

## 6. PW4SP DATA FILES

Data files are collection of information relevant to the preparation of PW4SP. Data files are logically grouped 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.xls)

- a) Administrative Composition ( (M) Administrative Composition)
- b) Past Population ( (M) Past Population Page 1 to 2)
- c) Projected Population ( (M) Projected Population)
- d) Household ( (M) Household)
- e) Services ( (M) Services)
- f) Occupation ( (M) Occupation)
- g) Family Income, Education and Literacy ( (M) Family Income and Education)

#### 2. *Land Use Data* (landuse.xls)

- a) Existing Land Use ((M) Existing Land Use)
- b) Future Land Use ((M) Future Land Use)

#### 3. *Health Data* (health.xls)

- a) Morbidity, Mortality and Infant Mortality ((M) Morbidity and Mortality)
- b) Facility and Practitioner ((M) FacilityPractitioner)

#### 4. *Water Resource Data* (h2ores.xls)

- a) General Information ( (M) General Information)
- b) Water Source Information ( (M) Source Information)

#### 5. *Water Supply Systems Data* (h2osupp.xls)

- a) Level III Systems ( (S) Level III P1-2 .. P2-2)
- b) Level II Systems ( (S) Level II P1-4 .. P4-4)

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

- a) Household Toilets ( (M) Household Toilets)
- b) School and Public Toilets ( (M) Sch. and Pub. Toilets)
- c) Drainage Facility ( (M) Drainage Facility)
- d) Solid Waste Collection and Disposal ( (M) Solid Waste)

## 7. *Investment Data* (invest.xls)

- a) Previous Annual Investment ( (P) Fin. Past Ann. Invest.)
- b) Planned Annual Investment ( (P) Fin. Future Ann. Invest.)

## 6.2. **Key Parameter**

### 1. *Key Parameters* (keypar.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* (chap-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* (chap-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* (chap-6.xls)
- a) Previous Sector Investment to the Province by Concerned Agency (MTable 6.2.1)
  - b) Past Internal Allotment to the Province from Central Government (MTable 6.2.2)
  - c) Affordability in Water and Sanitation Services (MTable 6.4.1)
  - d) Financial Indicators of Water Districts (MTable 6.5.1)
  - e) Loan Status of Water Districts (MTable 6.5.2)
  - f) Past Internal Revenue Allotment to Municipalities from Central Government (STable 6.2.1)
- 4) *Water Source Development* (chap-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* (chap-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) Future Population by Urban and Rural Area by Municipality (MTable 8.3.1)
  - 7) Projected Public School Enrollment and Number of Public Utility by Municipality (MTable 8.3.2)
  - 8) Population to be Served by Target Year (Water Supply) (MTable 8.5.1)
  - 9) Additional Number of Households to be Served by Target Year (Household Toilets) (MTable 8.5.2)
  - 10) Additional Number of Public School Student to be Served by Target Year (School Toilets) (MTable 8.5.3)

- 11) Additional Number of Public Utilities with Sanitary Toilets by Target Year (MTable 8.5.4)
- 12) Population to be Served by Urban Sewerage in Phase II (MTable 8.5.5)
- 13) Additional Number of Urban Households to be Served by Municipal Solid Waste System in Phase I (MTable 8.5.6)
- 14) Water Supply Facilities Required by Target Year (MTable 8.6.1)
- 15) Sanitation Facilities Required by Target Year (MTable 8.6.2)
- 16) Number of Garbage Collection Trucks Required in Phase I (MTable 8.6.3)
- 17) Estimation of Base Year Service Coverage of Water Supply (STable 8.2.1)
- 18) Population Coverage in Phase I Provided by Served Population in the Base Year (STable 8.2.2)
- 19) Number of Households Served by Sanitary Toilets in the Base Year (1994)(STable 8.2.3)
- 20) Number of Public School Student Served by School Toilets in the Base Year (STable 8.2.4)
- 21) Number of Public Utilities with Sanitary Toilets in the Base Year (1994) (STable 8.2.5)
- 22) Households Coverage in Phase I Provided by Existing Facilities in the Base Year (Household Toilets) (STable 8.2.6)
- 23) Public School and Public Coverage in Phase I Provided by Existing Facilities in the Base Year (STable 8.2.7)
- 24) Projected Number of Households by Urban and Rural Areas by Municipality by Target Year (STable 8.3.5)
- 25) Projected School Enrollment by Municipality by Target Year (STable 8.3.6)
- 26) Projected Number of Public Utilities by Municipality by Target Year (STable 8.3.7)
- 27) Population to be Served by Level II System in Phase I (STable 8.5.1)
- 28) Population to be Served in Phase I (Water Supply) (STable 8.5.2)
- 29) Population to be Served in Phase II (Water Supply) (STable 8.5.3)
- 30) Additional Number of Households to be Served in Phase I (Household Toilets) (STable 8.5.4)
- 31) Additional Number of Households to be Served in Phase II (Household Toilets) (STable 8.5.5)
- 32) Additional Number of Public School Students to be Served in Phase I and II (School Toilets) (STable 8.5.6)
- 33) Additional Number of Public Utilities with Sanitary Toilets in Phase I and II (STable 8.5.7)
- 34) Urban Water Supply Facilities Required by Target Year (STable 8.6.1)
- 35) Plan for Expansion of Existing Level III System (STable 8.6.2)
- 36) Rural Water Supply Facilities Required by Target Year (STable 8.6.3)
- 37) Urban Household Toilets Required by Target Year (STable 8.6.4)
- 38) Rural Household Toilet Required by Target Year (STable 8.6.5)
- 39) Public School Toilets Required by Target Year (STable 8.6.6)
- 40) Public Toilets Required by Target Year (STable 8.6.7)

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

- a) Unit Cost of Facilities by Type and Service Level (MTable 10.2.1)
- b) Construction Cost of Required Facilities by Municipality (MTable 10.3.1)
- c) Recurrent Cost (MTable 10.4.1)
- d) Unit Cost of Level I (Deep Well - 40 meter Depth) (STable 10.2.1)
- e) Unit Cost of Level I (Deep Well - 80 meter Depth) (STable 10.2.2)
- f) Unit Cost of Level I (Deep Well - 120 meter Depth) (STable 10.2.3)
- g) Unit Cost of Level I (Deep Well Rehabilitation) (STable 10.2.4)
- h) Unit Cost of Level I (Shallow Well - 18 meter Depth) (STable 10.2.5)

- i) Unit Cost of Level II (600 Service Population) (STable 10.2.6)
- j) Unit Cost of Level III (5,000 Service Population) (STable 10.2.7)
- k) Unit Cost of Level III (10,000 Service Population) (STable 10.2.8)
- l) Unit Cost of Level III (15,000 Service Population) (STable 10.2.9)
- m) Unit Cost of Flush Water Sealed with Septic Tank Toilet (STable 10.2.10)
- n) Unit Cost of Pour Flush with Double Pit Latrine (STable 10.2.11)
- o) Unit Cost of Ventilated Improved Pit Latrine (STable 10.2.12)
- p) Unit Cost of School Toilet (STable 10.2.13)
- q) Unit Cost of Public Toilet (STable 10.2.14)
- r) Construction Cost of Water Supply Facilities Required for Phase I (2000) (STable 10.3.1)
- s) Construction Cost of Water Supply Facilities Required for Phase II (2010) (STable 10.3.2)
- t) Cost of Sanitation Facilities Required for Phase I (2000) (STable 10.3.3)
- u) Cost of Sanitation Facilities Required for Phase II (2010) (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)

## 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
Chapter - 3	MT 3.1.1	Outline of City and Municipality	Socio.xls	M 1.2.2
	MT 3.2.1	Current LandUse	Landuse.xls	M 2.1
	MF 3.3.1	Distribution of Households by Income Class	Chap-3.xls	ST 3.3.1
	MF 3.3.2	Population Distribution by Occupation	Chap-3.xls	ST 3.3.2
	MF 3.3.3	Population Distribution by Highest Attainment of Education	Chap-3.xls	ST 3.3.3
	MT 3.4.1 & MF 3.4.1	Previous Population Development by Municipality	Socio.xls	MT 1.2.1
	MF 3.4.2	Present Population Distribution	Socio.xls	M 1.2.2
	MT 3.4.2	Outline of Urban and Rural Areas in the Province	Chap-3.xls	MT 1.2.2
	MT 3.4.3	Households Numbers and Household Sizes	Socio.xls	MT 3.1.1
	MT 3.5.1	Number and Rates of Ten Leading Causes of Morbidity, Mortality, & Infant Mortality	Socio.xls	ST 3.3.2
	MT 3.5.2	Reported Cases and Deaths of Notifiable Water related Diseases	Health.xls	M 1.2.2
	MT 3.6.1	Municipal Solid Waste Collection and Disposal, and Service Coverage, 1994	Socio.xls	M 1.4
	ST 3.3.1	Number of Family by Income Class by Municipality	Sanit.xls	MT 3.4.2
Chapter - 4	ST 3.3.2	Population Distribution by Occupation	Chap-3.xls	M 3.1
	ST 3.3.3	Education Level and Literacy of Population	Socio.xls	Morbidity and Mortality Summary
	MT 4.1.2	Information on Existing Level III Systems	Socio.xls	Morbidity and Mortality Summary
			Chap-4.xls	Household Number

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).

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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 - 4	MT 4.1.3	Information on Water District Data	Chap-4.xls	ST 4.1.1 Sheet 1 & 4	Information on Existing Level II 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	Estimation of Population Covered by Safe and Unsafe
	MT 4.1.7	Water Supply Service Coverage by Municipality	Chap-4.xls	Sheet 1 & 2	Source by Municipality
				ST 4.1.6	Estimation of Population Covered by Safe and Unsafe
			Socio.xls	Sheet 2	Source by Municipality
			Socio.xls	M 1.3	Projected Population
	MT 4.2.1	Sanitation Facilities and Service Coverage of Household Toilets, Urban and Rural, 1994	Chap-4.xls	M 1.4	Household Number
				ST 4.2.1	Sanitation Facilities and Service Coverage of Household Toilets, by Type, by Municipality, Urban and Rural, 1994
	MT 4.2.2 Sheet 1	School Toilets Facilities and Service Coverage, 1994	Sanit.xls	M 6.2	School Toilets
	MT 4.2.2 Sheet 2	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	H20Supp.xls	(F) 5.3.1	Level I Facility
	ST 4.1.5	Estimation of Unserved Population by Municipality	Keyper.xls	ST 2.6.5	Level I Safe and Unsafe Percentage
			Socio.xls	M 1.2.2	Past Population Page 2
			Chap-4.xls	ST 4.1.6 Sheet 1 & 2 ST 4.1.2	Estimation of Population covered by Safe and Unsafe
				Sheet 2	Details on Existing Level II System
ST 4.2.1		Sanitation Facilities and Service of Household Toilets by Type, by Municipality, Urban and Rural, 1994	Socio.xls	M 1.4	Household Number
			Sanit.xls	M 6.1	Household Toilets

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Table 2.6.2 Data File Linkages

Destination Link		Source Link		
Chapter No.	Table No.	Title	Filename	Table/Form Number
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
	ST 4.1.6 Sheet 2	Estimation of Population Covered by Safe and Unsafe Source by Municipality	Chap-4.xls	ST 4.1.5
	MT 8.2.1	Provincial Sector Targets	Keypar.xls Chap-8.xls	ST 4.1.6 Sheet 1 ST 2.6.2 MT 8.5.1 MT 8.5.2 MT 8.5.5 MT 8.5.6 ST 8.5.7 ST 8.6.6
Chapter - 8	MT 8.2.2	Base Year Coverage in Water Supply	Chap-4.xls Chap-8.xls	MT 4.1.7 ST 8.2.1 MT 8.3.1
	MT 8.2.3	Base Year Service Coverage of Household Toilets	Chap-8.xls	ST 8.2.3 MT 8.3.1
	MT 8.2.4	Base Year Service Coverage of Public School Toilets and Public Toilets	Chap-4.xls	MT 4.2.2 Sheet 1

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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 8.2.4	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 I(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
			Chap-8.xls	MT 8.2.5	Base Year Service Coverage of Municipal Solid Waste System in 1994
	MT 8.6.1	Water Supply Facilities Required by Target Year	Chap-8.xls	ST 8.3.5	Projected No. of Households by Urban and Rural Area by Municipality by Target Year
			Chap-8.xls	ST 8.6.1	Urban Water Supply Facilities Required by Target Year
	MT 8.6.2	Sanitation Facilities Required by Target Year	Chap-8.xls	ST 8.6.3	Rural Water Supply Facilities Required by Target Year
				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
	MT 8.6.3	Number of Garbage Collection Trucks Required in Phase I	Chap-8.xls	ST 8.6.6	Public School Toilets Required by Target Year
	ST 8.2.1	Estimation of Base Year Service Coverage of Water Supply	Chap-4.xls	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 4.1.7	Water Supply Service Coverage 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 8.3.1	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	MT 8.2.2	Base Year Coverage in Water Supply
			Chap-8.xls	MT 8.3.1	Future Population by Urban and Rural Area by Municipality
				ST 4.2.1	Sanitation Facilities and Service of Household Toilets by Type, by Municipality, Urban and Rural, 1994
				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	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 4.2.2 Sheet 1	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 4.2.2 Sheet 2	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 ST 8.2.3	Base Year Service Coverage of Household Toilets 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
	ST 8.3.6	Projected School Enrollment by Municipality by Target Year	Socio.xls	M 1.4	Household Number
				M 1.2.2	Past Population Page 2
	ST 8.3.7	Projected Number of Public Utilities by Municipality by Target Year	Chap-8.xls	M 1.3	Projected Population
				ST 8.2.5	Number of Public Utilities with Sanitary Toilets in the Base Year (1994)

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).

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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 Chap-8.xls	M 1.1 ST 8.3.5	Administrative Composition 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 Chap-8.xls	M 1.3 MT 8.2.2 ST 8.5.1	Projected Population Base Year Coverage in Water Supply 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 Chap-8.xls	M 1.3 ST 8.5.2	Projected Population Population to be Served in Phase I (Water Supply)
	ST 8.5.4	Additional Number of Households to be Served in Phase II (Household Toilets)	Chap-8.xls	MT 8.2.1	Provincial Sector Targets
	ST 8.5.5	Additional Number of Households to be Served in Phase II (Household Toilets)	Chap-8.xls	ST 8.2.3 ST 8.3.5	Number of Households Served by Sanitary Toilets in the Base Year (1994) Projected Number of Households by Urban and Rural Area 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)	Chap-8.xls	MT 8.2.1 ST 8.3.5 ST 8.5.4	Provincial Sector Targets Projected Number of Households by Urban and Rural Area by Municipality by Target Year Additional Number of Households to be Served in Phase II (Household Toilets)
	ST 8.5.7	Number of Public Utilities with Sanitary Toilets in Phases I and II	Chap-8.xls	MT 8.2.1 ST 8.2.4 ST 8.3.6	Provincial Sector Targets Number of Public School Students Served by School Toilets in the Base Year (1994) Projected School Enrollment by Municipality by Target Year
				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

Note: MF - 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).

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Table 2.6.2 Data File Linkages

Destination Link		Source Link		
Chapter No.	Table No.	Title	Filename	Table/Form Number
Chapter - 8	ST 8.6.1	Urban Water Supply Facilities Required by Target Year	Socio.xls	M 1.3
			Keypar.xls	ST 2.6.2
			Chap-4.xls	ST 4.1.1
				Sheet 1 and 3
			Chap-8.xls	ST 8.3.5
				MT 8.4.1
				ST 8.5.2
Chapter - 10	ST 8.6.3	Rural Water Supply Facilities Required by Target Year	Chap-8.xls	ST 8.5.3
			Chap-7.xls	ST 7.6.2
			Chap-8.xls	ST 8.3.5
				MT 8.4.1
				ST 8.5.1
	ST 8.6.4	Urban Household Toilets Required by Target Year	Chap-8.xls	MT 8.5.2
	ST 8.6.5	Rural Household Toilets Required by Target Year	Chap-8.xls	MT 8.5.2
	ST 8.6.6	Public School Toilets Required by Target Year	Chap-8.xls	ST 8.5.6
	ST 8.6.7	Public Toilets Required by Target Year	Chap-8.xls	ST 8.5.7
	MT 10.2.1	Unit Cost of Facilities by Type and Service Level	Keypar.xls	ST 2.6.6
Chapter - 10	MT 10.3.1	Construction Cost of Required Facilities by Municipality	Chap-10.xls	ST 10.3.1
				ST 10.3.2
				ST 10.3.3
				ST 10.3.4

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).

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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 Chap-8.xls	ST 2.6.2 Key Parameter Table 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 10.3.1	Construction Cost of Water Supply Facilities Required for Phase I (2000)	Chap-11.xls Chap-8.xls	ST 8.6.6 Public School Toilets Required by Target Year ST 8.6.7 Public Toilets Required by Target Year ST 11.3.1 Percentages for Annual Investments MT 8.5.1 Population to be Served by Target Year (Water Supply)
	ST 10.3.2	Construction of Water Supply Facilities Required for Phase II (2010)	Chap-10.xls Keypar.xls Chap-8.xls	MT 10.2.1 Unit Cost of Facilities by Type and Service Level ST 2.6.2 Key Parameter Table MT 8.5.1 Population to be Served by Target Year (Water Supply)
	ST 10.3.3	Cost of Sanitation Facilities Required for Phase I (2000)	Chap-10.xls Chap-8.xls	ST 8.6.3 Number of Garbage Collection Trucks Required in Phase I MT 10.2.1 Unit Cost of Facilities by Type and Service Level MT 8.6.2 Sanitation Facilities Required by Target Year
	ST 10.3.4	Cost of Sanitation Facilities Required for Phase II (2010)	Chap-10.xls Chap-8.xls	ST 8.6.7 Public Toilets Required by Target Year MT 10.2.1 Unit Cost of Facilities by Type and Service Level 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

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

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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 ST 8.6.7 MT 10.2.1	Public School Toilets Required by Target Year Public Toilets Required by Target Year Unit Cost of Facilities by Type and Service Level
	MT 11.2.1	Projected Internal Revenue Allotment for Medium-Term Sector Development	Socio.xls Keypar.xls Chap-6.xls	M 1.1 ST 2.6.2 MT 6.2.2	Administrative Composition Key Parameter Table 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
Chapter - 11	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)
	MT 11.3.2	Additional Fund Requirement for the Medium-Term Plan	Chap-11.xls	ST 11.3.1 MT 11.3.1	Percentage for Annual Investments 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)
			Chap-11.xls	ST 10.3.3 MT 11.2.2 MT 11.3.1 MT 11.4.2	Cost of Sanitation Facilities Required for Phase I (2000) Project Allotment of IRA to the Revelant Sector by Component 1996 - 2000 Financing Requirements by Sector Component for the Province 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

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).

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Table 2.6.2 Data File Linkages

Destination Link		Source Link		
Chapter No.	Table No.	Title	Filename	Table/Form Number
Chapter-11	MT 11.4.2	Distribution of Provincial IRA to Municipalities for Urban Water Supply	Chap-4.xls	MT 11.3.1
				MT 11.4.1
			Chap-10.xls	ST 10.3.1
				ST 10.3.3
	MT 11.4.3	Municipal Investments Need Ranking	Chap-11.xls	ST 11.4.1
	ST 11.3.1	Percentages for Annual Investments	Keypar.xls	ST 2.6.4
	ST 11.4.1	Comprehensive Investment need Ranking of Municipalities	Keypar.xls	ST 2.6.8
			Chap-8.xls	ST 8.2.2
			Chap-11.xls	MT 8.2.3
				MT 11.4.1

Note: MT - Main Report Table; MF - Main Report Figure; ST - Supporting Report Table;  
 A1 - Questionnaire Form (Municipal Data); S - Questionnaire Form (System Data); F - Questionnaire Form (Facility Data).

## 8. UPDATING PW4SP DATA BASE

The following procedures are guide in updating the base data of the PW4SP data management system. The word *column* and *row* in this procedure mean the internal column and row notation in the worksheet environment.

### 8.1. Updating Socio-economic Data Base

1. Click the **File** menu, select **Open**.

Short-cut: Click the **Open** button.

2. From the **Open Dialog Box**. Select the *socio.xls* filename.

- 3.1 To update the **Administrative Composition Data**,  
click the tab of *(M) Area and Population* sheet.

- **NEDA geographic code**: move mouse pointer to column A. Starting at the row below the column description, select the data you would like to update and type the new value.
- **Municipal Name**: move mouse pointer to column B. Starting at the row below the column description, in reference to column A (NEDA geographic code) select the data you would like to update and type the new value.
- **City**: move mouse pointer to column C. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Municipal**: move mouse pointer to column D. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Class**: move mouse pointer to column E. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Urban Barangay**: move mouse pointer to column J. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Rural Barangay**: move mouse pointer to column K. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.

- 3.2 To update the **Past Population Data**,  
click the tab of *(M) Past Population Page 1* sheet.

- **1903**: move mouse pointer to column D. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **1918**: move mouse pointer to column E. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.

- **1939:** move mouse pointer to column F. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **1948:** move mouse pointer to column G. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **1960:** move mouse pointer to column H. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **1970:** move mouse pointer to column I. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **1975:** move mouse pointer to column J. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.

click the tab of *(M) Past Population Page 2* sheet.

- **Urban Population (1980):** move mouse pointer to column D. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Rural Population (1980):** move mouse pointer to column E. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Urban Population (1990):** move mouse pointer to column G. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Rural Population (1990):** move mouse pointer to column H. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Urban Population (1994):** move mouse pointer to column J. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Rural Population (1994):** move mouse pointer to column I. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.

### 3.3 To update the Population Projection Data, click the tab of *(M) Project Population* sheet.

- **Urban Population (2000):** move mouse pointer to column I. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Rural Population (2000):** move mouse pointer to column K. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.

- **Urban Population (2010):** move mouse pointer to column S. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Rural Population (2010):** move mouse pointer to column U. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.

3.4 To update the Household Data,  
click the tab of (M) *Household* sheet.

- **Urban Household (1980):** move mouse pointer to column D. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Rural Household (1980):** move mouse pointer to column E. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Urban Household (1990):** move mouse pointer to column G. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Rural Household (1990):** move mouse pointer to column H. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Urban Household (1994):** move mouse pointer to column J. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Rural Household (1994):** move mouse pointer to column K. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.

3.5 To update the Services Data,  
click the tab of (M) *Services* sheet.

- **Number of Public Elementary School:** move mouse pointer to column F. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Private Elementary School:** move mouse pointer to column G. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Public High School:** move mouse pointer to column I. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Private High School:** move mouse pointer to column J. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Colleges:** move mouse pointer to column L. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.

- **Number of Hospitals:** move mouse pointer to column M. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Markets:** move mouse pointer to column N. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Banks:** move mouse pointer to column O. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.

3.6 To update the Occupation Data,  
click the tab of *(M) Occupation* sheet.

- **Number of Professional, Technical and Related Workers:** move mouse pointer to column D. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Administrative, Executive and Managerial:** move mouse pointer to column E. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Sales Workers:** move mouse pointer to column F. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Service Workers:** move mouse pointer to column G. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Agricultural, Animal Husbandry & Forestry Workers, Fisherman and Hunters,** move mouse pointer to column H. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Production & Related Workers, Transportation Equipment Operators and Laborers:** move mouse pointer to column I. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Occupation Not Adequately Defined or Reported:** move mouse pointer to column J. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.

3.7 To update the Family Income, Education and Literacy Data,  
click the tab of *(M) Family Income and Education* sheet.

- **Number of Family Receiving Under ₦ 13,999:** move mouse pointer to column D. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Family Receiving Between ₦ 15,000 to ₦ 29,999:** move mouse pointer to column E. Starting at the row below the column description, in reference to

column B (name of municipality) select the data you would like to update and type the new value.

- *Number of Family Receiving Between ₦ 30,000 to ₦ 39,999:* move mouse pointer to column F. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Number of Family Receiving Between ₦ 40,000 to ₦ 59,999:* move mouse pointer to column G. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Number of Family Receiving over ₦ 60,000:* move mouse pointer to column H. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Number of Population that Finish Pre-School:* move mouse pointer to column I. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Number of Population that Finish Elementary School:* move mouse pointer to column J. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Number of Population that Finish High School:* move mouse pointer to column K. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Number of Population that Finish College and Post Graduate:* move mouse pointer to column L. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Number of Literate Population:* move mouse pointer to column M. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Number of Illiterate Population:* move mouse pointer to column N. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.

## 8.2. Updating Land Use Data Base

1. Click the File menu, select Open.

Short-cut: Click the **Open** button.

2. From the Open Dialog Box. Select the *landuse.xls* filename.

- 3.1 To update the Existing Land Use Data,  
click the tab of (M) *Existing Land Use* sheet.

- *Forest Land Area:* move mouse pointer to column C. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.

- *Grass Land Area*: move mouse pointer to column D. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Built-up Land Area*: move mouse pointer to column E. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Agricultural Land Area*: move mouse pointer to column F. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Mangrove, Fishponds, In-land Area*: move mouse pointer to column G. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Open Land Area*: move mouse pointer to column H. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.

3.2 To update the **Future Land Use Data**,  
click the tab of *(M) Future Land Use* sheet.

- *Forest Land Area*: move mouse pointer to column C. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Grass Land Area*: move mouse pointer to column D. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Built-up Land Area*: move mouse pointer to column E. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Agricultural Land Area*: move mouse pointer to column F. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Mangrove, Fishponds, In-land Area*: move mouse pointer to column G. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Open Land Area*: move mouse pointer to column H. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.

### 8.3. Updating Health Data Base

1. Click the **File** menu, select **Open**.  
Short-cut: Click the **Open** button.
2. From the **Open Dialog Box**. Select the *health.xls* filename.
- 3.1 To update the **Morbidity, Mortality and Infant Mortality Data**,  
click the tab of *(M) Morbidity and Mortality* sheet.

- **Number of Morbidity Case:** move mouse pointer to column E. Starting at the row below the column description, in reference to column C (name of diseases) select the data you would like to update and type the new value.
- **Number of Mortality Case:** move mouse pointer to column F. Starting at the row below the column description, in reference to column C (name of diseases) select the data you would like to update and type the new value.
- **Number of Infant Mortality Case:** move mouse pointer to column G. Starting at the row below the column description, in reference to column C (name of diseases) select the data you would like to update and type the new value.

### 3.2 To update the Facility and Practitioner Data click the tab of (M) *Facility and Practitioner* sheet.

- **Number of Hospital Facility:** move mouse pointer to column D. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Rural Health Unit (RHU):** move mouse pointer to column E. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Barangay Health Station (BHS):** move mouse pointer to column F. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Practicing Doctors:** move mouse pointer to column H. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Practicing Nurses:** move mouse pointer to column I. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Practicing Midwives:** move mouse pointer to column J. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Practicing Dentists:** move mouse pointer to column K. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.

## 8.4. Updating Water Resources Data Base

1. Click the **File** menu, select **Open**.  
Short-cut: Click the **Open** button.
2. From the **Open Dialog Box**. Select the *h2o-res.xls* filename.
3. To update the **General Information Data**,  
click the tab of (M) *General Information* sheet.

- **Number of Shallow (General Information):** move mouse pointer to column E/H. Starting at the row below the column description, in reference to column C (description of information) select the data you would like to update and type the new value.

- **Number of Deep Well (General Information):** move mouse pointer to column F/I. Starting at the row below the column description, in reference to column C (description of information) select the data you would like to update and type the new value.
- **Number of spring (General Information):** move mouse pointer to column G/J. Starting at the row below the column description, in reference to column C (description of information) select the data you would like to update and type the new value.

**Note:** To add succeeding municipality. Copy (M) *General Information* sheet and erase the default data and type the new data following the aforementioned procedures.

### 8.5. Updating Water Supply Data Base

1. Click the **File** menu, select **Open**.

Short-cut: Click the **Open** button.

2. From the **Open Dialog Box**. Select the *h2osupp.xls* filename.

- 3.1 To update the **Level III System Data**,

click the tab of (S) *Level III P1-4* sheet.

- **Data:** move mouse pointer to column G. Starting at the row below the column description, in reference to column B (Info Description) select the data you would like to update and type the new data.

click the tab of (S) *Level III P2-4* sheet.

- **Data:** move mouse pointer to column G. Starting at the row below the column description, in reference to column B (Info Description) select the data you would like to update and type the new data.

click the tab of (S) *Level III P3-4* sheet.

- **Data:** move mouse pointer to column G. Starting at the row below the column description, in reference to column B (Info Description) select the data you would like to update and type the new data.

click the tab of (S) *Level III P4-4* sheet.

- **Data:** move mouse pointer to column G. Starting at the row below the column description, in reference to column B (Info Description) select the data you would like to update and type the new data.

- 3.2 To update the **Level II System Data**,

click the tab of (S) *Level II P1-2* sheet.

- **Data:** move mouse pointer to column G. Starting at the row below the column description, in reference to column B (Info Description) select the data you would like to update and type the new data.

click the tab of (S) *Level II P2-2* sheet.

- *Data:* move mouse pointer to column G. Starting at the row below the column description, in reference to column B (Info Description) select the data you would like to update and type the new data.

### 3.3 To update the Level I Facility Data,

click the tab of (F) *Level I* sheet.

#### *Public Facility:*

- *Deep Well:* move mouse pointer to column E. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Shallow Well:* move mouse pointer to column F. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Covered/Improved Dug Well:* move mouse pointer to column G. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Open Dug Well:* move mouse pointer to column H. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Developed Spring:* move mouse pointer to column I. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Undeveloped Spring:* move mouse pointer to column J. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.

#### *Private Facility:*

- *Deep Well:* move mouse pointer to column L. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Shallow Well:* move mouse pointer to column M. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Covered/Improved Dug Well:* move mouse pointer to column N. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Open Dug Well:* move mouse pointer to column O. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.

- *Rain Collector*: move mouse pointer to column P. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.

### 8.6. Updating Environmental Sanitation Data base

1. Click the File menu, select Open.

Short-cut: Click the Open button.

2. From the **Open Dialog Box**. Select the *sanit.xls* filename.

3.1 To update the **Household Toilet Data**,

click the tab of *(M) Household Toilets* sheet.

- *Number of Urban Households Using Water Sealed Flush Toilet*: move mouse pointer to column C. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Number of Rural Households Using Water Sealed Flush Toilet*: move mouse pointer to column D. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Number of Urban Households Using Water Sealed Pour Flush Toilet*: move mouse pointer to column E. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Number of Rural Households Using Water Sealed Pour Flush Toilet*: move mouse pointer to column F. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Number of Urban Households Using VIP Latrine Toilet*: move mouse pointer to column G. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Number of Rural Households Using VIP Latrine Toilet*: move mouse pointer to column H. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Number of Urban Households Using Unsanitary Toilet*: move mouse pointer to column K. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Number of Rural Households Using Unsanitary Toilet*: move mouse pointer to column L. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Number of Urban Households Without Toilet*: move mouse pointer to column N. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.

- **Number of Rural Households Without Toilet:** move mouse pointer to column O. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.

click the tab of (M) *School Toilets* sheet.

- **Number of Public School:** move mouse pointer to column C. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Private School:** move mouse pointer to column D. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Student in Public School:** move mouse pointer to column F. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Student in Private School:** move mouse pointer to column G. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Sanitary Toilets in Public School:** move mouse pointer to column I. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Sanitary Toilets in Private School:** move mouse pointer to column J. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Unsanitary Toilets in Public School:** move mouse pointer to column L. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Unsanitary Toilets in Private School:** move mouse pointer to column M. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.

click the tab of (M) *Public Toilets* sheet.

- **Number of Public Markets:** move mouse pointer to column C. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Sanitary Toilets in Public Markets:** move mouse pointer to column D. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Unsanitary Toilets in Public Markets:** move mouse pointer to column E. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Jeepney/Bus Terminals:** move mouse pointer to column G. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.

- *Number of Sanitary Toilets in Jeepney/Bus Terminal:* move mouse pointer to column H. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Number of Unsanitary Toilets in Jeepney/Bus Terminal:* move mouse pointer to column I. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Number of Parks/Playground:* move mouse pointer to column K. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Number of Sanitary Toilets in Parks/Playground:* move mouse pointer to column L. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Number of Unsanitary Toilets in Parks/Playground:* move mouse pointer to column M. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.

click the tab of (M) *Drainage Facility* sheet.

- *Length of Drainage Main:* move mouse pointer to column C. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Length of Open Channel (with concrete and masonry):* move mouse pointer to column D. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Length of Open Ditches And Unlined Laterals:* move mouse pointer to column E. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Length of Reinforced Concrete Circular Pipes:* move mouse pointer to column F. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Length of Street Gutters:* move mouse pointer to column G. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- *Length of Outfalls To Rivers From Drainage Mains:* move mouse pointer to column H. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.

click the tab of (M) *Solid Waste* sheet.

- *Number of Open Dump Trucks:* move mouse pointer to column C. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.

- **Number of Closed Type Trucks:** move mouse pointer to column D. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Households Served By Open Dump Site:** move mouse pointer to column F. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Households Served By Sanitary Landfill:** move mouse pointer to column G. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Households Depending on Dumping on Land or Water:** move mouse pointer to column H. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Households Depending on Burying:** move mouse pointer to column I. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.
- **Number of Households Depending on Composting:** move mouse pointer to column J. Starting at the row below the column description, in reference to column B (name of municipality) select the data you would like to update and type the new value.

## 8.7. Updating Investment Data Base

1. Click the **File** menu, select **Open**.  
Short-cut: Click the **Open** button.
2. From the **Open Dialog Box**, Select the *invest.xls* filename.
- 3.1 To update the **Past Investment Data**,  
click the tab of **(P) Past Invest** sheet.
  - **Shallow Well:** move mouse pointer to column C. Starting at the row below the column description, in reference to column A (name of funding agency) select the data you would like to update and type the new value.
  - **Deep Well:** move mouse pointer to column D. Starting at the row below the column description, in reference to column A (name of funding agency) select the data you would like to update and type the new value.
  - **Spring Development:** move mouse pointer to column E. Starting at the row below the column description, in reference to column A (name of funding agency) select the data you would like to update and type the new value.
  - **Well Rehabilitation:** move mouse pointer to column F. Starting at the row below the column description, in reference to column A (name of funding agency) select the data you would like to update and type the new value.
  - **Rain Collector:** move mouse pointer to column G. Starting at the row below the column description, in reference to column A (name of funding agency) select the data you would like to update and type the new value.
  - **Level II System:** move mouse pointer to column H. Starting at the row below the column description, in reference to column A (name of funding agency) select the data you would like to update and type the new value.

- *Level III System:* move mouse pointer to column I. Starting at the row below the column description, in reference to column A (name of funding agency) select the data you would like to update and type the new value.
- *Sewer System:* move mouse pointer to column J. Starting at the row below the column description, in reference to column A (name of funding agency) select the data you would like to update and type the new value.
- *Private Latrines:* move mouse pointer to column K. Starting at the row below the column description, in reference to column A (name of funding agency) select the data you would like to update and type the new value.
- *School Toilets:* move mouse pointer to column L. Starting at the row below the column description, in reference to column A (name of funding agency) select the data you would like to update and type the new value.
- *Public Toilets:* move mouse pointer to column M. Starting at the row below the column description, in reference to column A (name of funding agency) select the data you would like to update and type the new value.

### 3.2 To update the Planned Future Investment Data

click the tab of (P) *Future Invest* sheet.

- *Project Name:* move mouse pointer to column A. Starting at the row below the column description, type the project identification.
- *Type of Project:* move mouse pointer to column B. Starting at the row below the column description, in reference to column A (name of project) type the new value.
- *Phase of Project:* move mouse pointer to column C. Starting at the row below the column description, in reference to column A (name of project) type the new value.
- *Project Location:* move mouse pointer to column D. Starting at the row below the column description, in reference to column A (name of project) type the new value.
- *Implementing Agency:* move mouse pointer to column E. Starting at the row below the column description, in reference to column A (name of project) type the new value.
- *Start Date of Project:* move mouse pointer to column F. Starting at the row below the column description, in reference to column A (name of project) type the new value.
- *Completion Date of the Project:* move mouse pointer to column G. Starting at the row below the column description, in reference to column A (name of project) type the new value.
- *Accomplishment Status (%):* move mouse pointer to column H. Starting at the row below the column description, in reference to column A (name of project) type the new value.
- *Number of Household Covered by the Project:* move mouse pointer to column I. Starting at the row below the column description, in reference to column A (name of project) type the new value.
- *Finance Agency:* move mouse pointer to column J. Starting at the row below the column description, in reference to column A (name of project) type the new value.

- *Cost of Level I Facility (Thousand of pesos)*: move mouse pointer to column K. Starting at the row below the column description, in reference to column A (name of project) type the new value.
- *Cost of Level II System (Thousand of pesos)*: move mouse pointer to column L. Starting at the row below the column description, in reference to column A (name of project) type the new value.
- *Cost of Level III System (Thousand of pesos)*: move mouse pointer to column M. Starting at the row below the column description, in reference to column A (name of project) type the new value.
- *Cost of Sewer System (Thousand of pesos)*: move mouse pointer to column N. Starting at the row below the column description, in reference to column A (name of project) type the new value.
- *Private Latrine (Thousand of pesos)*: move mouse pointer to column O. Starting at the row below the column description, in reference to column A (name of project) type the new value.
- *Cost School Toilets (Thousand of pesos)*: move mouse pointer to column P. Starting at the row below the column description, in reference to column A (name of project) type the new value.
- *Cost of Public Toilets (Thousand of pesos)*: move mouse pointer to column Q. Starting at the row below the column description, in reference to column A (name of project) type the new value.

## 8.8. Updating Key Parameter Data Base

1. Click the File menu, select Open.  
Short-cut: Click the Open button.
2. From the Open Dialog Box. Select the *keypar.xls* filename.
3. To update the Key Parameter Data,  
click the tab of *STable 2.6.2* sheet.

### *Water Supply:*

- *Number of Household to be Served by Level I Facility*: move mouse pointer to column H-Row 5. Type the new value.
- *Water Consumption Rate for Level III System*: move mouse pointer to column H-Row 6. Type the new value.

### *Sanitation:*

- *Standard Number of Student to be Served by a Unit of Sanitary Toilet*: move mouse pointer to column H-Row 8. Type the new value.
- *Standard Number of Toilets for Public Facility*: move mouse pointer to column H-Row 9. Type the new value.

### *Medium-term Plan:*

- *Percentage of Population Covered by Urban Water Supply*: move mouse pointer to column H-Row 11. Type the new value.
- *Percentage of Population Covered by Rural Water Supply*: move mouse pointer to column H-Row 12. Type the new value.

- *Percentage of Population Covered by Sanitary Toilet:* move mouse pointer to column H-Row 14. Type the new value.
- *Percentage of Urban Household Covered by Flush Toilet:* move mouse pointer to column H-Row 16. Type the new value.
- *Percentage of Urban Household Covered by Pour Flush Toilet:* move mouse pointer to column H-Row 17. Type the new value.
- *Percentage of Urban Household Covered by VIP Latrine:* move mouse pointer to column H-Row 18. Type the new value.
- *Percentage of Rural Household Covered by Flush Toilet:* move mouse pointer to column H-Row 20. Type the new value.
- *Percentage of Rural Household Covered by Pour Flush Toilet:* move mouse pointer to column H-Row 21. Type the new value.
- *Percentage of Rural Household Covered by VIP Latrine:* move mouse pointer to column H-Row 22. Type the new value.
- *Percentage of Public Student Covered by School Toilet:* move mouse pointer to column H-Row 23. Type the new value.
- *Percentage of Public Utility Covered by Public Toilet:* move mouse pointer to column H-Row 24. Type the new value.
- *Percentage of Population Covered by Solid Waste Collection:* move mouse pointer to column H-Row 25. Type the new value.

*Long-term Plan:*

- *Percentage of Population Covered by Urban Water Supply:* move mouse pointer to column H-Row 27. Type the new value.
- *Percentage of Population Covered by Rural Water Supply:* move mouse pointer to column H-Row 28. Type the new value.
- *Percentage of Population Covered by Sanitary Toilet:* move mouse pointer to column H-Row 30. Type the new value.
- *Percentage of Urban Household Covered by Flush Toilet:* move mouse pointer to column H-Row 32. Type the new value.
- *Percentage of Urban Household Covered by Pour Flush Toilet:* move mouse pointer to column H-Row 33. Type the new value.
- *Percentage of Urban Household Covered by VIP Latrine:* move mouse pointer to column H-Row 34. Type the new value.
- *Percentage of Rural Household Covered by Flush Toilet:* move mouse pointer to column H-Row 36. Type the new value.
- *Percentage of Rural Household Covered by Pour Flush Toilet:* move mouse pointer to column H-Row 37. Type the new value.
- *Percentage of Rural Household Covered by VIP Latrine:* move mouse pointer to column H-Row 38. Type the new value.
- *Percentage of Public Student Covered by School Toilet:* move mouse pointer to column H-Row 39. Type the new value.

- *Percentage of Public Utility Covered by Public Toilet:* move mouse pointer to column H-Row 40. Type the new value.
- *Percentage of Population Covered by Urban Sewerage:* move mouse pointer to column H-Row 41. Type the new value.

*Rehabilitation:*

- *Percentage of Level I Wells for Rehabilitation:* move mouse pointer to column H-Row 42. Type the new value.

*Sector Management Cost:*

- *Percentage of Feasibility and Detail Design:* move mouse pointer to column H-Row 44. Type the new value.
- *Percentage of Construction Supervision:* move mouse pointer to column H-Row 45. Type the new value.

*Contingencies:*

- *Percentage of Physical Contingency:* move mouse pointer to column H-Row 47. Type the new value.
- *Percentage of Price Contingency:* move mouse pointer to column H-Row 48. Type the new value.

*Community Development and Training Cost:*

- *Percentage for Level III System:* move mouse pointer to column H-Row 50. Type the new value.
- *Percentage for Level I Facility and Level II System:* move mouse pointer to column H-Row 51. Type the new value.

*Recurrent Cost:*

- *Operating Cost for Level III System:* move mouse pointer to column H-Row 52. Type the new value.
- *Cost of Spare Parts/Equipment for Level III System:* move mouse pointer to column H-Row 53. Type the new value.
- *Cost of Spare Parts/Equipment for Level II System:* move mouse pointer to column H-Row 54. Type the new value.
- *Cost of Spare Parts/Equipment for Level I Facility:* move mouse pointer to column H-Row 55. Type the new value.
- *Public School Toilet Maintenance Cost:* move mouse pointer to column H-Row 56. Type the new value.
- *Public Utility Toilet Maintenance Cost:* move mouse pointer to column H-Row 57. Type the new value.

*Allocation Factors/Percentages of IRA:*

- *Percentage Share from Provincial IRA:* move mouse pointer to column H-Row 59. Type the new value.
- *Percentage Share from Municipal/Barangay IRA:* move mouse pointer to column H-Row 60. Type the new value.

*Funding Levels/Percentages for Different Financing Scenarios:*

- *1st Scenario:* move mouse pointer to column H-Row 62. Type the new value.
- *2nd Scenario:* move mouse pointer to column H-Row 63. Type the new value.
- *3rd Scenario:* move mouse pointer to column H-Row 64. Type the new value.
- *4th Scenario:* move mouse pointer to column H-Row 65. Type the new value.
- *5th Scenario:* move mouse pointer to column H-Row 66. Type the new value.

click the tab of *STable 2.6.3* sheet:

- *Percentage Proportion of Water Source:* move mouse pointer to column D. Starting at the row below the column description, in reference to column A (name of municipality), column B (type of area), column C (type of source) select the data you would like to update and type the new value.
- *Range Depth of Well:* move mouse pointer to column E. Starting at the row below the column description, in reference to column A (name of municipality), column B (type of area), column C (type of source) select the data you would like to update and type the new value.
- *Average Specific Capacity:* move mouse pointer to column F. Starting at the row below the column description, in reference to column A (name of municipality), column B (type of area), column C (type of source) select the data you would like to update and type the new value.

click the tab of *STable 2.6.5* sheet.

- *Unsafe Percentage:* move mouse pointer to column C. Starting at the row below the column description, in reference to column A (name of municipality) select the data you would like to update and type the new value.

click the tab of *STable 2.6.6* sheet.

- *Unit Construction Cost for New Level III System for 5,000 population:* move mouse pointer to column B-Row 7. Type the new value.
- *Unit Construction Cost for New Level III System for 10,000 population:* move mouse pointer to column B-Row 8. Type the new value.
- *Unit Construction Cost for New Level III System for 15,000 population:* move mouse pointer to column B-Row 9. Type the new value.
- *Unit Construction Cost for Level III System Expansion for 5,000 population:* move mouse pointer to column B-Row 11. Type the new value.

- *Unit Construction Cost for Level III System Expansion for 10,000 population:* move mouse pointer to column B-Row 12. Type the new value.
- *Unit Construction Cost for Level III System Expansion for 15,000 population:* move mouse pointer to column B-Row 13. Type the new value.
- *Unit Construction Cost for Level II System:* move mouse pointer to column B-Row 14. Type the new value.
- *Unit Construction Cost for Level I Facility (Deep Well - 40 meter depth):* move mouse pointer to column B-Row 16. Type the new value.
- *Unit Construction Cost for Level I Facility (Deep Well - 80 meter depth):* move mouse pointer to column B-Row 17. Type the new value.
- *Unit Construction Cost for Level I Facility (Deep Well - 120 meter depth):* move mouse pointer to column B-Row 18. Type the new value.
- *Unit Construction Cost for Level I Facility (Shallow Well):* move mouse pointer to column B-Row 19. Type the new value.
- *Unit Construction Cost for Rehabilitation of Level I Facility:* move mouse pointer to column B-Row 20. Type the new value.
- *Cost for Disinfection of Level I Wells:* move mouse pointer to column B-Row 21. Type the new value.
- *Unit Construction Cost for Flush Toilet:* move mouse pointer to column B-Row 22. Type the new value.
- *Unit Construction Cost for Pour Flush Toilet:* move mouse pointer to column B-Row 23. Type the new value.
- *Unit Construction Cost for VIP Latrine Toilet:* move mouse pointer to column B-Row 24. Type the new value.
- *Unit Construction Cost for School Toilet:* move mouse pointer to column B-Row 25. Type the new value.
- *Unit Construction Cost for Public Toilet:* move mouse pointer to column B-Row 26. Type the new value.
- *Unit Construction Cost for Urban Sewerage:* move mouse pointer to column B-Row 27. Type the new value.

click the tab of *STable 2.6.4* sheet.

***Urban Water Supply (Level III System):***

- *Feasibility Study and Detail Design:* move mouse pointer to Row 6. Starting at Column F (Year 1996) up to Column J (Year 2000) select the data you would like to update and type the new value.
- *Construction and Supervision:* move mouse pointer to Row 7. Starting at Column F (Year 1996) up to Column J (Year 2000) select the data you would like to update and type the new value.
- *Community Development and Training:* move mouse pointer to Row 8. Starting at Column F (Year 1996) up to Column J (Year 2000) select the data you would like to update and type the new value.

*Rural Water Supply (Level I Facility):*

- *Detail Design:* move mouse pointer to Row 10. Starting at Column F (Year 1996) up to Column J (Year 2000) select the data you would like to update and type the new value.
- *Construction and Supervision:* move mouse pointer to Row 11. Starting at Column F (Year 1996) up to Column J (Year 2000) select the data you would like to update and type the new value.
- *Community Development and Training:* move mouse pointer to Row 12. Starting at Column F (Year 1996) up to Column J (Year 2000) select the data you would like to update and type the new value.

*Rural Water Supply (Level II System):*

- *Detail Design:* move mouse pointer to Row 14. Starting at Column F (Year 1996) up to Column J (Year 2000) select the data you would like to update and type the new value.
- *Construction and Supervision:* move mouse pointer to Row 15. Starting at Column F (Year 1996) up to Column J (Year 2000) select the data you would like to update and type the new value.
- *Community Development and Training:* move mouse pointer to Row 16. Starting at Column F (Year 1996) up to Column J (Year 2000) select the data you would like to update and type the new value.

*Sanitation:*

- *Urban Household Toilet:* move mouse pointer to Row 17. Starting at Column F (Year 1996) up to Column J (Year 2000) select the data you would like to update and type the new value.
- *Rural Household Toilet:* move mouse pointer to Row 18. Starting at Column F (Year 1996) up to Column J (Year 2000) select the data you would like to update and type the new value.
- *Public School Toilet:* move mouse pointer to Row 19. Starting at Column F (Year 1996) up to Column J (Year 2000) select the data you would like to update and type the new value.
- *Public Toilet:* move mouse pointer to Row 20. Starting at Column F (Year 1996) up to Column J (Year 2000) select the data you would like to update and type the new value.
- *Disinfection of Level I Wells:* move mouse pointer to Row 21. Starting at Column F (Year 1996) up to Column J (Year 2000) select the data you would like to update and type the new value.
- *Detail Design:* move mouse pointer to Row 22. Starting at Column F (Year 1996) up to Column J (Year 2000) select the data you would like to update and type the new value.
- *Construction and Supervision:* move mouse pointer to Row 23. Starting at Column F (Year 1996) up to Column J (Year 2000) select the data you would like to update and type the new value.

- **Community Development and Training:** move mouse pointer to Row 24. Starting at Column F (Year 1996) up to Column J (Year 2000) select the data you would like to update and type the new value.

click the tab of *STable 2.6.7 & 2.6.8* sheet.

**Scoring Factor for Municipal Investment Ranking for Urban Water Supply:**

- **Minimum Percentage of Underserved and Unserved Population in Base Year:** move mouse pointer to column B, in reference to column A (score) select the data you would like to update and type the new value.
- **Maximum Percentage of Underserved and Unserved Population in Base Year:** move mouse pointer to column D, in reference to column A (score) select the data you would like to update and type the new value.
- **Weight Allocation Score for Underserved and Unserved Population in Base Year:** move mouse pointer to column C-Row 9. Type the new value.
- **Minimum Percentage of Underserved and Unserved Population in Phase I:** move mouse pointer to column E, in reference to column A (score) select the data you would like to update and type the new value.
- **Maximum Percentage of Underserved and Unserved Population in Phase I:** move mouse pointer to column G, in reference to column A (score) select the data you would like to update and type the new value.
- **Weight allocation Score for Underserved and Unserved Population in Phase I:** move mouse pointer to column F-Row 9. Type the new value.
- **Minimum Percentage of Underserved and Unserved by Level III System in the Base Year:** move mouse pointer to column H, in reference to column A (score) select the data you would like to update and type the new value.
- **Maximum Percentage of Underserved and Unserved by Level III System in the Base Year:** move mouse pointer to column J, in reference to column A (score) select the data you would like to update and type the new value.
- **Weight Allocation Score for Underserved and Unserved by Level III System in the Base Year:** move mouse pointer to column I-Row 9. Type the new value.

**Scoring Factor for Municipal Comprehensive Investment Ranking:**

- **Minimum Percentage of Rural Water Supply:** move mouse pointer to column E, in reference to column A (score) at starting at row 15, select the data you would like to update and type the new value.
- **Maximum Percentage of Rural Water Supply:** move mouse pointer to column G, in reference to column A (score) at starting at row 15, select the data you would like to update and type the new value.
- **Weight Allocation Score for Rural Water Supply:** move mouse pointer to column F-Row 20. Type the new value.
- **Minimum Percentage of Urban Sanitation:** move mouse pointer to column H, in reference to column A (score) at starting at row 15, select the data you would like to update and type the new value.

- *Maximum Percentage of Urban Sanitation:* move mouse pointer to column J, in reference to column A (score) at starting at row 15, select the data you would like to update and type the new value.
- *Weight Allocation Score for Urban Sanitation:* move mouse pointer to column I-Row 20. Type the new value.
- *Minimum Percentage of Rural Sanitation:* move mouse pointer to column K, in reference to column A (score) at starting at row 15, select the data you would like to update and type the new value.
- *Maximum Percentage of Rural Sanitation:* move mouse pointer to column M, in reference to column A (score) at starting at row 15, select the data you would like to update and type the new value.
- *Weight Allocation Score for Rural Sanitation:* move mouse pointer to column L-Row 20. Type the new value.

## 8.9. Updating Unit Construction Cost Data Base

### 8.9.1. Water Supply

1. Click the **File** menu, select **Open**.

Short-cut: Click the **Open** button.

2. From the **Open Dialog Box**. Select the *chap-10.xls* filename.

3.1.To update the **Unit Cost for Level III (5,000 population)**,  
click the tab of *STable 10.2.7* sheet.

- *Quantity:* move mouse pointer to column C. Starting at the row below the column description, in reference to column B (item description) select the data you would like to update and type the new value.
- *Unit Cost:* move mouse pointer to column E. Starting at the row below the column description, in reference to column B (item description) select the data you would like to update and type the new value.

3.2.To update the **Unit Cost for Level III (10,000 population)**,

click the tab of *STable 10.2.8* sheet.

- *Quantity:* move mouse pointer to column C. Starting at the row below the column description, in reference to column B (item description) select the data you would like to update and type the new value.
- *Unit Cost:* move mouse pointer to column E. Starting at the row below the column description, in reference to column B (item description) select the data you would like to update and type the new value.

3.3.To update the **Unit Cost for Level III (15,000 population)**,

click the tab of *STable 10.2.9* sheet.

- *Quantity:* move mouse pointer to column C. Starting at the row below the column description, in reference to column B (item description) select the data you would like to update and type the new value.

- **Unit Cost:** move mouse pointer to column E. Starting at the row below the column description, in reference to column B (item description) select the data you would like to update and type the new value.

3.4.To update the Unit Cost for Level II (600 population),  
click the tab of *STable 10.2.6* sheet.

- **Lump Cost of Spring Box:** move mouse pointer to column G-Row-4. Type the new value.
- **Quantity of Installation of Pipelines and Fittings:** move mouse pointer to column D. Starting at the row below the column description, in reference to column B (item description) select the data you would like to update and type the new value.
- **Unit Cost of Installation of Pipelines and Fittings:** move mouse pointer to column F. Starting at the row below the column description, in reference to column B (item description) select the data you would like to update and type the new value.

3.5.To update the Unit Cost for Level I (Deep Well - 40 m depth),  
click the tab of *STable 10.2.1* sheet.

- **Lump Sum Cost of Mobilization/Demobilization:** move mouse pointer to column F-Row-4. Type the new value.
- **Quantity:** move mouse pointer to column C. Starting at the row below the column description, in reference to column B (item description) select the data you would like to update and type the new value.
- **Unit Cost:** move mouse pointer to column E. Starting at the row below the column description, in reference to column B (item description) select the data you would like to update and type the new value.

3.6.To update the Unit Cost for Level I (Deep Well - 80 m depth),  
click the tab of *STable 10.2.2* sheet.

- **Lump Sum Cost of Mobilization/Demobilization:** move mouse pointer to column F-Row-4. Type the new value.
- **Quantity:** move mouse pointer to column C. Starting at the row below the column description, in reference to column B (item description) select the data you would like to update and type the new value.
- **Unit Cost:** move mouse pointer to column E. Starting at the row below the column description, in reference to column B (item description) select the data you would like to update and type the new value.

3.7.To update the Unit Cost for Level I (Deep Well - 120 m depth),  
click the tab of *STable 10.2.3* sheet.

- **Lump Sum Cost of Mobilization/Demobilization:** move mouse pointer to column F-Row-4. Type the new value.
- **Quantity:** move mouse pointer to column C. Starting at the row below the column description, in reference to column B (item description) select the data you would like to update and type the new value.

- **Unit Cost:** move mouse pointer to column E. Starting at the row below the column description, in reference to column B (item description) select the data you would like to update and type the new value.

3.8. To update the **Unit Cost for Level I (Deep Well Rehabilitation)**, click the tab of *STable 10.2.4* sheet.

- **Lump Sum Cost of Mobilization/Demobilization:** move mouse pointer to column F-Row-4. Type the new value.
- **Quantity:** move mouse pointer to column C. Starting at the row below the column description, in reference to column B (item description) select the data you would like to update and type the new value.
- **Unit Cost:** move mouse pointer to column E. Starting at the row below the column description, in reference to column B (item description) select the data you would like to update and type the new value.

3.9. To update the **Unit Cost for Level I (Shallow Well - 18 m depth)**, click the tab of *STable 10.2.5* sheet.

- **Lump Sum Cost of Mobilization/Demobilization:** move mouse pointer to column F-Row-4. Type the new value.
- **Quantity:** move mouse pointer to column C. Starting at the row below the column description, in reference to column B (item description) select the data you would like to update and type the new value.
- **Unit Cost:** move mouse pointer to column E. Starting at the row below the column description, in reference to column B (item description) select the data you would like to update and type the new value.

### 8.9.2. Environmental Sanitation

1. Click the **File** menu, select **O**pen.

Short-cut: Click the **Open** button.

2. From the **Open Dialog Box**. Select the *chap-10.xls* filename.

3.1. To update the **Unit Cost of Flush Water Sealed Toilet with Septic** click the tab of *STable 10.2.10* sheet.

- **Quantity:** move mouse pointer to column C. Starting at the row below the column description, in reference to column B (item description) select the data you would like to update and type the new value.
- **Unit Cost:** move mouse pointer to column E. Starting at the row below the column description, in reference to column B (item description) select the data you would like to update and type the new value.

3.2. To update the **Unit Cost of Pour Flush Toilet with Double Pit Latrine** click the tab of *STable 10.2.11* sheet.

- **Quantity:** move mouse pointer to column C. Starting at the row below the column description, in reference to column B (item description) select the data you would like to update and type the new value.

- **Unit Cost:** move mouse pointer to column E. Starting at the row below the column description, in reference to column B (item description) select the data you would like to update and type the new value.

3.3.To update the **Unit Cost** of **Ventilated Improved Pit Latrine (VIP)**  
click the tab of *STable 10.2.12* sheet.

- **Quantity:** move mouse pointer to column D. Starting at the row below the column description, in reference to column C (item description) select the data you would like to update and type the new value.
- **Unit Cost:** move mouse pointer to column H. Starting at the row below the column description, in reference to column C (item description) select the data you would like to update and type the new value.

3.4.To update the **Unit Cost** of **School Toilet**  
click the tab of *STable 10.2.13* sheet.

- **Quantity:** move mouse pointer to column D. Starting at the row below the column description, in reference to column C (item description) select the data you would like to update and type the new value.
- **Unit Cost:** move mouse pointer to column H. Starting at the row below the column description, in reference to column C (item description) select the data you would like to update and type the new value.

3.5.To update the **Unit Cost** of **Public Toilet**  
click the tab of *STable 10.2.14* sheet.

- **Quantity:** move mouse pointer to column D. Starting at the row below the column description, in reference to column C (item description) select the data you would like to update and type the new value.
- **Unit Cost:** move mouse pointer to column H. Starting at the row below the column description, in reference to column C (item description) select the data you would like to update and type the new value.

## 9. **Standard Report Format**

The following page describes the standard report format. Please refer to MS-Word Basic Operation in Section 5 for procedure in setting the MS-Word environment.

## Specification for Standard Report Format

Edge of paper. Title of section

4. **EXISTING FACILITIES AND SERVICE COVERAGE**

4.1. **Water Supply** Sub-section

4.2. **General** Text box

All around margin - 1"

This is an example output of the main text.

Spacing between paragraph - 1 blank line.

Type and composition of water supply facilities are classified into three service levels based on the definition given in the National Sector Master Plan and presented in Table 4.1.1. Various types of Level I Facilities/sources defined to safe and unsafe sources by DOH. This classification adopted for preparation of PW4SP does not disregard the facts that the existing improved/covered dug well is sometimes yielding non-potable water.

1st indent - 0.5"

(1) Problem areas

2nd indent - 0.25"

Problem areas are identified through review of the existing water supply facilities and countermeasures and recommendations for their improvement are prepared to reflect on the future planning in PW4SP.

1) Level I facilities

Comments on each sub-title shall be followed in the manner as shown herewith.

Line spacing - 1.5 line.

a. Driven shallow wells

Most of driven shallow wells are exposed to danger of pollution through seepage of surface water.

3rd indent - 0.25"

4th indent - 0.25"

**Standard settings;**

Standard Font - New Roman Times.

Font Size - 11 points.

Paragraph - Justified alignment.

Title of Section - Bold Font, All Upper Case.

Sub-Section - Bold Font, First Letter Upper Case.

All around margin - 1"



3. PROVINCIAL PROFILE

3.3 Socio-economic Conditions

3.3.2 Basic Infrastructure

Table 3.3.1 Number of Elementary School, High School and Other Served Facilities

Provincial Water Supply, Sewerage And Sanitation Sector Plan (PW4SP)												Page:									
Content: Socio-economic - Services												Date: 17 Dec. 1998									
Data Collection Level: Provincial												Filename: Socio.xls									
Region Number: XI												Form No.: P.1.5									
Geographic Code		Name of City or Municipality										Services (As of SY 1995-1996)									
Number	Character	Elementary School			High School			Vocational Schools	Colleges and Universities	Hospitals	Banks and Financing Institutions										
		Public	Private	Total	Public	Private	Total														
												Number	Number	Number	Number	Number	Number				
116302	Banga	30	3	33	1	4	5			2	1										
116306	Koronadal (Capital)	41	4	45	4	4	8	10	3	6	21										
116319	Lake Sebu	29	18	47	2	3	5		1	2											
116311	Norala	20	3	23	3	1	4			2	1										
116312	Polomolok	30	11	41	6	5	11	1		3	6										
116318	Santo Niño	13	1	14	5	1	6			2	1										
116313	Surallah	27	4	31	3	3	6	1		4	7										
116314	Tampakan	14		14	3		3			3											
116315	Tantangan	17		17	1	2	3				1										
116316	T'Boli	55		55	2		2			1											
116317	Tupi	23	5	28	3	1	4	2		3	1										

Source: PSPT, South Cotabato, 1998

### 3.5 Health Status

#### 3.5.1 Morbidity, Mortality and Infant Mortality

Table 3.5.1 Morbidity, Mortality and Infant Mortality by Municipality

Provincial Water Supply, Sewerage and Sanitation Sector Plan (PW4SP)				Prov. Number: 1163				Page:				
Content: Health - Morbidity and Mortality				Prov. Name: South Cotabato				Date: 16 Dec. 1998				
Data Collection Level: Provincial				Municipal Number:				Filename: Health.xls				
Region Number: XI				Municipal Name:				Form Number: P.3.1				
Cause Group Diseases of:	Disease No.	Name of Diseases (Group)	Water Related Diseases	Annual Incidence per 100,000 People								
				Morbidity			Mortality			Infant Mortality		
				Male	Female	Total	Male	Female	Total	Male	Female	Total
Infective and Parasitic (001-136)	A.01	2-4/ Typhoid/Paratyphoid	X			220	1	1	2			
	A.02	5-7/ Dysentery	X			6						
	A.03	8-10/ Intestinal Parasites	X									
	A.04	11-13/ Diarrhea	X			7,281						
	A.05	14-16/ Tuberculosis				1,679	128	27	155			
	A.06	17-19/ Conjunctivitis	X									
	A.07	20-22/ Whooping Cough										
	A.08	23-25/ Throat/Ear/Nose										
	A.09	26-28/ Tetanus				48	11	3	14	2	1	3
	A.10	29-31/ Septicemia					30	26	56	6	4	10
	A.11	32-34/ Cholera	X									
	A.12	35-37/ Varicella, Chickenpox										
	A.13	38-40/ Measles				160	1		1			
	A.14	41-43/ Dengue Fever	X			423	2		2			
	A.15	44-46/ Viral Hepatitis	X			36						
	A.16	47-49/ Malaria	X			188	2	1	3			
	A.17	50-52/ Schistosomiasis	X			197						
	A.18	53-55/ Filariasis	X			33						
	A.19	56-58/ Venereal Diseases				50						
	A.20	59-61/ Other Bacter./ Viral Dis.										
Neoplasms (140-239)	B.01	62-64/ Malignant Neoplasms				11						
	B.02	65-67/ Leukemia										
Endocrine, Nutritional & Metabolic (250-279)	C.01	68-70/ Diabetes Mellitus					27	12	39			
	C.02	71-73/ Nutritional Deficiencies					24	23	47		3	3
	C.03	74-76/ Endocrine Disorder										
Blood & Blood Forming Organs (280-289)	D.01	77-79/ Anemias					3	3	6			
Mental Disorder (290-319)	E.01											
Nervous System & Sense Organs (320-389)	F.01	80-82/ Meningitis					8	5	13			
	F.02	83-85/ Nervous System										
Circulatory Systems (390-459)	G.01	86-88/ Heart Diseases				413	5	7	12	1	1	2
	G.02	89-91/ Vascular Diseases					236	129	365	1		1
Respiratory Systems (460-519)	H.01	92-94/ Bronchitis				2,978		1	1			
	H.02	95-97/ Pneumonia				6,883	128	90	218	9	3	12
	H.03	98-100/ Influenza				12,011						
	H.04	101-103/ Obstructive Pulmonary										
	H.05	104-106/ ARI										
Digestive System (520-579)	I.01	107-109/ Appendicitis										
	I.02	110-112/ Gastroent. Colitis										
	I.03	113-115/ Chronic Liver Disease					15	8	23	1		1
	I.04	116-118/ Other Diges. Diseases					50	39	89			
Genito-Urinary System (580-629)	J.01	119-121/ Kidney/ Nephritis										
	J.02	122-124/ Urinary Infections										
Complication of Pregnancy & the Puerperium (630-676)	K.01	125-127/ Prematurity								5	3	8
Skin & Subcutaneous Tissue (680-709)	L.01	128-130/ Skin Diseases	X									
	L.02	131-133/ Scabies	X									
Musculoskeletal & Connective Tissue (710-739)	M.01	134-136/ Arthrop., Rheumatism										
Congenital Anomalies (740-759)	N.01	137-139/ Congenital Anomalies								2		2
Certain Causes of Prenatal Morbidity & Mortality (760-779)	P.01	140-142/ Birth Trauma										
	P.02	143-145/ Birth Injuries & Difficult Labor										
	P.03	146-148/ Resp. Fetus/Newborn										
	P.04	149-151/ Other Prenatal Causes										
Symptoms & Illdefined Condition (780-799)	Q.01	152-154/ Senility					4	2	6			
	Q.02	155-157/ Ill-Defined Conditon										
Accidents, Poisoning & Violence (800-999)	R.01	158-160/ Burns					1		1			
	R.02	161-163/ Suffoc. Foreign Body										
	R.03	164-166/ Other Accidents					134	50	184			

### 3.6 Environmental Conditions

#### 3.6.3 Solid Waste Disposal

Table 3.6.1 Municipal Solid Waste Collection and Disposal by Municipality

Provincial Water Supply, Sewerage and Sanitation Sector Plan (PW4SP)													Page:
Content: Environment Sanitation - Solid Waste Collection and Disposal													Date: 16 Dec. 1998
Data Collection Level: Provincial													Filename: Sanitation.xls
Region Number: XI													Form Number: P.6.6
Geographic Code	Name of City or Municipality	Number of Collection Trucks				With Municipal Service			Without Service				
		Open Dump Trucks		Closed Type Trucks	Total Units	Disposal		Number of Household by Manner of Disposal					
		Number	Number	Number	Number of Households Served by Open Dump Site	Number of Households Served by Sanitary Landfill	Dumping (Land and Water)	Burying	Composting				
										Number	Number	Number	Number
116302	Banga	1		1	712		7,080	3,870	1,861				
116306	Koronadal (Capital)	2		2	5,338		11,058	5,962	2,399				
116319	Lake Sebu						9,118	638	1,109				
116311	Norala	1		1	849		4,757	1,846	396				
116312	Polomolok	1		1	1,936		6,556	5,292	5,767				
116318	Santo Niño	1		1	365		3,677	1,476	700				
116313	Surallah	1		1	630		7,308	1,277	3,555				
116314	Tampakan	1		1	126		3,591	1,475	422				
116315	Tantangan						2,983	1,757	1,126				
116316	T'Boli						10,399	1,469	1,270				
116317	Tupi	1		1	150		6,337	1,087	1,687				

Source: PSPT, South Cotabato, 1998



- 4. EXISTING FACILITIES AND SERVICE COVERAGE
- 4.1 Water Supply
- 4.1.2 Types of Water Facilities and Definition of Service Level Standard

**NEDA Board Resolution**

No. 12 (s. 1995)

**APPROVING THE COMMON  
DEFINITION OF TERMS RELATIVE TO WATER  
SUPPLY, SEWERAGE AND SANITATION**

**DEFINITION OF TERMS**

**Water Supply**

**Levels of Service**

Three levels of water service shall be provided to urban and rural communities depending upon technical and financial considerations, the needs of the WDs and RWSAs, and their willingness and ability to share in the costs and the responsibility of constructing and maintaining the water systems, These are:

1. Level I (point source) - a protected well or a developed spring with an outlet but without a distribution system, generally adaptable for rural areas where the houses are thinly scattered. A Level I facility normally serves an average of 15 households.
2. Level II (communal faucet system or standposts) – a system composed of a source, a reservoir, a piped distribution network, and communal faucets. Usually one faucet serves 4 to 6 households. Generally suitable for rural and urban fringe areas where houses are clustered densely to justify a simple piped system.
3. Level III (waterworks system or individual house connections) – a system with a source, a reservoir, a piped distribution network and household taps. It is generally suited for densely populated urban areas.

Urban – the revised definition of urban population included the criteria on the economic and social functions of barrios, poblaciones and central districts resulting to the new definition which states:

1. In their entirety, all municipal jurisdictions which, whether designated as chartered cities, provincial capital or not, have a population density of at least 1,000 persons per square kilometers.
2. Poblaciones or central districts of municipalities and cities which have a population density of at least 500 persons per square kilometer.
3. Poblaciones or central districts (not included in nos. 1 and 2) regardless of population size which have the following:
  - a. Street pattern, i.e., network of streets in either at parallel or right angle orientation;
  - b. At least six establishments (commercial, manufacturing, recreational and/or personal services); and
  - c. At least three of the following:
    - i) a town hall, church or chapel with religious services at least once a month;
    - ii) a public plaza, park or cemetery;
    - iii) a market place or building on at least once a week and
    - iv) a public building like school, hospital, puericulture and health center or library.
4. Barrios having at least 1,000 inhabitants which meet the conditions set forth in no. 3 above, and in which the occupation of the inhabitants is predominantly non-farming/fishing.

Rural – all areas not falling under the urban classification (National Statistics Office).

Rural Waterworks and Sanitation Association (RWSAs) – non-stock, non-profit organizations envisioned to operate and manage Level II water supply facilities.

Barangay Waterworks and Sanitation Association (BWSA) – non-stock, non-profit organizations envisioned to operate and manage Level I water supply facilities.

Water Supply – for purpose of the plan, refers to the supply of the water for domestic, municipal, industrial/commercial uses.

Water Supply Coverage – refers to the number of people in a given community of geographical area who have access to safe water. The extent to which the population of a geographical area is covered (expressed in terms of the number of people served compared to the total population of that community or area).

Adequate Served – refers to those with the following rate or consumption:

Level I	at least 20 liters/capita/day
Level II	at least 60 liters/capita/day
Level III	at least 100 liters/capita/day

Service Coverage – the no. of people a facility can serve.

#### Level I Water Supply Systems

1. Deepwell – are characterized by aquifers or water bearing formations generally located at a depth of more than 20 (mbgs.). Construction of deepwells with depths greater than 20 meters are recommended in these areas.
2. Shallow Well – are areas suitable for construction of well with depths not more than 20 meters and are recommended for rural water supply development, particularly levels I and II services. Static water level in these areas are generally within 6 meters below ground surface.
3. Developed Springs – developed to capture the natural flow of an aquifer, pollution generally originates close to the point of capture. It is projected by: 1) excluding shallow seepage waters through encircling the spring with a watertight chamber penetrating a safe-distance into the aquifer and; 2) diverting surface run-off away from the immediate vicinity.
4. Protected Dug Wells – WASAMS defines protected dug wells as those which are adequately protected (guarded) against surface or outside contamination through the use of lining or covering, with a rim sufficiently raised above the ground level, and may be equipped with a pump (any type).

Salt Intrusion -- encroachment of salt water upon fresh water.

Potable Water -- water that is satisfactory for drinking, culinary and domestic purposes and meets the requirements of the health authority having jurisdiction. (Plumbing Code).

Population Underserved -- population inadequately served.

Population Unserved -- population without access to water supply facility.

Population Served -- no. of population adequately served of connections x no. of persons served per connection.

Rainwater Cisterns/Collectors/Catchers -- reservoirs, tanks or vessels for the storage of rainwater.

Reliable Water Supply -- efficiency in the delivery of water supply in terms of quantity and quality.

Safe Drinking Water -- water must be free of disease-producing bacteria (pathogens). In addition, the water should not possess undesirable tastes, odors, colors, turbidity or chemicals.

Service Area -- geographic jurisdiction of water utilities.

Non-revenue Water -- unbilled water.

Appropriate Technologies -- suited to local conditions and resources.

Infiltration Galleries -- horizontal wells which collect water over the entire length.

Accounted-for-water -- billed water.

Access to Water Supply Facilities -- access to water supply is categorized as follows:

- Level I            - the farthest user is not more than 250 meters from the point source.
- Level II           - the farthest house is not more than 25 meters from the communal faucet system.
- Level III          - the house have service connection from the system.

Private Water System – privately-owned water supply system.

Public Water System – system owned by the government.

## DEFINITION OF TERMS

### Sewerage and Sanitation

Sanitation – the development and practical application of sanitary measures for the sake of cleanliness and protecting health.

Sanitary Toilet – is an approved type of facility used for receiving and disposing human waste (feces and urine).

### APPROVED TYPES

1. Flush – type of toilet facility with a mechanical device used to wash the waste into the receiving sewer or septic tank by the use of flushing water and with traps to provide a “water seal”.
2. Poor Flush – type of toilet facility without a mechanical device and in hand-flush with “water seal” connected to receiving sewer, septic tank or leaching pit.
3. Ventilated Improved Pit refers to an on-site toilet facility without using any amount of water comprising a vent pipe with a fly screen used to trap flies in a pit and, also allows evacuation of foul air into the atmosphere. This minimizes foul odor with the latrine superstructure and traps flies that could not spread diseases through faecal contamination.
4. Sanitary Pit Privy – type of toilet facility without using any amount of water, with a pit of at least 1-2 meters depth, a hole of one square meter, provided with a floor covering a riser, seat with cover which are all fly-and rodent proof and a building for privacy including the Antipolo type.

Unsanitary Toilet – a type of facility used for receiving and disposing human waste which does not fall under the category of approved types of toilet facilities.

## UNAPPROVED/UNSANITARY TYPES

1. Open Pit Privy- a pit of at least the same dimension as the sanitary pit privy, provided with pit flooring, with or without riser and seat and without cover to protect from flies and rodents.
2. Overhang -- a structure provided with flooring and with an opening built above the body of water or above the ground without pit under it, used for defecation of the disposal of human waste. It can be a part of the house or a separate structure outside the house.

## LEVELS OF TOILET USE

1. Communal -- a toilet facility shared by two or more households.
2. Public -- toilet facility located at public places like markets, bus stations, etc. intended for public use.
3. School -- a toilet facility located in a school.
4. Household -- a toilet facility being used by an individual household.

Sewerage - facilities that collect human waste and sullage from residences and establishments usually piped and conveyed in structures (sewers, pump stations) for eventual central treatment and safe disposal. Piped sewerage includes a collection system (street laterals), a conveyance system (trunk sewers and pump stations), and a treatment plant/disposal system.

Human Waste -- solid (feces) and liquid (urine) wastes from human.

Sullage -- liquid wastes resulting from washing, bathing and laundry.

Drainage System -- facilities that deal with rainwater.

Unsanitary Drainage System -- facilities without treatment that deal with rainwater and also receive septic tank overflow and sullage. Includes open canals.

Without Toilet -- households without any toilet but using body of water like rivers, lakes, etc. open field including coastal areas, and other mean to dispose human waste.

Access -- availability of toilet facility within the household premises that can be used anytime.

On Site -- the human waste is deposited and treated where the toilet facility is located.

Off Site -- the human waste is transported for treatment.

## 4.2 Sanitation and Sewerage

### 4.2.3 Sanitation Facilities and Service Coverage

Table 4.2.1 Number of Household Toilets, by Type

Provincial Water Supply, Sewerage and Sanitation Sector Plan (PW4SP)													
Content: Environment Sanitation - Household Toilet													
Data Collection Level: Provincial													
Region Number: XI													
Prov. Number: 1103													
Prov. Name: South Cotabato													
Geographic Code	Name of City or Municipality	Number of Households Using Sanitary Toilets										Number of Households Without Toilets	
		Flush		Pour Flush		Sanitary Pit Latrine (VIP)		Total		Number of Households Using Unsanitary Toilets			Total
		Urban Number	Rural Number	Urban Number	Rural Number	Urban Number	Rural Number	Urban Number	Rural Number	Urban Number	Rural Number	Urban Number	
116302	Banga	33	15	2,265	5,523	178	3,024	2,476	8,562	39	1,524	1,563	81
116306	Koronadal (Capital)	247	12	8,486	6,050	576	1,883	9,309	7,945	1,528	2,126	3,654	1,254
116319	Lake Sebu	2		601	1,017	468	1,970	1,071	2,987	402	2,916	3,318	206
116311	Norala	20	11	2,898	1,687	1,072	421	3,990	2,119	998	266	1,264	154
116312	Polomolok	72	42	7,273	4,768	1,286	1,540	8,631	6,350	1,110	1,831	2,941	547
116318	Santo Niño	13	6	1,550	2,085	609	451	2,172	2,542	583	575	1,158	71
116313	Suralah	30	12	2,901	4,480	842	1,464	3,773	5,956	695	1,231	1,926	292
116314	Tampakan	3	15	1,037	1,438	287	965	1,327	2,418	351	766	1,117	155
116315	Tantangan	12	7	1,034	1,754	140	984	1,186	2,745	281	829	1,110	290
116316	T'Boli	3	9	484	1,485	771	2,444	1,258	3,938	983	2,398	3,381	516
116317	Tupi	64	28	1,053	3,066	269	2,019	1,386	5,113	409	1,304	1,713	212
													837
													1,049

Source: PSPT, South Cotabato, 1998

Table 4.2.2 Number of School Toilets by Public and Private Classification

Provincial Water Supply, Sewerage and Sanitation Sector Plan (PW4SP)						Page:	
Content: <b>Environment Sanitation - School and Student</b>						Date: 02 Dec. 1998	
Data Collection Level: <b>Provincial</b>						Filename: Sanitation.xls	
Region Number: XI						Form Number: P.6.2	
Prov. Number: 1163							
Prov. Name: South Cotabato							
Geographic Code	Name of City or Municipality	Number of School			Number of Student		
		Public Number	Private Number	Total Number	Public Number	Private Number	Total Number
Number	Character	Number	Number	Number	Number	Number	Number
116302	Banga	31	7	38	13,129	2,264	15,393
116306	Koronadal (Capital)	45	8	53	28,941	4,177	33,118
116319	Lake Sebu	31	21	52	7,169	3,249	10,418
116311	Norala	23	4	27	10,171	888	11,059
116312	Polomolok	36	16	52	20,148	4,485	24,633
116318	Santo Niño	18	2	20	9,364	805	10,169
116313	Surallah	30	7	37	16,445	2,055	18,500
116314	Tampakan	17		17	7,737		7,737
116315	Tantangan	18	2	20	6,487	435	6,922
116316	T'Boli	57		57	10,063		10,063
116317	Tupi	26	6	32	13,037	1,290	14,327

Source: PSPT, South Cotabato, 1998

Table 4.2.2 Number of School Toilets by Public and Private Classification (contd)

Provincial Water Supply, Sewerage and Sanitation Sector Plan (PW4SP)										
Page:										
Date: 02 Dec. 1998										
Content: Environment Sanitation - School Toilets										
Filename: Sanitation.xls										
Form Number: P.6.3										
Data Collection Level: Provincial										
Prov. Number: 1163										
Prov. Name: South Cotabato										
Region Number: XI										
Geographic Code		Name of City or Municipality	Number of School Toilets							Total Unit
			Sanitary			Unsanitary				
			Public	Private	Total	Public	Private	Total		
Number	Character	Number	Number	Number	Number	Number	Number	Number	Number	Number
116302	Banga	289	14	303	8			8		311
116306	Koronadal (Capital)	529	64	593	10		2	12		605
116319	Lake Sebu	10	28	38			12	12		50
116311	Norala	155	14	169	4			4		173
116312	Polomolok	377	42	419	10		2	12		431
116318	Santo Niño	216	10	226	6			6		232
116313	Surallah	212	22	234	8		2	10		244
116314	Tampakan	113		113	2			2		115
116315	Tantangan	134	6	140	4			4		144
116316	T'Boli	100		100	12			12		112
116317	Tupi	162	16	178	4			4		182

Source: PSPT, South Cotabato, 1998

Table 4.2.3 Number of Public Toilets by Type of Facility

Provincial Water Supply, Sewerage and Sanitation Sector Plan (PW4SP)										Page:
Content: Environment Sanitation - Public Toilets (Public Market)										Date: 02 Dec. 1998
Data Collection Level: Provincial										Filename: Sanitation.xls
Region Number: XI										Form Number: P.6.4.1
Prov. Number: 1163										
Prov. Name: South Cotabato										
Geographic Code	Name of City or Municipality	Character	Number	Public Markets						
				Sanitary		Unsanitary		Total		
				Male Number	Female Number	Male Number	Female Number	Male Number	Female Number	
116302	Banga		1	1	1			1	1	
116306	Koronadal (Capital)		4	4	4			4	4	
116319	Lake Sebu									
116311	Norala		1			1	1	1	1	
116312	Polomolok		1	1	1			1	1	
116318	Santo Niño		1	1	1			1	1	
116313	Surallah		2	2	2			2	2	
116314	Tampakan		1	1	1			1	1	
116315	Tantangan		1	1	1			1	1	
116316	T'Boli		1	1	1			1	1	
116317	Tupi		2	2	2			2	2	

Source: PSPT, South Cotabato, 1998

Table 4.2.3 Number of Public Toilets by Type of Facility (contd)

Provincial Water Supply, Sewerage and Sanitation Sector Plan (PW4SP)									
Content: Environment Sanitation - Public Toilets (Jeepney/Bus Terminal)									
Data Collection Level: Provincial									
Region Number: XI									
Prov. Name: South Cotabato									
Prov. Number: 1163									
Form Number: P.6.4.2									
Geographic Code	Name of City or Municipality	Character	Number	Jeepney/Bus Terminal					
				Sanitary			Unsanitary		
				Male Number	Female Number	Total	Male Number	Female Number	Total
Number			Number						
116302	Banga		1	1	1				1
116306	Koronadal (Capital)		2	2	2				2
116319	Lake Sebu								
116311	Norala		1	1	1				1
116312	Polomolok		1	1	1				1
116318	Santo Niño		1	1	1				1
116313	Surallah		1	1	1				1
116314	Tampakan								
116315	Tantangan								
116316	T'Boli								
116317	Tupi								

Source: PSPT, South Cotabato, 1998

Table 4.2.3 Number of Public Toilets by Type of Facility (contd)

Provincial Water Supply, Sewerage and Sanitation Sector Plan (PW4SP)										Page:		
Content: Environment Sanitation - Public Toilets(Parks/Playground)										Date: 02 Dec. 1998		
Data Collection Level: Provincial					Prov. Number: 1163					Filename: Sanitation.xls		
Region Number: XI					Prov. Name: South Cotabato					Form Number: P.6.4.3		
Geographic Code	Name of City or Municipality	Number	Parks/Playground								Total	
			Number	Sanitary				Unsanitary				
				Male		Female		Male		Female		
				Number	Number	Number	Number	Number	Number	Number		Number
116302	Banga	2	2	2					2	2		
116306	Koronadal (Capital)	4	4	4					4	4		
116319	Lake Sebu											
116311	Norala											
116312	Polomolok	4	4						4			
116318	Santo Niño	1	1	1					1	1		
116313	Surallah	2	2	2					2	2		
116314	Tampakan	1	1	1					1	1		
116315	Tantangan											
116316	T'Boli											
116317	Tupi	2	2	2					2	2		

Source: PSPT, South Cotabato, 1998

## **5. EXISTING SECTOR ARRANGEMENT AND INSTITUTIONAL CAPACITY**

### **5.2 Sector Reforms**

#### **A. IMPLEMENTING RULES AND REGULATIONS**

##### **IMPLEMENTING RULES AND REGULATIONS OF NEDA BOARD RESOLUTION NO.4 (SERIES OF 1994), CLAUSE (G)**

###### **PREFACE**

The following Implementing Rules and Regulations (IRR) of Clause (g) of NEDA Board Resolution No. 4 (series of 1994) was prepared with assistance from the World Bank, upon request of the Philippine Government, through the Department of the Interior and Local Government (DILG). It is an update of the earlier draft prepared in August 1995 and incorporates the developments that have occurred in the sector since that time. The intention is to provide a comprehensive and consistent set of IRR that reflects evolving policies in the sector to address basic service deficits. In particular, it attempts to translate the global sectoral principles of managing water as an economic goods and managing services at the most appropriate level, into rules and regulations that can be understood and implemented by the local government units. This IRR reflects the following policies currently being developed by the Government:

- a. Encouraging LWUA lending rates to local water districts to be aligned to market rates;
- b. Providing national government grants for source development of Level I systems in support of a national objective of poverty alleviation;
- c. Developing a national sector plan that will provide the basis for provinces and cities/municipalities to plan and implement water and sanitation investments based on what communities want and are willing to pay for;
- d. Instituting a framework for economic regulation of the water supply and sanitation sector and defining the role of the LGU in this framework; and
- e. Instituting a system of public performance audit of public and private water utilities, so that consumer feedback on service coverage and reliability is available at the national and local levels of Government.

A major development was the creation of the Presidential Task Force on Water Resources Development and Management in October 1996, which has the objective of streamlining the regulatory environment of the sector, that is, linking resource regulation with the economic regulation aspects. A proposed bill prepared by the Task Force has been filed with Congress in July 1997 for the creation of a Water Resources Authority of the Philippines (WRAP) to undertake these regulatory functions, among others. Once this is approved by Congress and passed into law, the IRR may have to be revised to reflect the major institutional changes, particularly with regard to the roles of national government agencies in the sector.

## RULE 1

### PURPOSE AND OBJECTIVES

**Article 1. Title.** These rules shall be known as the Implementing Rules and Regulations of clause (g) of NEDA Board Resolution No. 4, (series of 1994).

**Article 2. Purpose.** The purpose of these rules and regulations is to implement clause (g) of NEDA Board Resolution No. 4, (series of 1994), and is in support of NEDA Board Resolution No. 6, (series of 1996) which defines the executing agency arrangement for devolved infrastructure activities/facilities, including water supply, where national government assistance is provided. Clause (g) of NEDA Board Resolution No. 4 (series of 1994) states that:

*"Level I (point source system), Level II (communal faucet) and Level III (house connections water supply projects may be implemented by the concerned LGUs within their jurisdiction. LWUA shall implement only financially viable Level III water supply projects in areas outside the MWSS jurisdiction. DILG's participation will consist of general administration and institution building, such as assistance to LGUs in the formation of Rural and/or Barangay Waterworks and Sanitation Associations (RWSAs/BWSAs) as well as in the identification of water supply systems. MWSS will be responsible for Level III water systems in Metro Manila and adjacent areas. DPWH, together with DILG and DOH, will provide technical assistance (within a period of about two years) to LGUs in the planning, implementation, and operation and maintenance of water supply facilities."*

Annex C presents NEDA Board Resolution No. 6, (series of 1996).

**Article 3. Objectives.** The objectives of the Implementing Rules and Regulations are as follows:

- a. To define the role of local government units (LGUs) in the provision of water supply services and the assistance to be made available to them by national government agencies concerned;

- b. To provide guidance to the LGUs in the development and implementation of viable and sustainable water supply projects, to the extent feasible, supporting the principles espoused by the sector of managing water as an economic good, promoting a demand-oriented approach in the provision of services and management to be made at the most appropriate level, and greater private sector participation in service delivery; and
- c. To identify institutional strengthening needs of LGUs to further develop their capacity to adequately perform their agreed functions in the sector.

## **RULE 2**

### **SCOPE**

**Article 4. Scope.** These Implementing Rules and Regulations shall apply to water supply projects to be implemented and managed by LGUs where national government assistance is provided.

## **RULE 3**

### **DEFINITION OF TERMS**

**Article 5. Definition of Terms.** For purpose of these Implementing Rules and Regulations, the following terms shall be construed to mean as follows:

- a. **Levels of Service.** Based on NEDA Board Resolution No. 12 (series of 1995), approving the common definition of terms relative to water supply, sewerage and on-site sanitation, levels of service are defined as follows:

**Level I (Point Source)** – a protected well or a developed spring with an outlet but without a distribution system; generally adaptable for rural areas where the houses are thinly scattered. A Level I facility normally serves an average of 15 households.

**Level II (Communal Faucet System or Standposts)** – a system composed of a source, a reservoir, a piped distribution network, and communal faucets. Usually, one faucet serves four to six households. It is generally suited for rural and urban fringe areas where houses are clustered densely to justify a simple piped system.

**Level III (Waterworks System or Individual House Connections)** -- a system with a source, a reservoir, a piped distribution network and household taps. It is generally suited for densely populated urban areas.

- b. **A financially viable water supply system** refers to a system wherein its revenues can cover for all costs related to capital and operation and maintenance, including providing for reasonable reserves for future expansion. For those systems managed by water districts, a financially viable system is one that is able to generate revenues directly from user payments sufficient to cover all costs<sup>1</sup>. For LGU-managed directly systems, capital and operations and maintenance costs shall be recovered through a combination of user fees, general municipal taxes and other incomes available to the LGUs.

#### **RULE 4**

#### **ROLE OF LOCAL GOVERNMENT UNITS**

**Article 6. General.** The Local Government Code of 1991 mandates the decentralization and devolution of authority to LGUs in providing for certain basic services, which include safe potable water. At the local level, the LGUs are responsible for providing reliable water supply to their constituents, whether these are in the form of Levels I, II or III systems, depending on the expressed demand by the community for these services. LGUs may both directly provide and finance these services, or involve the private sector to participate in both provision and financing through concession, management or service contracts.

**Article 7. Financing and Cost Recovery.** In financing water supply investments, the LGUs may tap their Internal Revenue Allotment and/or locally generated revenues, or leverage these resources to borrow from government and private financial institutions. The amount that an LGU can borrow, including the required equity, is dependent on its current and expected revenue performance, as well as the amount of user charges and equity contributions from the community. The amount shall be a local decision of the LGUs concerned.

For any national government grant that may be provided for the development of Level I systems, the LGU and beneficiaries, concerned shall be required to provide any remaining amount as equity to the

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<sup>1</sup> The Department of Finance is considering aligning the LWUA lending rates to local water districts toward market rates to allow for a more efficient use of scarce resources, as well as to provide for consistent policy on lending to LGUs by government financial institutions.

investment. No subsidies from the national government shall be provided for Levels II and III systems.<sup>2</sup>

In providing for Level III service, the LGUs may opt to form a water district or an LGU company, provide a franchise to a private party or participate in a joint venture with a private party. Except in areas with water districts, LGUs shall maintain overall responsibility for ensuring consumer satisfaction through the exercise of institutional and/or contractual regulatory powers over local water utilities<sup>3</sup>, in collaboration with other national regulatory agencies, and by instituting a system of public performance audit.

Cost recovery through user payments shall be encouraged for both capital and operation and maintenance costs. However, at the minimum, user payments shall be required to cover the operation and maintenance costs in all services levels. For LGU- owned, operated and/or guaranteed systems, any shortfall in revenues required for loan repayment shall be financed by the LGU from its Internal Revenue Allotment and/or locally-generated revenues, following a process of negotiation between the LGU and the beneficiaries concerned on the level of user payments.

For systems managed by local water districts, full cost recovery, through user charges, is required by LWUA.

In areas where there are existing local water districts, LGUs may finance rehabilitation works and/or expansion of the existing waterworks system on the following conditions:

- a. The local water district concerned is not in LWUA's current program of assistance, that is, it is not included in any loan of LWUA with a financing institution, and
- b. Endorsement by the local water district concerned should have been secured.

In the event that the local water district is servicing a loan from LWUA, the local water district shall seek clearance from LWUA prior to entering into an agreement with the LGU concerned on any program of system expansion.

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<sup>2</sup> This policy has been approved by the Investment Coordination Committee of the NEDA Board.

<sup>3</sup> As per Presidential Decree No. 198 (Provincial Water Utilities Act), LWUA regulates the technical standards and the tariffs of local water districts, based on its requirement to issue a certificate of conformance on every loan disbursed to the latter. Source regulation is done by the National Water Resources Board. At the moment, there is no recourse by the LGU in case of non-performance by the local water district. This is an issue that needs to be addressed by Government.

**Article 8. Management of Systems.** LGUs shall adopt commercial principles in the operation and management of water utilities in order to provide cost-effective and reliable services to consumers, whether management of the system is a direct responsibility of the LGU or is contracted out by the LGU to the private sector. An LGU may also consider amalgamating or consolidating its system with that of its neighboring LGUs in order to benefit from economies of scale that could expand water supply services to consumers at the lowest possible cost.

For the operation and management of Level I and II systems, the LGUs shall initiate the formation of Barangay and Rural Waterworks and Sanitation Associations (BWSAs/RWSAs), respectively, through a participatory approach involving consultation with all stakeholders (Article 20) and assist in their registration with the appropriate authorities (Article 21). Upon request, LGUs may accredit duly registered RWSAs/BWSAs in order to enable them to avail of financial assistance from local governments. LGUs shall have an overall supervision of RWSAs and BWSAs.

**Article 9. Project Planning and Development.** Provinces and cities/municipalities shall be required to prepare, and update on an annual basis, provincial and city/municipal sector plans that are consistent with a national sector plan<sup>4</sup>. These sector plans shall be integrated into the local investment programs. Water supply projects shall be identified from the local investment program, a financing program of foreign and nationally/locally-generated resources, including private sector resources, shall support the local investment program.

**Article 10. Approval and Award of Contracts.** The LGUs shall be required to conduct public bidding, in accordance with the provisions of Law, including Presidential Decree No. 1594, as amended, Executive Order No. 302 and other applicable laws, and shall have the final authority to approve and award contracts for water supply and sanitation projects within their jurisdictions.

**Article 11. Application for Water Rights.** LGUs or the concerned water utility shall apply for water rights from the National Water Resources Board prior to implementing a project that would require extraction of water.

**Article 12. Public Performance Audit.** The LGUs shall establish a system of public performance audit for public and private water utilities focusing on critical performance indicators. Upon request of the LGUs, DILG may provide technical assistance for this purpose, in coordination with appropriate national government agencies.<sup>5</sup>

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<sup>4</sup> ADB is assisting the preparation of a National Sector Plan for Water Supply, Sewerage and Sanitation for 1999-2004

<sup>5</sup> This system shall be pilot-tested in Metro Manila by the MWSS with World Bank financing.