circular plastic sheets coated with iron oxide so that magnetic patterns recorded on it can be retained. The surface is similar to a magnetic tape used to record music. The 5.25 inches diskette is contained in a square cardboard envelope in which it spins. The 3.5 inches diskette is contained in a hard plastic case with a metal shutter that protects the magnetic media. A floppy disk can store from 80 kilobytes to 1.44 megabytes of data. Floppy disk system is slower and has less storage capacity than hard disk system, but its lower cost makes it a popular choice for personal computer users.

Hard disk is made of magnetic metal, and can either be removable or non-removable. The most common type of hard disk that is found in personal computer today is non-removable. This disk typically holds from 10 megabytes to 3.2 gigabytes of information. Each megabyte is equivalent to 1,048,576 characters of information, or roughly 1,800 single-spaced typewritten pages; hence, this is a very efficient way to store large volume of information.

Keyboard is an external device that acts as a primary interface between the human operator and the computer. The keyboard has 3 basic components: the typewriter keyboard which is composed of alphabet characters; the calculator pad which is composed of numeric characters; and the function keys which serve as special macro key for various software.

Monitor is the screen or video display peripheral and serves as the main output device on a personal computer. It is used to display text and graphics information and is available in a variety of sizes and types. Monitors can be divided into two broad groups: those designed to display text information; and those designed to display graphics information, such as charts or picture. Within the graphics group, there are color or monochrome (single color) displays. A high quality graphic color monitor is capable of showing high-resolution pattern and is recommended for application in MS-Window, Excel, or AutoCAD.

Printer is another common peripheral found in personal computer system. The common types of printers are dot matrix, inkjet and laser printer. The dot matrix printer produces its image by printing a group of dots that form the image of a character or symbol. The inkjet printer is similar to the impact dot matrix printer, instead of using the pin impact force to create an image it use ink bubble to create similar image. The inkjet printer is much lighter and quiet than the impact dot matrix printer. Today, it is the popular choice due to it characteristic and wide availability of selection. The laser printer produces its image by means of electrophotograph similar to the principle of photocopy machine. The image produced in the laser printer is much crispier than the inkjet printer due the high-resolution capability. Both the inkjet and laser printer can produce color print.

4. OPERATING SYSTEM

Operating systems is a set of control program that manages the computer's resources and creates a well-defined software environment for computer applications. Computer hardware by itself can perform little useful work. A computer requires software to be able to communicate and do useful work. The first layer of software in a computer system is the operating system. This is *what starts*, or *boots up*, the machine helps in pulling itself up by its own bootstraps and establishes a predetermined set of conditions so that applications can be run. When the computer is turned-on or the reset button is pressed, the control is pass to a set of control programs found in the ROM, a firmware store in computer chips. These programs perform several tasks: (1) to check if hardware are functioning correctly; (2) to load a set of control program from the disk to the memory; and (3) to pass control to a routine which will accept the user input. At this point, the operating system is loaded and the user can execute an application program such as MS-Word, Excel, Power Point, Access, etc.

An operating system by itself has two levels of functionality. The first level is seen by the user running the applications and utilizing system commands and utilities. At this level, each operating system has its own set of command used to accomplish frequently performed tasks such as copying files, renaming files, and formatting disks. Normally, frequently-used functions are included in the operating system as system commands. The second is at the programming level. All operating systems contain a set of pre-packaged routine that performs the "primitive" functions necessary in

almost all applications. Such functions, like sending a character to the screen, reading and writing information from a disk file, and accepting input from the keyboard are common to nearly all programs. This level of functionality gives the programmer a set of standardized routines to perform this task.

5.   SOFTWARE

The operating system alone renders the computer nearly useless, unless the user is capable of directly communicating to the hardware. In order to use the computer system, software is needed. Various software are available for different purposes, such as MS-Word for word processing, Excel for spreadsheet, Power Point for presentation, Access for database and Foxpro for database programming.

5.1.   MS-WINDOWS

MS-Windows is the most popular operating system, it duplicates all the function performed by DOS, the defunct operating system of the seventies and eighties. The capability of MS-Window operating system far exceeds that DOS can offer it most convenient and easy to navigate. Most of the commands are represented by descriptive figures called *icons*. Navigating around the windows could be achieved through the use of a pointing device called mouse, normally in the desktop environment, the mouse pointer is seen as outline of an arrow or white arrow. To execute a command, the user only need to bring the mouse pointer to the desired command described by the icon and press the right button or double click the left button. The execution starts without typing any single character in the keyboard, unlike the DOS convention that needs typing a series of characters comprising the command. In windows, the computer screen is referred to as the *desktop*. When working, the application and documents must be in the windows. The windows on the desktop must also be arranged. If an application is left for a while, the windows are shrunk to an application icon, and still, the application keeps running on the background. When an application is shrunk, the windows place their application icon at the bottom edge of the desktop until it is again restored to window size.

With windows, several powerful applications can be run simultaneously. For example, switching from a word processing application to a spreadsheet, and then to database application with a few simple moves while quitting one application and restarting another, can easily be done.

Parts of a Windows

Each application and some documents the user choose to work on, open as separate windows. Every window has some common elements, however, not all windows use all the items.

The elements as illustrated below are the tools for working with the window and the application or document within the window.
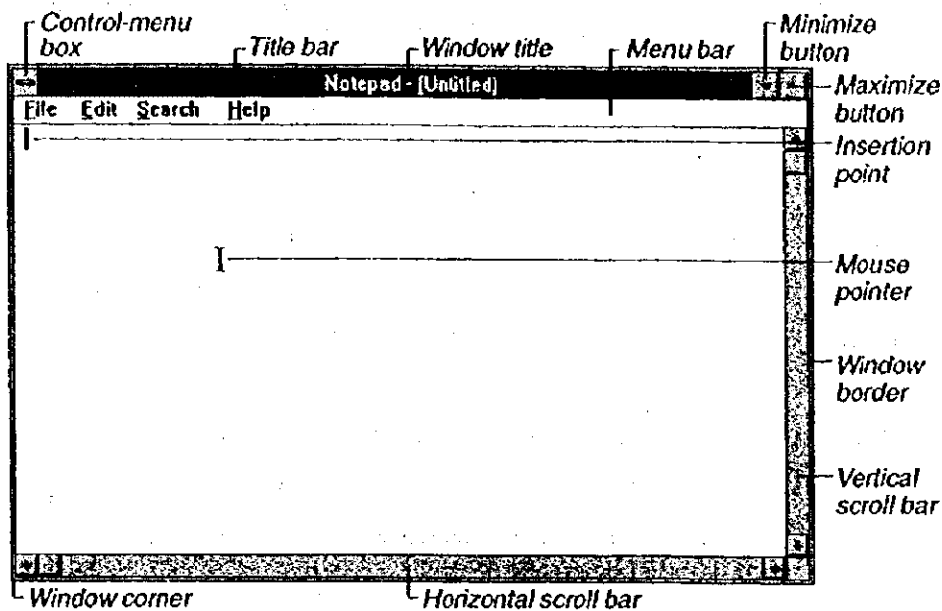
The *Control-menu* box located in the upper-left corner of the window is the most useful menu when the use of a keyboard is preferred. The Control-menu commands can resize, move, maximize, minimize and close windows, and switch to Task List.

The *title bar* shows the name of the application or document. If more than one window is open, the title bar of the active window has a different color or intensity compared to the other title bars.

The *window title*, depending on the type of window it appears, can be the name of an application and the name of the document, or a placeholder. In such case, "untitled" normally appears.

The *menu bar* lists the available menus. Most applications have a File menu, an Edit menu, and a Help menu as well as other menus unique to the application.

The *Scroll bar* can move the parts of the document into view when the entire document will not fit in the window. With the bar, unseen portion of the lists and other information that is too long to fit in the allotted space can also be viewed.

The *Maximize and Minimize buttons* enlarge the active application window to fill the entire desktop or shrink the window to an icon. Document windows enlarge just to fill the application workspace and

not the entire desktop. After enlarging the window, the Maximize button changes to a Restore button. Restore button can be used to return the window to its previous size.

The *Window border* is the outside edge of a window. It can lengthen or shorten each side of the border.

The *Window corner* can be used to shorten or lengthen two sides of a border at the same time.

The *Workspace* is where most of the work with an application are done. For example, the content of the documents appears in the workspace when starting a wordprocessor. Hence, an application can allow the opening of more than one document window within this workspace.

The *selection cursor* shows where the user is in an individual document. It marks the place in the text or graphics where the user begins typing or drawing. The arrow-shape mouse pointer appears if you have a mouse installed. It is used to indicate items the user wants to select with mouse.

Starting Applications with the Run Command

The Run command is a handy way to start applications that you want to run only occasionally or have not yet added to a group. You can open a document at the same time you start the application. Unless the program file is in your current path, you need to know the exact directory location and name of the program file before you can start the application.

1. Choose Run from the File menu in Program Manager or File Manager.
    The Run dialog box appears.
2. Type the pathname and the exact filename of the program file, including the extension
    if there is one.
3. If you want the application to shrink to an icon as soon as it starts, make sure the Run
    Minimized check box contain an X.
4. Choose OK or press ENTER.

5.2. MS-EXCEL

Excel is a spreadsheet type of software package that operates under the MS-WINDOWS operating system. The primary document in Excel is called a *workbook*. The workbook is similar to a ledger that stores information and each workbook is made up of *sheets*. The sheet is virtually divided into *column* and *row*; the column run horizontally and denoted by an alphabet starting with *A* and the row run vertically and denoted by number starting from 1. The intersection of column and row is called
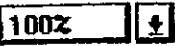
cell. The cell is the basic component of worksheet that accept different data types. The most common data types are character, number, date, logical value and formula.

Standard Toolbar
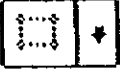
The standard toolbar that normally appears at the top of screen helps select options. Such options can open workbook, print and save worksheet, and ask for help. The following is a list of the individual icons and their respective functions.

Excel's Standard Toolbar

Button	Name	Function
	New Workbook	Creates a new workbook
	Open	Opens a document
	Save	Saves the active workbook
	Print	Prints the active workbook
	Print Preview	Shows the active document in print preview mode
	Speller	Checks the spelling of the document
	Cut	Cuts the selection to the Clipboard
	Copy	Copies the selection to the Clipboard
	Paste	Places the Clipboard contents at the insertion point

Button	Name	Function
	Format Painter	Copies and pastes formats for cells and objects
	Undo	Undoes the last action or command
	Repeat	Repeats the last action or command; this is the same as the redo feature in Word 6
Σ	AutoSum	Inserts the SUM function and shows sum range
f_x	Function Wizard	Starts the Function Wizard
	Sort Ascending	Sorts selected rows in ascending order
	Sort Descending	Sorts selected rows in descending order
	ChartWizard	Activates the ChartWizard
	Text Box	Inserts text or text box
	Drawing	Turns the drawing toolbar on or off
100%	Zoom Control	Sets the view of the document
	Tip Wizard	Turns the TipWizard toolbar on or off

Button	Name	Function
🔆?	Help	Displays Help
Arial ⬇	Font	Sets the font for the selection
10 ⬇	Font Size	Sets the font size for the selection
B	Bold	Boldfaces the selection
I	Italic	Italicizes the selection
U	Underline	Underlines the selection
≣	Align Left	Left-aligns the selection
≣	Center	Centers the selection
≣	Align Right	Right-aligns the selection
⊞3⊞	Center Across Columns	Centers the selection across columns
$	Currency Style	Changes the selected cells to default currency style
"%"	Percent Style	Changes the selected cells to default percent style
,	Comma Style	Changes the selected cells to default comma style

Button	Name	Function
+.0 .00	Increase Decimal	Adds one decimal place to the number format
.00 +.0	Decrease Decimal	Removes one decimal place from the number format
Borders	Borders	Enables you to select a border for the selection
Color	Color	Sets the color for the selection
Font Color	Font Color	Sets the color for the selected font

Basic Part of Excel Screen

Menu Bar

Toolbars

Workbook

Tabs   Worksheet

MS-Excel Basic Operation

Following the description of the basic operation, the mouse is used as a pointing device instead of a keyboard. The word *click* means the user must press the left button of the mouse; double click means two successive clicks; and *enter* means the user must press the Enter key in the keyboard. Basic operation dealt only to the routine necessary to update the PW4SP data base.

Creating a New Worksheet

When you enter Excel, it opens up to a new workbook, by default it contain 16 worksheets. You can use any of the worksheets. Even if there is an open workbook, you can still open another by moving the mouse pointer in the New icon (upper left of the screen below the menu bar). Click on it.

Saving the Workbook

1. Move mouse pointer to File menu and click on it to bring the File menu option.
2. From the option available. Select Save.

3. If the document your saving is new. The Save As dialog box appear. In the File Name box type the name of the workbook.

Enter Data in a Cell

1. First select the *cell* by moving the mouse pointer and clicking the right button.
   This routine place the insertion point in the active cell, which is highlighted on-screen with border around it.
2. You can start entering the data from your keyboard or numeric keypad.
3. To confirm the input, you can press ENTER or move the mouse pointer to the Formula bar and click the Check icon.

Editing Cell Contents

1. Double-click the cell containing the data you want to edit. To edit in the formula bar, click in the formula bar. In case the formula bar is not displayed, choose Formula Bar from the View menu located at the top row of screen.
2. Edit the cell contents.
3. To confirm the modification made in the cell, click the Check icon in the formula bar or press ENTER. To cancel edits, click the X icon in the formula bar or press ESC.

Clearing Cells

1. Select a cell or range of cells that you want to clear.
2. From the Edit menu, choose Clear, and from the option available,
   you the choose All, Contents, Formats, or Notes.
   Shortcut : Press DEL.

To clear cells by dragging

1. Select a cell or range of cells that you want to clear.
2. Move the mouse pointer in the *fill handle* (lower right corner),
   drag the fill handle toward the area of cell or range, then the selected area will become gray.
3. Release the mouse button.

Copying Cells

1. Select the cells containing the data you want to copy.
2. From the Edit menu, choose Copy.
3. Select the upper-left cell of the paste area.
   Beware that any values or formula in the paste area will be replaced.

Undo Command

1. To undo your last command, click the Undo button.
   From the Edit menu, choose Undo.

Creating Border around Cell

1. Choose the Cell menu from Format menu.
2. Choose the side you want put the border, and then choose type of border.
3. Click OK button.

Deleting Rows and Columns

1. Select the row or column
   To delete more than one row or column, extend the selection to include all the rows or columns you want to delete.
2. From the Edit menu, choose delete (Entire rows or column)
3. Click OK button

Inserting Rows and Columns

1. Select the row or column
   To insert more than one row or column, extend the selection to include the number of rows or columns you want to insert.
2. From the Edit menu, choose Insert (Entire rows or column)
3. Click OK button.

Selecting a Sheet or Sheets

To select a single sheet, click the sheet tab.

To select two or more sheets

1. Click the sheet tab for the first sheet you want to select.
2. If the sheets you want to select are adjacent, hold down the SHIFT key and click the tab for the last sheet.
   If the sheets you want to select are non-adjacent, hold down the CTRL key and click the other sheet tabs.

Ungroup Selected Sheets

1. Move the mouse pointer to the sheet tab. Click the left button of the mouse.
2. While the mouse pointer still on the sheet tab, click the right button and choose the Ungroup Sheets.

Inserting Worksheet

1. Select a sheet or sheets in the workbook.
2. From the Insert menu, choose Worksheet.
   The new sheet or sheets will be inserted to the left of the sheet tab you select.
   Shortcut : SHIFT+F11

Deleting Worksheet

1. Select a sheet or sheets in the workbook.
2. Move the mouse pointer to the sheet tab, and click the right button.
3. Choose Delete, and click the OK button.

Moving Worksheet Within the Workbook

1. Select the sheet or sheets you want to move.
2. Drag the selected sheet tab along the row of tabs.
   A black triangle indicates the place where the sheets will be inserted.
   All selected sheets will be inserted.
3. Release the mouse button.

Alternate Method

1. Select the sheet or sheets you want to move.
2. From the Edit menu, choose Move or Copy Sheet.
3. In the Before Sheet box, select where you want sheets to be inserted.
4. Click the OK button.

Moving Sheets to Other Workbook

1. Open the workbooks you want to move sheets *to* and *from*.
2. Select the sheet or sheets you want to move.
3. From the Edit menu, choose Move or Copy Sheet.
4. In the To Book box, select the destination workbook.
5. In the Before Sheet box, select where you want the sheet or sheets inserted.
6. Click OK button.

Alternative Method

1. Open the workbooks you want to move sheets *to* and *from*.
2. From Window menu, choose Arrange and choose horizontal.
   In the desktop, two workbooks will open in screen split the workarea horizontally.
3. Select the sheet or sheets you want to move.
4. Hold-down the CTRL key and the right button of the mouse.
   A paper icon and black triangle indicate that you made the move routine active.
5. Drag the mouse pointer to the other workbook and select where you want
   the sheet or sheets inserted.
6. Release the mouse button.

Copying sheets within a workbook

1. Select the sheet or sheets you want to copy.
2. Hold down the CTRL key and mouse left button, and then drag the selected
   sheet tab along the row of tabs. A black triangle indicates the place where
   the copied sheet will be inserted.
3. Release the mouse button and then the key.

Alternative Method

1. Select the sheet or sheets you want to copy.
2. From the edit menu, choose Move or Copy Sheet.
3. In the Before Sheet box, select where you want the copied sheet inserted.
4. Select the Create A Copy check box.
5. Click the OK button.

Copying sheets to other workbook

1. Open the workbook you want to copy to and from.
2. Select the sheet or sheets you want to copy.
3. From the Edit menu, choose Move Or Copy Sheet.
4. In the To Book box, select the destination workbook.
5. In the Before Sheet box, select where you want the copied sheet inserted.
6. Select the Create A Copy check box.
7. Choose the OK Button.

Printing your Work

1. From File menu, choose Page Setup to display the Page Setup dialog box.
2. On Page Setup dialog box, their are four option available
    Page tab controls page orientation, scaling, page size, print quality, and starting page number for the selected sheet.
    Margin tab controls page margins and the header and footer margins, and center the sheet on the page vertically, horizontally or both.
    Header/Footer tab controls page the headers and footers for the selected sheet. headers and footers are descriptive text that print at the top and bottom of every page in your sheet. You can add, delete, edit, format, and position headers and footers, and view them as they will print.
    Sheet tab specifies which areas of the sheet you want to print, and controls the print titles, page order, and draft quality. Also controls whether gridlines, cell notes, and row and column heading print. The Sheet tab is displayed if the active sheet is a worksheet or macro sheet.
3. On the Print What, their are three option available.
    Selection option prints only the selected cells in the selected sheets. Nonadjacent selections are printed on separate pages. Selecting this overrides any print areas you have defined for the selected sheets using Print Area option on the Sheet tab of the Page Setup dialog box.
    Selected Sheets option prints the area of each of the currently selected sheets, with each print area starting on a different page. If no print area is defined on a separate sheet, the entire sheet is printed.
    Entire Workbook option prints the entire print area of all sheets in the active workbook. If a sheet does not have a print area, that entire sheet is printed.
4. On the Copies box, specifies the number of copies to print.
5. On the Page Range, their are two option available.
    All option print all the pages in the selected sheets.
    Page(s) option print the range of pages specified in the From and To boxes. Page numbers you selected in the From and To boxes affect which cells will be printed, not the numbering of the pages upon which they are printed. To change the numbering of printed pages, specify a number in the First Page Number box of the Page tab in the Page Setup dialog box.
6. The user have option to see the appearance of the print by clicking the Print Preview button.
7. Printer Setup option give the user an option to select among the available printer drivers.
8. Click the *OK* button to proceed printing.

5.3.   MS-WORD

MS-Word is word processing type of software. This is analogous of converting your computer into typewriter machine. You have page in which you type characters, you have a ruler that show where you are as you type across the page. You have tabs stops and margin settings. The insertion point moving across the page even acts like the print head moving across the page.

MS-Word offer more advance features that you need to create from simple to complex type of document. When you start Word you will notice almost the identical appearance with that of MS-

Excel. Most of the command are represented in terms of icon, in the middle of the workspace were you enter your text and other object included in your documents.

Starting Word

From the MS-Window environment, you can double-click the MS-Word icon in the MS-Office program group. In some case the MS-Office administrator is automatically loaded at start-up of Windows environment. The MS-Office administrator menu icons are located in the upper right side of the screen. You can start MS-Word by clicking the icon.

Quiting Word

1. Move mouse pointer to **File** menu and click. File sub-menu will appear.
2. From the File sub-menu, move mouse pointer to **Exit** option and click.
   The MS-Word environment will normally terminate. In some cases, if some active documents has not yet been save. MS-Word give the user's option to save the documents.
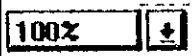
Standard Toolbar

The standard toolbar which normally shown at the top of screen helps you select the option, from this toolbar. The user's can open new document, open existing document, print and save document, and ask help to farther understand some function or procedure to accomplish desired task. Using the toolbar speed-up the desire task instead of using the menu (located at the top of the screen). The following shows the list of standard toolbar icons and their function.

MS Word Standard Toolbar

Button	Name	Function
	New	Creates a new file based on the Normal template
	Open	Displays the Open dialog box so that you can select an existing file to open
	Save	Saves the current document
	Print	Prints the current document
	Print Preview	Activates Word's print preview features

Button	Name	Function
	Spelling	Initiates a spelling check
	Cut	Cuts selected material to the Windows Clipboard
	Copy	Copies selected material to the Clipboard
	Paste	Pastes material from the Clipboard into your document
	Format Painter	Copies the formatting of a selection to the text you specify
	Undo	Undoes the commands you select from the list presented
	Redo	Redoes the commands you select from the list presented
	AutoFormat	Formats your document automatically
	Insert Auto Text	Inserts an Auto Text entry.
	Insert Table	Inserts a table into your document
	Insert Excel Worksheet	Inserts an Excel worksheet into your document
	Columns	Formats your document using columns
	Drawing	Opens the drawing application and enables you to draw a picture in your document
	Insert Chart	Inserts a chart into your document

Button	Name	Function
100% **±**	Zoom Control	Scales your view of the document by the percentage you select
K?	Help	Activates context-sensitive help

MS-Word Basic Operation

Opening and Existing Document

1. Click the Open Folder icon (normally second from the left) to bring up the open dialog box.
2. In the Open Dialog box, select the file you to open from **File Name** combination box.
3. Click the OK button.

Changing the Format of the Text

1. Click the arrow button to the right of the *font* box to bring the list of available font.
2. Scroll through the list box by clicking on the scroll bar, and select a font by clicking on it.
3. Begin typing. The text will appear in the font you just selected.

Changing the Font Size

1. Click the arrow button to the right of the *font size* box to bring the list of available size.
2. Scroll through the list box by clicking on the scroll bar, and select a size by clicking on it.
3. Begin type. The text will appear in the font size you size selected.

Choose a Style

Perform any of the following procedures to change a font style:
- Click on the button labeled B to set the *bold* feature on.
  You also can press Ctrl+B from the keyboard.
- Click on the button labeled I to set the *italic* feature on.
  You also can press Ctrl+I from the keyboard.
- Click on the button labeled U to set the *underlined* feature on.
  You also can press Ctrl+U from the keyboard.
- Click on the button labeled B and I to set both *bold and italic* features
  You also can press Ctrl+B followed by Ctrl+I from the keyboard.

Setting Special Effects

You can use a variety of special text effects:
- Strikethrough
- Superscript
- Subscript

- Hidden
- Small caps
- All caps

To set any of these features, use the following procedure:

1. Open the **Format** menu and select the **F**ont item.
2. If the **Fonts tab** is not on top, click on it.
3. In the *Effect* group box, select the check box that represent the special effect you want to turn on.
4. Click the **OK** button.
5. Begin typing. Your text appears with the special effect you selected.

Setting the Indentation

1. Open the **Format** menu and select the **P**aragraph item.
2. If the **Indents** and spacing tab is not on top. click on it.
3. In the indentation group box, use the **L**eft and **R**ight spin boxes to set the indentation from the left and right margins. Click on the arrow buttons until the measurement is correct, or select the text in the body by highlighting it with the mouse and then type exact measurement you want.
4. To set first line or hanging indentation, open the **S**pecial drop-down list box by clicking on its arrow, and select the appropriate item. Use the **By** spin box to set the measurement for the first line indentation or the hanging indentation.
5. Click the **OK** button. Your current paragraph takes on the indentation you just set. Each subsequent paragraph you create takes on this pattern, unless you reset the indentation using the dialog box.

Setting Line Spacing

1. Open the **Format** menu and select the **P**aragraph item.
2. If the **Indents** and Spacing tab is not on top, click on it.
3. In the Spacing group box, use the **B**efore and **Aft**er spin boxes to set the distance in points from the previous paragraph and from the following paragraph. Click on the arrow buttons until the measurement is correct, or select the text in the box by highlighting it with the mouse and then type the exact measurement you want.
4. To set line spacing within the paragraph, open the **L**ine Spacing drop-down list box by clicking on its arrow, and select the appropriate item. Then use the **At** spin box to set the measurement for number of lines or distance between lines, whichever is active.
5. Click the **OK** button. Your current paragraph takes on the line spacing you just set. Each subsequent paragraph you create takes on this pattern, unless you reset the line spacing using the dialog box.

Copying and Inserting Text

1. Highlight the text by dragging the mouse pointer over the text to be selected.
2. Move pointer to Copy icon and click on it.
3. Move mouse pointer to the place were you would like the insertion take place.
4. Move mouse pointer to Paste icon and click on it. Alternatively, you can press the right button of the mouse to bring the menu option., select the paste by click on it.

Undoing and Redoing

If you do make a mistake, you can undo it by selecting the **U**ndo option from the **E**dit menu.

This procedure undoes the last change you made to the document. Word always will add the name of the operation you are about to undo as the second word of the Undo menu item. If you cannot undo anything, this option change to Can't Undo and is dimmed.

Overstriking Text

There are times, however, when you want to type over existing text. To switch to this editing mode, press the Insert key in the keyboard. When you type, the characters you type replace any characters to the left of the insertion point. To turn off the overstrike mode, press the Insert key again.

Deleting Text

Use mouse pointer to highlight the desire text and press the Del key from the keyboard.

Insert File

1. Move mouse pointer in the location were you would like the insertion take place.
2. From the Insert menu, select File option.
3. From the File name combination box, select the file you would like to insert.
   Click the OK button.

Creating the Header or Footer

1. From the View menu, choose Header and Footer.
2. The Header and Footer toolbar appear, click the switch between Header and Footer button. The header and footer areas are enclosed by a nonprinting dashed line.
3. Do one or more of the following;
   Text - You can type the text within the dashed line that surround the header or footer area.
   Page Number - Click the icon.
   Current Date - Click the icon.
   Current Time - Click the icon.
4. To return to the document, choose the Close button on the Header and Footer toolbar, or double-click the main text area

Previewing the Document

1. From the File menu, choose Print Preview.
   While in the print preview mode, you can perform the following options.
   a) You can print the document by click the Print button.
   b) You can switch the magnifier on and off by clicking on the magnifier button.
   c) You can switch to a one page view by clicking the One Page button.
   d) You can switch to view multiple pages by clicking on the Multiple
      Pages Button and dragging across the grid that appears, releasing the
      mouse button when you have the multiple-page view you want to use.
   e) You can zoom in or out on your document by adjusting the zoom
      percentage in the Zoom Control drop-down list box.
   f) You can switch the view of the ruler on and off by clicking on the
      View Ruler button.
   g) You can squeeze a small amount of text on the final page into the
      the outer pages by clicking on the Shrink to Fit button.

h) You can expand the preview screen to show only the page, the toolbar, and the status bar clicking on the Full Screen button.

i) You can exit the preview mode by clicking on the Close button.

Printing your Document

1. From the File menu, choose Print option.
   A Print dialog box appear.
2. In the Print *What* drop-down list box. This option enables you to print the document or several items ancillary to the document, such as Summary Info, Annotation, Style, Autotext Entries, and Key Assignments.
3. Use the *Copies* box to enter the number of copies to print.
4. Use the *Page Range* option to determine how much of the document to print. You can print All the document, the *Current Page*, or selected *Pages*.
5. Check the *Collate Copies* check box to finish the first set of copy before printing the second copy.
6. When all it set correctly, close all the dialog boxes you have open, and click **OK** button, the printing process begin.

6. PW4SP DATA FILES

Data files are collection of information relevant to the preparation of PW4SP. Data files are logically group into three major areas of information. The first group of information are the base data that are composed of information derived from survey, ocular inspection, and existing information from the provincial and national agencies. The second group of information are the key parameter data that are composed of information derived from applicable policies, assumption, water test result, and current cost of commodity. The third group of information are the presentation of data which derived from the previously mentioned groups of information's, this data are processed and then logically arranged to show provincial profile, existing facilities and service coverage, past financial performance, future requirement of the relevant sector, cost estimates for future sector development, and financial arrangement.

6.1. Base Information

1. *Socio-economic Data* (Socio-economic.xls)

   a) Municipal/City Status and No. of Barangays (Muncity Status (P.1.1))
   b) Past Population (Past Population (P.1.2.1) & (P.1.2.2))
   c) Projected Population (Projected Population (P.1.3.1) & (P.1.3.2))
   d) Household (Household) (P.1.4))
   e) Services (Services (P.1.5))
   f) Occupation (Occupation (P.1.6))
   g) Family Income (Family Income (P.1.7))
   h) Expenditure (Expenditure (P.1.8))
   i) Education (Education (P.1.9))

2. *Land Use Data* (Landuse.xls)

   a) Existing Land Use (Existing Land Use (P.1.2.1))

b) Future Land Use (Future Land Use (P.2.2))

3. *Health Data* (Health.xls)

   a) Morbidity, Mortality and Infant Mortality (Morbidity and Mortality (P.3.1))
   b) Facility (Facility (P.3.2))
   c) Practitioner (Practitioner (P.2.2))

4. *Water Resource Data* (Water Source.xls)

   a) General Information (Gen. Info (P.4.1))
   b) Water Source Information (Source Info (P.4.2))

5. *Water Supply Systems Data* (Water Supply.xls)

   a) Level I Facility (Level I (P.5.1))
   b) Level II System (Level II (S.5.2.1) & (S.5.2.2))
   c) Level III System (Level III (S.5.3.1), (S.5.3.2), (S.5.3.3) & (S.5.3.4))

6. *Environmental Sanitation Data* (Sanitation.xls)

   a) Household Toilets (Household Toilets (P.6.1))
   b) School & Student (School&Student (P.6.2))
   c) School Toilet (School Toilet (P.6.3))
   d) Public Toilet (Public Toilet (P.6.4.1), (P.6.4.2) & (P.6.4.3))
   e) Drainage Facility (Drainage Facility (P.6.5))
   f) Solid Waste Collection and Disposal ((M) Solid Waste)

7. *Investment Data* (Investment.xls)

   a) Income & Expenditure (P.7.1)
   b) Past IRA (P.7.2)
   c) Available Funds for Capital Expenditure (P.7.3)
   d) Sector Previous Investment (P.7.4)
   e) Sector Allocation in the AIP (P.7.5)
   f) Allocation of the 20% Dev. Fund (P.7.6)
   g) Financial Indicator of WD (P.7.7)
   h) Loan Status of WD (P.7.8)
   i) Affordability in Water & Sanitation Services (P.7.9)

6.2. Key Parameter

1. *Key Parameters* (Key Parameter.xls)

   a) Key Parameter (Key Parameter)
   b) Level I - Safe and Unsafe (Level I Safe and Unsafe)
   c) Well Source Composition (Well Source Composition)
   d) Unit Cost (Unit Cost)
   e) Scoring Factor (Scoring Factor)
   f) Annual Investment (Annual Investment)

6.3. Data Presentation

1. *Provincial Profile* (chapter-3.xls)

a) Outline of City and Municipalities (MTable 3.1.1)
b) Current Land Use (MTable 3.2.1)
c) Drainage Areas and Flow Rates of Major Rivers (MTable 3.2.2)
d) Distribution of Households by Income Class (MFigure 3.3.1)
e) Population Distribution by Occupation (Figure 3.3.2)
f) Population Distribution by Highest Attainment of Education (MFigure 3.3.3)
g) Provincial Outline on Public Services (MTable 3.3.1)
h) Public Facilities and Services by Municipality (MTable 3.3.2)
i) Previous Population Development of the Province (MFigure 3.4.1)
j) Previous Population Development by Municipality (MTable 3.4.1)
k) Present Population Distribution (MFigure 3.4.2)
l) Outline of Urban and Rural Areas in the Province (MTable 3.4.2)
m) Household Numbers and Household Sizes (MTable 3.4.3)
n) Number and Rates of Ten Leading Causes of Morbidity,
   Mortality and Infant Mortality (MTable 3.5.1)
o) Reported Cases and Deaths of Notifiable Water Related Diseases (MTable 3.5.2)
p) Municipal Solid Waste Collection and Disposal, and
   Service Coverage in 1994 (MTable 3.6.1)
q) Number and Ratio of Population to Health Facilities
   and/or Medical Practitioners (STable 3.5.1)
r) Types of Drainage Facilities (STable 3.6.1)
s) DENR Water Quality Criteria/Water Usage and Classification
   for Fresh Water (STable 3.6.2)

2. *Existing Facilities and Service Coverage* (chapter-4.xls)

a) Information on Existing Level III Systems (MTable 4.1.2)
b) Information on Water District (MTable 4.1.3)
c) Information on Existing Level II Systems (MTable 4.1.4)
d) Information on Existing Level I Facilities (MTable 4.1.5)
e) Water Supply Service Coverage by Municipality in 1994 (MTable 4.1.7)
f) Water Supply Service Coverage by Municipality (MFigure 4.1.1)
g) Sanitation Facilities and Service of Household Toilets, Urban and
   Rural, 1994 (MTable 4.2.1)
h) Provincial Service Coverage of Household Toilet Facilities, 1994 (MFigure 4.2.1)
i) School Toilet Facilities and Service Coverage in 1994 (MTable 4.2.2)
j) Public Toilet Facilities and Service Coverage in 1994 (MTable 4.2.3)
k) Details on Existing Level III Systems (STable 4.1.1 Sheet 1 to 4)
l) Details on Existing Level II System (STable 4.1.2 Sheet 1 to 6)
m) Number of Level I Facilities by Safe and Unsafe Classification (STable 4.1.4)
n) Estimation of Unserved Population by Municipality (STable 4.1.5)
o) Estimation of Population Covered by Safe and Unsafe Source
   by Municipality (STable 4.1.6 Sheet 1 to 2)
p) Sanitation Facilities and Service Coverage of Household Toilets
   by Type, by Municipality, Urban and Rural, 1994 (STable 4.2.1)

3) *Past Financial Performance in Water Supply and Sanitation* (chapter-6.xls)

a) Actual Income and Expenditures, (MTable 6.2.1)
b) Internal Revenue Allotment to the Province (MTable 6.2.2)
c) Allotted Funds for Capital Expenditures (20% DF) (MTable 6.2.3)
d) Actual Amount of Sector Investment to the Province by Concerned Agencies
    (MTable 6.3.1)
e) Annual Investment Plan 1995-1999 (MTable 6.3.2)
f) Sector Allocation in the Annual Investment Plan (MTable 6.3.3)

g) Allocation of the 20% Development Fund (MTable 6.3.4)
h) Financial Indicators of Provincial/Municipal Waterworks in the Province (MTable6.4.1)
i) Loan Status of Provincial/Municipal Waterworks (MTable 6.4.2)
j) Affordability in Water Supply and Sanitation Services (Mtable 6.6.1)
k) Income and Expenditure (STable 6.2.1)
l) Past Internal Revenue Allotment for the Province (STable 6.2.2)

4) *Water Source Development* (chapter-7.xls)

a) Existing Groundwater Sources in the Province (MTable 7.1.1)
b) Work Flow of Groundwater Availability Map (SFigure 7.3.1)
c) Existing Spring Sources by Municipality (STable 7.4.1)
d) River Information and Related Data (STable 7.5.1)
e) Water Quality Analysis Results (STable 7.5.2)
f) Existing Well Sources (STable 7.6.1)
g) Standard Specification of Wells by Municipality (STable 7.6.2)

5) *Future Requirement in Water Supply and Sanitation Environment* (chapter-8.xls)

1) Provincial Sector Targets (MTable 8.2.1)
2) Base Year Service Coverage of Water Supply (MTable 8.2.2)
3) Base Year Service Coverage of Household Toilets (MTable 8.2.3)
4) Base Year Service Coverage of Public School Toilets and Public Toilets (MTable 8.2.4)
5) Base Year Service Coverage of Municipal Solid Waste System in 1994 (MTable 8.2.5)
6) Regional Population Project (MTable 8.3.1)
7) Municipal/City Population Projection (MTable 8.3.2)
8) Municipal/City Population for the Year 2010 & Growth Rates (MTable 8.3.3)
9) Past and Projected Population by Current Municipality/City (MTable 8.3.4)
10) Past and Projected Population by Urban and Rural Area of Current Municipality/City (MTable 8.3.5)
11) Projected Public School Enrollment and Number of Public Utility by Municipality (MTable 8.3.6)
12) Population to be Served by Target Year (Water Supply) (MTable 8.5.1)
13) Additional Number of Households to be Served by Target Year (Household Toilets) (MTable 8.5.2)
14) Additional Number of Public School Student to be Served by Target Year (School Toilets) (MTable 8.5.3)
15) Additional Number of Public Utilities with Sanitary Toilets by Target Year (MTable 8.5.4)
16) Population to be Served by Urban Sewerage in Phase II (MTable 8.5.5)
17) Additional Number of Urban Households to be Served by Municipal Solid Waste System in Phase I (MTable 8.5.6)
18) Water Supply Facilities Required by Target Year (MTable 8.6.1)
19) Sanitation Facilities Required by Target Year (MTable 8.6.2)
20) Number of Garbage Collection Trucks Required in Phase I (MTable 8.6.3)
21) Estimation of Base Year Service Coverage of Water Supply (STable 8.2.1)
22) Population Coverage in Phase I Provided by Served Population in the Base Year (STable 8.2.2)
23) Number of Households Served by Sanitary Toilets in the Base Year (1994)(STable 8.2.3)
24) Number of Public School Student Served by School Toilets in the

Base Year (STable 8.2.4)
25) Number of Public Utilities with Sanitary Toilets in the
    Base Year (1994) (STable 8.2.5)
26) Households Coverage in Phase I Provided by Existing Facilities in the
    Base Year (Household Toilets) (STable 8.2.6)
27) Public School and Public Coverage in Phase I Provided by
    Existing Facilities in the Base Year (STable 8.2.7)
28) Census Population and Projected Population (STable 8.3.3)
29) Municipal/City Population Projection (STable 8.3.4)
30) Municipal/City Population for the Year 2010 and Estimate
    Growth Rates (STable 8.3.5)
31) Past and Projected Population by Current Municipality/City (STable 8.3.6)
32) Past Population Development by Urban and Rural Area (STable 8.3.7)
33) Population Projected by Urban and Rural Area (STable 8.3.8)
34) Past and Projected Popualation by Urban and Rural Area of Current
    Municipality/City (STable 8.3.9)
35) Projected School Enrollment by Municipality by Target Year (STable 8.3.6)
36) Projected Number of Public Utilities by Municipality by Target Year (STable 8.3.7)
37) Population to be Served by Level II System in Phase I (STable 8.5.1)
38) Population to be Served in Phase I (Water Supply) (STable 8.5.2)
39) Population to be Served in Phase II (Water Supply) (STable 8.5.3)
40) Additional Number of Households to be Served in
    Phase I (Household Toilets) (STable 8.5.4)
41) Additional Number of Households to be Served in
    Phase II (Household Toilets) (STable 8.5.5)
42) Additional Number of Public School Students to be Served in
    Phase I and II (School Toilets) (STable 8.5.6)
43) Additional Number of Public Utilities with Sanitary Toilets in
    Phase I and II (STable 8.5.7)
44) Urban Water Supply Facilities Required by Target Year (STable 8.6.1)
45) Plan for Expansion of Existing Level III System (STable 8.6.2)
46) Rural Water Supply Facilities Required by Target Year (STable 8.6.3)(a)
47) Rural Water Supply Facilities Required by Target Year (STable 8.6.3)(b)
48) Urban Household Toilets Required by Target Year (STable 8.6.4)
49) Rural Household Toilet Required by Target Year (STable 8.6.5)
50) Public School Toilets Required by Target Year (STable 8.6.6)
51) Public Toilets Required by Target Year (STable 8.6.7)

6) *Cost Estimates for Future Sector Development* (chapter-10.xls)

   a) Price of Major Materials by Facilities (MTable 10.2.1)
   b) Construction Cost of Water Supply Facilities Required for
       Phase I (2003) (MTable 10.3.1)
   c) Breakdown of Community Development and Training Cost (MTable 10.4.1)
   d) Unit Cost of Level I (Gravel Packed Deep Well -- 40m Depth) (STable 10.2.2a)
   e) Unit Cost of Level I (Natural Gravel Packed Deep Well–40m Depth)(STable
       10.2.2.b)
   f) Unit Cost of Level I (Gravel Packed Deep Well – 80m Depth) (STable 10.2.3.a)
   g) Unit Cost of Level I (Natural Gravel Packed Deep Well–80m Depth)(STable
       10.2.3.b)
   h) Unit Cost of Level I (Gravel Packed Deep Well – 120 Depth) (STable 10.2.4)
   i) Unit Cost of Level I(Natural Gravel Packed Deep Well-120m Depth)(STable
       10.2.4.b)
   j) Unit Cost of Level I (Deep Well Rehabilitation) (STable 10.2.5)

k) Unit Cost of Level I (Shallow Well – 18m Depth) (STable 10.2.6)
l) Unit Cost of Level I (Spring Development) (STable 10.2.7)
m) Unit Cost of Level II (600 Service Population) (STable 10.2.8)
n) Unit Cost of Level III (5,000 Service Population) (STable 10.2.9)
o) Unit Cost of Level III (10,000 Service Population) (STable 10.2.10)
p) Unit Cost of Level III (15,000 Service Population) STable 10.2.11)
q) Unit Cost of Flush Water Sealed with Septic Tank Toilet (STable 10.2.12)
r) Unit Cost of Pour Flush with Double Pit Latrine (STable 10.2.13)
s) Unit Construction Cot of Ventilated Improve Pit Latrine (STable 10.2.14)
t) Unit Construction Cost of Pit Latrine (STable 10.2.15)
u) Unit Cost of School Toilet (STable 10.2.16)
v) Unit Cost of Public Toilet (STable 10.2.17)
w) Cost of New Laboratory (STable 10.2.18)
x) Cost of Upgrading Laboratory (STable 10.2.19)
y) Construction Cost of Water Supply Facilities Required for Phase II (STable 10.3.2)
z) Cost of Sanitation Facilities Required for Phase I (STable 10.3.3)
aa) Cost of Sanitation Facilities Required for Phase II (STable 10.3.4)

7) *Financial Arrangements* (chap-11.xls)

a) Projected Internal Revenue Allotment for Medium-Term
Sector Development (MTable 11.2.1)
b) Projected Allotment of IRA to the Relevant Sector by
Component, 1996-2000 (MTable 11.2.2)
c) Financing Requirements by Sector Component for the Province (MTable 11.3.1)
d) Additional Fund Requirement for Medium-Term Plan (MTable 11.3.2)
e) Internal Revenue Allotment for Water Supply and Sanitation Sector
by Municipality (Medium-Term Development 1996-2000) (MTable 11.3.3)
f) Relationship between Funding Levels and Percent of Coverage
for Water Supply Sector (MFigure 11.4.1)
g) Relationship between Funding Levels and Percent of Coverage
for Sanitation Sector (MFigure 11.4.2)
h) Municipal Investment Need Ranking for Urban Water Supply (MTable 11.4.1)
i) Distribution of Provincial IRA to Municipality for
Urban Water Supply (MTable 11.4.2)
j) Municipal Investment Need Ranking (MTable 11.4.3)
k) Percentages for Annual Investment (STable 11.3.1)
l) Comprehensive Investment Need Ranking of the Municipalities (STable 11.4.1)
m) New Cost Sharing Arrangement Between NG and LGUs (MTable 11.5.1)
n) GOP-Assisted Level I Water Supply and Sanitation Project Cost (MTable 11.5.2)
o) Cost Sharing for the Project 9Case 1): 1997 Price Level (MTable 11.5.3)
p) Cost Sharing for the Project (Case 2): (MTable 11.5.4)
q) Available IRA for GOP-Assisted Level I Water Supply and Sanitation Project for
Eligible Municipalities (STable 11.5.1)
r) Available IRA for GOP-Assisted Urban Sanitation Project for Eligible
Municipalities (STable 11.5.2)
s) Total Available IRA for GOP-Assisted Level I Water Supply and Sanitation
Project (STable 11.5.3)
t) Investment Program of GOP-Assisted Level I Water Supply and Sanitation
Project (STable 11.6.1)
u) O&M Cost for Level I Facilities (STable 11.6.2)
v) O&M Cost per HH/Month by Facility and Proportion to Monthly Family
Income (STable 11.6.3)

w) Family Income (STable 11.6.4)
x) O&M Cost for Rural Sanitation (STable 11.6.5)
y) O&M Cost for Urban Sanitation (STable 11.6.6)

7.   DATA FILES LINKAGES

Linkages are logical connection between records in the data files. Through linkages, once the user's updates the source data, all data in the streams of linkages are dynamically updated. Linkages are the convenient tools of updating related data, these also shield the user's from the complexity of formula manipulation. With the aid of the data linkages the user's can concentrate more in validating the source data.

The following table lists the logical connections for each worksheet.

Table 2.6.2 Data File Linkages

Destination Link			Source Link		
Chapter No.	Table No.	Title	Filename	Table/Form Number	Title
Chapter - 3	MT 3.1.1	Outline of City and Municipality	Socio.xls	M 1.2.2	Past Population Page 2
	MT 3.2.1	Current LandUse	Landuse.xls	M 2.1	Existing Landuse
	MF 3.3.1	Distribution of Households by Income Class	Chap-3.xls	ST 3.3.1	Distribution of Household by Income Class
	MF 3.3.2	Population Distribution by Occupation	Chap-3.xls	ST 3.3.2	Gainful Workers by Occupation Group and Major Industry Group
	MF 3.3.3	Population Distribution by Highest Attainment of Education	Chap-3.xls	ST 3.3.3	Household Population by Highest Education Attainment
	MT 3.4.1 & MF 3.4.1	Previous Population Development by Municipality	Socio.xls	MT 1.2.1	Past Population Page 1
	MF 3.4.2	Present Population Distribution	Socio.xls	M 1.2.2	Past Population Page 2
	MT 3.4.2	Outline of Urban and Rural Areas in the Province	Socio.xls	M 1.2.2	Past Population Page 2
			Chap-3.xls	MT 3.1.1	Outline of City and Municipality
				ST 3.3.2	Education Level and Literacy of Population
			Socio.xls	M 1.2.2	Past Population Page 2
	MT 3.4.3	Households Numbers and Household Sizes	Socio.xls	M 1.4	Household Number
			Chap-3.xls	MT 3.4.2	Outline of Urban and Rural Areas in the Province
	MT 3.5.1	Number and Rates of Ten Leading Causes of Mobidity, Mortality, & Infant Mortality	Health.xls	M 3.1	Morbidity and Mortality Summary
	MT 3.5.2	Reported Cases and Deaths of Notifiable Water related Diseases	Health.xls	M 3.1	Morbidity and Mortality Summary
	MT 3.6.1	Municipal Solid Waste Collection and Disposal, and Service Coverage	Socio.xls	M 1.4	Household Number
			Sanit.xls	M 6.5	SolidWaste Collection and Disposal
			Chap-3.xls	MT 3.3.2	Public Facilities and Services by Municipality
	ST 3.3.1	Number of Family by Income Class by Municipality	Socio.xls	M 1.7	Family Income and Education
	ST 3.3.2	Population Distribution by Occupation	Socio.xls	M 1.6	Occupation
	ST 3.3.3	Education Level and Literacy of Population	Socio.xls	M 1.7	Family Income and Education
Chapter - 4	MT 4.1.2	Information on Existing Level III Systems	Chap-4.xls	ST 4.1.1 Sheet 1, 3, and 4	Information on Existing Level III Systems

Note: MT - Main Report Table, MF - Main Report Figure, ST - Supporting Report Table,
M - Questionnaire Form (Municipal Data), S - Questionnaire Form (System Data), F - Questionnaire Form (Facility Data).
M - Questionnaire Form (Municipal Data),

Table 2.6.2 Data File Linkages

Destination Link			Source Link		
Chapter No.	Table No.	Title	Filename	Table/Form Number	Title
Chapter - 4	MT 4.1.3	Information on Water District Data	Chap-4.xls	ST 4.1.1 Sheet 1 & 4	Infromation on Existing Level III System
	MT 4.1.4	Information on Existing Level II System	Chap-4.xls	ST 4.1.2 Sheet 1 & 2	Existing Level II System
	MT 4.1.5	Estimation of Unserved Population by Municipality	Chap-4.xls	ST 4.1.4	Number of Level I Facilities by Safe and Unsafe Classification
				ST 4.1.6 Sheet 1 & 2	Estimation of Population Covered by Safe and Unsafe Source by Municipality
	MT 4.1.7	Water Supply Service Coverage by Municipality	Chap-4.xls	ST 4.1.6 Sheet 2	Estimation of Population Covered by Safe and Unsafe Source by Municipality
			Socio.xls	M 1.3	Projected Population
			Socio.xls	M 1.4	Household Number
	MT 4.2.1	Sanitation Facilities and Service Coverage of Household Toilets, Urban and Rural, 1994	Chap-4.xls	ST 4.2.1	Sanitation Facilities and Service Coverage of Household Toilets, by Type, by Municipality, Urban and Rural, 1994 ....
	MT 4.2.2	School Toilets Facilities and Service Coverage, 1994	Sanit.xls	M 6.2	School Toilets
	MT 4.2.3	Public Toilets Facilities and Service Coverage, 1994	Sanit.xls	M 6.3	Public Toilets
	MF 4.1.1	Water Supply Coverage of the Province	Chap-4.xls	MT 4.1.7	Water Supply Service Coverage by Municipality
	ST 4.1.4	Number of Level I Facilities by Safe and Unsafe Classification	H2OSupp.xls	(F) 5.3.1	Level I Facility
			Keypar.xls	ST 2.6.5	Level I Safe and Unsafe Percentage
	ST 4.1.5	Estimation of Unserved Population by Municipality	Socio.xls	M 1.2.2	Past Population Page 2
			Chap-4.xls	ST 4.1.6 Sheet 1 & 2	Estimation of Population covered by Safe and Unsafe
				ST 4.1.2 Sheet 2	Details on Existing Level II System
			Socio.xls	M 1.4	Household Number
	ST 4.2.1	Sanitation Facilities and Service of Household Toilets by Type, by Municipality, Urban and Rural, 1994	Sanit.xls	M 6.1	Household Toilets

Note: MT - Main Report Table, MF - Main Report Figure, ST - Supporting Report Table,
M - Questionnaire Form (Municipal Data), S - Questionnaire Form (System Data), F - Questionnaire Form (Facility Data).

Table 2.6.2 Data File Linkages

Destination Link			Filename	Source Link	
Chapter No.	Table No.	Title		Table/Form Number	Title
Chapter - 4	ST 4.1.6 Sheet 1	Estimation of Population Covered by Safe and Unsafe Source by Municipality	Chap-4.xls	ST 4.1.4	Number of Level 1 Facilities by Safe and Unsafe Classification
				ST 4.1.5	Estimation of Unserved Population by Municipality
	ST 4.1.6 Sheet 2	Estimation of Population Covered by Safe and Unsafe Source by Municipality	Chap-4.xls	ST 4.1.5	Estimation of Unserved Population by Municipality
				ST 4.1.6 Sheet 1	Estimation of Population Covered by Safe and Unsafe Source by Municipality
Chapter - 8	MT 8.2.1	Provincial Sector Targets	Keypar.xls	ST 2.6.2	Key Parameter Table
			Chap-8.xls	MT 8.5.1	Population to be served by target year(Water Supply)
				MT 8.5.2	Additional Number of Households to be Served by Target Year(Household Toilers)
				MT 8.5.5	Population to be Served in Urban Sewerage in Phase II
				MT 8.5.6	Add'l No.of Urban Households to be served by Municipal Solid Waste System in Phase I
				ST 8.5.7	Number of Public Utilities with Sanitary Toilets in Phases I and II
				ST 8.6.6	Public School Toilers Required by Target Year
	MT 8.2.2	Base Year Coverage in Water Supply	Chap-4.xls	MT 4.1.7	Water Supply Service Coverage by Municipality
			Chap-8.xls	ST 8.2.1	Estimation of Base Year Service Coverage of Water Supply
				MT 8.3.1	Future Population by Urban and Rural Area by Municipality
	MT 8.2.3	Base Year Service Coverage of Household Toilets	Chap-8.xls	ST 8.2.3	Number of Households Served by Sanitary Toilets in the Base Year(1994)
				MT 8.3.1	Future Population by Urban and Rural Area by Municipality
	MT 8.2.4	Base Year Service Coverage of Public School Toilets and Public Toilets	Chap-4.xls	MT 4.2.3	School Toilet Facilities and Service Coverage in 1994

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Table 2.6.2 Data File Linkages

Destination Link			Source Link		
Chapter No.	Table No.	Title	Filename	Table/Form Number	Title
Chapter - 3	MT 8.2.4	Base Year Service Coverage of Public School Toilets and Public Toilets	Chap-8.xls	ST 8.2.4	Number of Public School Students Served by School Toilets in the Base Year (1994)
				ST 8.2.7	Public School Students and Public Utilities Coverage in Phase I Provided by Existing Facilities in the Base Year
	MT 8.2.5	Base Year Service Coverage of Municipal Solid Waste System in 1994	Chap-3.xls	MT 3.6.1	Municipal Solid Waste Collection and Disposal, and Service Coverage, 1994
			Chap-8.xls	ST 8.3.5	Projected No. of Households by Urban and Rural Area by Municipality by Target Year
	MT 8.3.1	Future Population by Urban and Rural Area by Municipality	Socio.xls	M 1.2.2	Past Population Page 2
				M 1.3	Projected Population
	MT 8.3.2	Projected Public School Enrollment and Number of Public Utility Facilities by Municipality	Chap-8.xls	ST 8.3.6	Projected School Enrollment by Municipality by Target Year
				ST 8.3.7	Projected No. of Public Utilities by Municipality by Target Year
	MT 8.5.1	Population to be Served by Target Year(Water Supply)	Chap-8.xls	ST 8.2.2	Population Coverage in Phase I Provided by Served Population in the Base Year(Water Supply)
				ST 8.5.2	Population to be Served in Phase I (Water Supply)
				ST 8.5.3	Population to be Served in Phase II (Water Supply)
	MT 8.5.2	Additional Number of Households to be Served by Target Year(Household Toilets)	Chap-8.xls	ST 8.5.4	Additional Number of Households to be Served in Phase II(Household Toilets)
				ST 8.5.5	Additional Number of Households to be Served in Phase II (Household Toilets)
	MT 8.5.3	Additional Number of Public School Students to be Served by target Year(School Toilets)	Chap-8.xls	ST 8.3.6	Projected School Enrollment by Municipality by Target Year
				ST 8.5.6	Additional Number of Public School Students to be Served in Phases I and II(School Toilets)
	MT 8.5.4	Additional Number of Public Utilities with Sanitary Toilets by Target Year	Chap-8.xls	ST 8.5.7	Number of Public Utilities with Sanitary Toilets in Phases I and II
	MT 8.5.5	Population to be Served by Urban Sewerage in Phase II	Chap-8.xls	MT 8.2.1	Provincial Sector Targets
				MT 8.3.1	Future Population by Urban and Rural Area by Municipality

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Table 2.6.2 Data File Linkages

Destination Link			Source Link		
Chapter No.	Table No.	Title	Filename	Table/Form Number	Title
Chapter - 8	MT 8.5.5	Population to be Served by Urban Sewerage in Phase II	Chap-8.xls	MT 8.5.1	Population to be Served by Target Year(Water Supply)
	MT 8.5.6	Add'l No. of Urban Households to be Served by Municipal Solid Waste System in Phase I	Chap-8.xls	MT 8.2.1	Provincial Sector Targets
				MT 8.2.5	Base Year Service Coverage of Municipal Solid Waste System in 1994
			Chap-8.xls	ST 8.3.5	Projected No. of Households by Urban and Rural Area by Municipality by Target Year
	MT 8.6.1	Water Supply Facilities Required by Target Year	Chap-8.xls	ST 8.6.1	Urban Water Supply Facilities Required by Target Year
				ST 8.6.3	Rural Water Supply Facilities Required by Target Year
	MT 8.6.2	Sanitation Facilities Required by Target Year	Chap-8.xls	MT 8.3.1	Future Population by Urban and Rural Area by Municipality
				MT 8.5.2	Additional No. of Household to be Served by Target Year(Household Toilets)
				ST 8.5.7	Number of Public Utilities with Sanitary Toilets in Phases I and II
				ST 8.6.6	Public School Toilets Required by Target Year
	MT 8.6.3	Number of Garbage Collection Trucks Required in Phase I	Chap-8.xls	MT 8.5.6	Add'l No. of Urban Households to be Served by Municipal Solid Waste System in Phase I
	ST 8.2.1	Estimation of Base Year Service Coverage of Water Supply	Chap-4.xls	MT 4.1.7	Water Supply Serveice Coverage by Municipality
			Chap-8.xls	MT 8.3.1	Future Population by Urban and Rural Area by Municipality
	ST 8.2.2	Population Coverage in Phase I Provided by Served Population in the Base Year (Water Supply)	Chap-8.xls	MT 8.2.2	Base Year Coverage in Water Supply
				MT 8.3.1	Future Population by Urban and Rural Area by Municipality
	ST 8.2.3	Number of Households Served by Sanitary Toilets in the Base Year (1994)	Chap-4.xls	ST 4.2.1	Sanitation Facilities and Service of Household Toilets by Type, by Municipality, Urban and Rural, 1994
			Chap-8.xls	MT 8.3.1	Future Population by Urban and Rural Area by Municipality

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Table 2.6.2 Data File Linkages

Chapter No.	Destination Link				Source Link		
	Table No.	Title			Filename	Table/Form Number	Title
Chapter - 8	ST 8.2.3	Number of Households Served by Sanitary Toilets in the Base Year (1994)			Chap-8.xls	ST 8.3.5	Projected Number of Households by Urban and Rural Area by Municipality by Target Year
	ST 8.2.4	Number of Public School Students Served by School Toilets in the Base Year(1994)			Chap-4.xls	MT 4.2.3	School Toilets Facilities and Service Coverage, 1994
					Chap-8.xls	ST 8.3.6	Projected School Enrollment by Municipality by Target Year
	ST 8.2.5	Number of Public Utilities with Sanitary Toilets in the Base Year (1994)			Chap-4.xls	MT 4.2.3	Public Toilets Facilities and Service Coverage, 1994
	ST 8.2.6	Household Coverage in Phase I Provided by Existing Facilities in the Base Year (Household Toilets)			Socio.xls	M 1.4	Household Number
					Chap-8.xls	MT 8.2.3	Base Year Service Coverage of Household Toilets
						ST 8.2.3	Number of Households Served by Sanitary Toilets in the Base Year (1994)
						ST 8.3.5	Projected Number of Households by Urban and Rural Area by Municipality by Target Year
	ST 8.2.7	Public School Students and Public Utilities Coverage in Phase I Provided by Existing Facilities in the Base Year			Chap-8.xls	ST 8.2.4	Number of Public School Students Served by School Toilets in the Base Year(1994)
						ST 8.2.5	Number of Public Utilities with Sanitary Toilets in the Base Year (1994)
						ST 8.3.6	Projected School Enrollment by Municipality by Target Year
						ST 8.3.7	Projected No. of Public Utilities by Municipality by Target Year
	ST 8.3.5	Projected Number of Households by Urban and Rural Area by Municipality by Target Year			Socio.xls	M 1.2.2	Past Population Page 2
						M 1.3	Projected Population
						M 1.4	Household Number
	ST 8.3.6	Projected School Enrollment by Municipality by Target Year			Socio.xls	M 1.2.2	Past Population Page 2
						M 1.3	Projected Population
	ST 8.3.7	Projected Number of Public Utilities by Municipality by Target Year			Chap-8.xls	ST 8.2.5	Number of Public Utilities with Sanitary Toilets in the Base Year (1994)

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Table 2.6.2 Data File Linkages

Destination Link			Source Link		
Chapter No.	Table No.	Title	Filename	Table/Form Number	Title
Chapter - 8	ST 8.5.1	Population to be Served by Level II System in Phase I	Socio.xls	M 1.1	Administrative Composition
			Chap-8.xls	ST 8.3.5	Projected Number of Households by Urban and Rural Area by Municipality by Target Year
	ST 8.5.2	Population to be served in Phase I (Water Supply)	Socio.xls	M 1.3	Projected Population
			Chap-8.xls	MT 8.2.2	Base Year Coverage in Water Supply
				ST 8.5.1	Population to be Served by Level II System in Phase I
	ST 8.5.3	Population to be Served in Phase II(Water Supply)	Socio.xls	M 1.3	Projected Population
			Chap-8.xls	ST 8.5.2	Population to be Served in Phase I (Water Supply)
	ST 8.5.4	Additional Number of Households to be Served in Phase I(Household Toilets)	Chap-8.xls	MT 8.2.1	Provincial Sector Targets
				ST 8.2.3	Number of Households Served by Sanitary Toilets in the Base Year (1994)
				ST 8.3.5	Projected Number of Households by Urban and Rural Area by Municipality by Target Year
	ST 8.5.5	Additional Number of Households to be Served in Phase II(Household Toilets)	Chap-8.xls	MT 8.2.1	Provincial Sector Targets
				ST 8.3.5	Projected Number of Households by Urban and Rural Area by Municipality by Target Year
				ST 8.5.4	Additional Number of Households to be Served in Phase I(Household Toilets)
	ST 8.5.6	Additional Number of Public School Students to be Served in Phases I and II (School Toilets)	Chap-8.xls	MT 8.2.1	Provincial Sector Targets
				ST 8.2.4	Number of Public School Students Served by School Toilets in the Base Year(1994)
				ST 8.3.6	Projected School Enrollment by Municipality by Target Year
	ST 8.5.7	Number of Public Utilities with Sanitary Toilets in Phases I and II	Chap-8.xls	MT 8.2.1	Provincial Sector Targets
				ST 8.2.5	Number of Public Utilities with Sanitary Toilets in the Base Year (1994)
				ST 8.3.7	Projected Number of Public Utilities by Municipality by Target Year

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Table 2.6.2 Data File Linkages

Destination Link			Source Link		
Chapter No.	Table No.	Title	Filename	Table/Form Number	Title
Chapter - 8	ST 8.6.1	Urban Water Supply Facilities Required by Target Year	Socio.xls	M 1.3	Projected Population
			Keypar.xls	ST 2.6.2	Key Parameter Table
			Chap-4.xls	ST 4.1.1 Sheet 1 and 3	Details on Existing Level III Systems
			Chap-8.xls	ST 8.3.5	Projected Number of Households by Urban and Rural Area by Municipality by Target Year
				MT 8.4.1	Ground Water Productivity
				ST 8.5.2	Population to be Served in Phase I (Water Supply)
			Chap-8.xls	ST 8.5.3	Population to be Served in base II (Water Supply)
	ST 8.6.3 (a)	Rural Water Supply Facilities Required by Target Year	Chap-7.xls	ST 7.6.2	Standard Specification of Water in the Municipality
			Chap-8.xls	ST 8.3.5	Projected Number of Households by Urban and Rural Area by Municipality by Target Year
				MT 8.4.1	Ground Water Productivity
				ST 8.5.1	Population to be Served by Level II System in Phase I
	ST 8.6.3 (b)	Rural Water Supply Facilities Required by Target Year	Chap-8.xls	ST 8.6.3 (a)	Rural Water Supply Facilities Required by Target Year
	ST 8.6.4	Urban Household Toilets Required by Target Year	Chap-8.xls	MT 8.5.2	Additional Number of Households to be Served by Target Year(Household Toilets)
	ST 8.6.5	Rural Household Toilets Required by Target Year	Chap-8.xls	MT 8.5.2	Additional Number of Households to be Served by Target Year(Household Toilets)
	ST 8.6.6	Public School Toilets Required by Target Year	Chap-8.xls	ST 8.5.6	Additional Number of Public School Student to be Served in Phase I and Phase II (School Toilets)
	ST 8.6.7	Public Toilets Required by Target Year	Chap-8.xls	ST 8.5.7	Number of Public Utilities with Sanitary Toilets in Phases I and II
Chapter - 10	MT 10.2.1	Unit Cost of Facilities by Type and Service Level	Keypar.xls	ST 2.6.6	Unit Construction Cost of Different Facilities
	MT 10.3.1	Construction Cost of Required Facilities by Municipality	Chap-10.xls	ST 10.3.1	Construction Cost of Water Supply Facilities Required for Phase I (2000)
				ST 10.3.2	Construction Cost of Water Supply Facilities Required for Phase II (2010)
				ST 10.3.3	Cost of Sanitation Facilities Required for Phase I (2000)
				ST 10.3.4	Costs of Sanitation Facilities Required for Phase II (2010)

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Table 2.6.2 Data File Linkages

Destination Link			Source Link		
Chapter No.	Table No.	Title	Filename	Table/Form Number	Title
Chapter - 10	MT 10.4.1	Recurrent Cost	Keypar.xls	ST 2.6.2	Key Parameter Table
			Chap-8.xls	MT 8.2.2	Base Year Coverage in Water Supply
				MT 8.2.4	Base Year Service Coverage of Public School Toilets and Public Toilets
				ST 8.3.5	Projected Number of Households by Urban and Rural Area by Municipality by Target Year
				MT 8.5.1	Population to be Served by Target Year(Water Supply)
				ST 8.6.6	Public School Toilets Required by Target Year
				ST 8.6.7	Public Toilets Required by Target Year
			Chap-11.xls	ST 11.3.1	Percentages for Annual Investments
	ST 10.3.1	Construction Cost of Water Supply Facilities Required for Phase I (2000)	Chap-8.xls	MT 8.5.1	Population to be Served by Target Year(Water Supply)
				MT 8.6.1	Water Supply Facilities Required by Target Year
				ST 8.6.3	Number of Garbage Collection Trucks Required in Phase I
			Chap-10.xls	MT 10.2.1	Unit Cost of Facilities by Type and Service Level
	ST 10.3.2	Construction of Water Supply Facilities Required for Phase II (2010)	Keypar.xls	ST 2.6.2	Key Parameter Table
			Chap-8.xls	MT 8.5.1	Population to be Served by Target Year(Water Supply)
				ST 8.6.3	Number of Garbage Collection Trucks Required in Phase I
			Chap-10.xls	MT 10.2.1	Unit Cost of Facilities by Type and Service Level
	ST 10.3.3	Cost of Sanitation Facilities Required for Phase I (2000)	Chap-8.xls	MT 8.6.2	Sanitation Facilities Required by Target Year
				ST 8.6.7	Public Toilets Required by Target Year
			Chap-10.xls	MT 10.2.1	Unit Cost of Facilities by Type and Service Level
	ST 10.3.4	Cost of Sanitation Facilities Required for Phase II (2010)	Chap-8.xls	MT 8.3.1	Future Population by Urban and Rural Area by Municipality
				MT 8.5.5	Population to be Served by Urban Sewerage in Phase II
				MT 8.6.2	Sanitation Facilities Required by Target Year

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Table 2.6.2 Data File Linkages

Destination Link			Source Link		
Chapter No.	Table No.	Title	Filename	Table/Form Number	Title
Chapter - 10	ST 10.3.4	Cost of Sanitation Facilities Required for Phase II (2010)	Chap-8.xls	ST 8.6.6	Public School Toilets Required by Target Year
				ST 8.6.7	Public Toilets Required by Target Year
			Chap-10.xls	MT 10.2.1	Unit Cost of Facilities by Type and Service Level
Chapter - 11	MT 11.2.1	Projected Internal Revenue Allotment for Medium-Term Sector Development	Socio.xls	M 1.1	Administrative Composition
			Keypar.xls	ST 2.6.2	Key Parameter Table
			Chap-6.xls	MT 6.2.2	Past Internal Revenue Allotment to the Province from Central Government
	MT 11.2.2	Project Allotment of IRA to the Revelant Sector by Component 1996 - 2000	Chap-11.xls	MT 11.2.1	Projected Internal Revenue Allotment for Medium - Term Sector Development
	MT 11.3.1	Financing Requirements by Sector Component for the Province	Chap-10.xls	ST 10.3.2	Construction of Water Supply Facilities Required for Phase II (2010)
			Chap-11.xls	ST 11.3.1	Percentage for Annual Investments
	MT 11.3.2	Additional Fund Requirement for the Medium-Term Plan	Chap-11.xls	MT 11.3.1	Financing Requirements by Sector Component for the Province
	MT 11.3.3	Internal Revenue Allotment for Water Supply and Sanitation Sector by Municipality (Medium-Term Development/1996-2000)	Chap-10.xls	ST 10.3.1	Construction Cost of Water Supply Facilities Required for Phase I (2000)
				ST 10.3.3	Cost of Sanitation Facilities Required for Phase I (2000)
			Chap-11.xls	MT 11.2.2	Project Allotment of IRA to the Revelant Sector by Component 1996 - 2000
				MT 11.3.1	Financing Requirements by Sector Component for the Province
				MT 11.4.2	Distribution of Provincial IRA to Municipalities for Urban Water Supply
	MT 11.4.1	Municipal Investment need Ranking for Urban Water Supply	Keypar.xls	ST 2.6.7	Scoring Factor for Municipal Investment Ranking for Urban Water Supply
			Chap-8.xls	ST 8.2.2	Number of Households Served by Sanitary Toilets in the Base Year (1994)
				MT 8.2.2	Base Year Coverage in Water Supply
	MT 11.4.2	Distribution of Provincial IRA to Municipalities for Urban Water Supply	Chap-11.xls	MT 11.2.2	Project Allotment of IRA to the Revelant Sector by Component 1996 -2000

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Table 2.6.2 Data File Linkages

Destination Link			Source Link		
Chapter No.	Table No.	Title	Filename	Table/Form Number	Title
Chapter-11	MT 11.4.2	Distribution of Provincial IRA to Municipalities for Urban Water Supply	Chap-4.xls	MT 11.3.1	Financing Requirement by Sector Component for the Province
				MT 11.4.1	Municipal Investment need Ranking for Urban Water Supply
			Chap-10.xls	ST 10.3.1	Construction Cost of Water Supply Facilities Required for Phase I (2000)
				ST 10.3.3	Cost of Sanitation Facilities Required for Phase I (2000)
	MT 11.4.3	Municipal Investments Need Ranking	Chap-11.xls	ST 11.4.1	Comprehensive Investment need Ranking of Municipalities
	ST 11.3.1	Percentages for Annual Investments	Keypar.xls	ST 2.6.4	Annual Distribution of Investment Cost Required by Sub Sector for Medium-Term Development Plan
	ST 11.4.1	Comprehensive Investment need Ranking of Municipalities	Keypar.xls	ST 2.6.8	Scoring Factor for Municipal Comprehensive Investment Ranking
			Chap-8.xls	ST 8.2.2	Population Coverage in Phase I Provided by Served Population in the Base Year (Water Supply)
				MT 8.2.3	Base Year Service Coverage of Household Toilets
			Chap-11.xls	MT 11.4.1	Municipal Investment need Ranking for Urban Water Supply

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