

2.6.2.3 User's Guide for Computer-Aided Planning

1. INTRODUCTION

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

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

2. SYSTEM REQUIREMENTS

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

Hardware:

Computer: 80486 CPU at 66 MHz.
RAM: 8 MB (minimum)
Hard Disk: 200 MB (minimum)
Floppy Drive: 3.5 inch, High Density
5.25 inch, High Density
Monitor: VGA Monitor
Printer: 80 column
(Can handle A4 size paper).
Mouse: Any brand which supported
by MS-Windows
Miscellaneous: 500 watts Automatic Voltage
Regulator and Surge Protector

Software:

Operating System: DOS Ver. 6.22
Windows Environment: MS-Window Ver 3.11
Spreadsheet: MS-Excel Ver 5.0
Word Processing: MS-Word Ver 6.0

3. MICROCOMPUTER SYSTEM

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

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

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

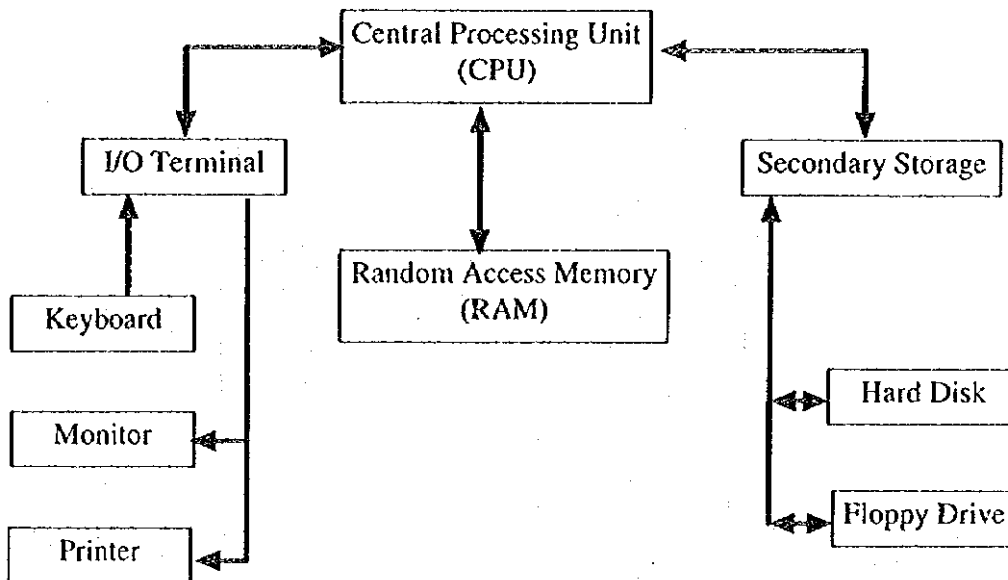
A microcomputer hardware is made up of several components based on the functions they perform in the system and how they interact with the other components.

The principal elements of a computer system are:

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

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

The diagram below presents the basic hardware component of a microcomputer system.



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

Hard disk is made of magnetic metal, and can either be removable or non-removable. The most common type of hard disk found in personal computer today is non-removable. This disk typically holds from 10 megabytes to 1.5 gigabytes of information. Each megabyte is equivalent to 1,048,576 characters of information, or roughly 1,800 single-spaced typewritten pages; hence, this is a very efficient way to store large volume of information.

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

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

Printer is another common peripheral found in personal computer system. The 2 common type of printers are dot matrix and laser printer. The dot matrix printer produces its image by printing a group of dots that forms the image of a character or symbol. Several methods are used to create the pattern of dots. The most common are impact, thermal, and ink-jet technologies. The laser printer produces its image by means of electrophotograph similar to the principle of photocopy machine.

4. OPERATING SYSTEM

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

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

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

Operating systems, such as DOS or UNIX contain many useful utilities and provide a rich set of function, which simplify the programmer's job writing application and controlling the hardwares.

5. SOFTWARE

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

5.1. MS-WINDOWS

MS-Windows is a popular software that duplicates the function performed by DOS at the system level. Most of the commands are represented by descriptive figures called *icons*. Navigating around the windows is through a pointing device called mouse. To execute a command, the user only need to bring the mouse pointer to the desired command described by the icon and press the right button. The execution starts without typing any single character in the keyboard, unlike the DOS convention that needs typing a series of characters comprising the filename. In windows, the computer screen is referred to as the *desktop*. When working, the application and documents must be in the windows. The windows on the desktop must also be arranged. If an application is left for a while, the windows are shrunk to an application icon, and still, the application keeps running on the background. When an application is shrunk, the windows place their application icon at the bottom edge of the desktop until it is again restored to window size.

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

Two Kinds of Windows

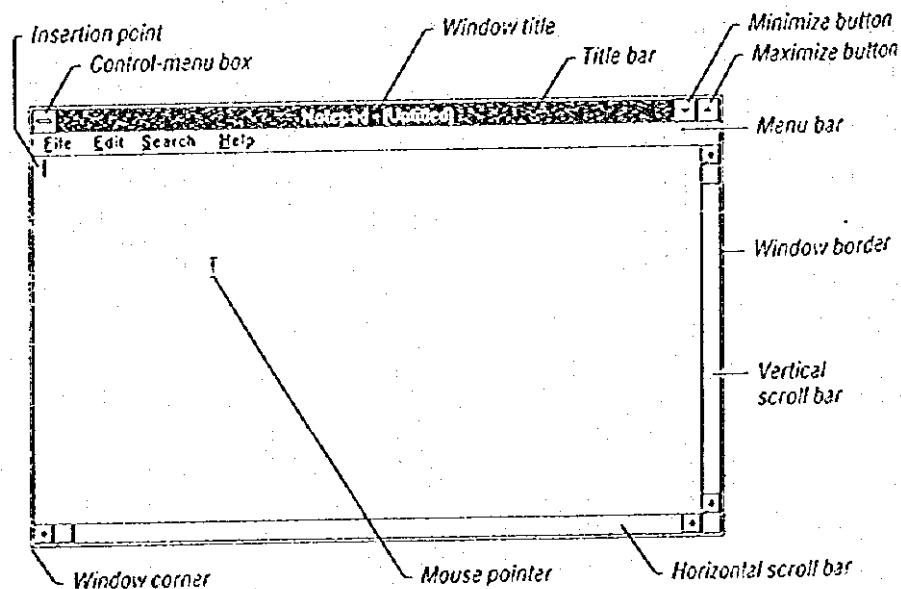
Application windows contain running applications. The name of the application, the associated document, and the application's menu bar appear at the top of the application window. Application windows can be positioned anywhere within the desktop borders.

Document windows appear only with application that can open two or more documents at one time inside the same workspace. For example, with Windows File Manager, one can open a number of directories at the same time. Each directory appears in a separate document window (called a directory window) in the File Manager workspace.

Parts of a Windows

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

The elements as illustrated below are the tools for working with the window and the application or document within the window.



The *Control-menu box* located in the upper-left corner of the window is the most useful menu when the use of a keyboard is preferred. The Control-menu commands can resize, move, maximize, minimize and close windows, and switch to Task List.

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

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

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

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

The *Maximize and Minimize buttons* enlarge the active application window to fill the entire desktop or shrink the window to an icon. Document windows enlarge just to fill the application workspace and not the entire desktop. After enlarging the window, the Maximize button changes to a Restore button. Restore button can be used to return the window to its previous size.

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

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

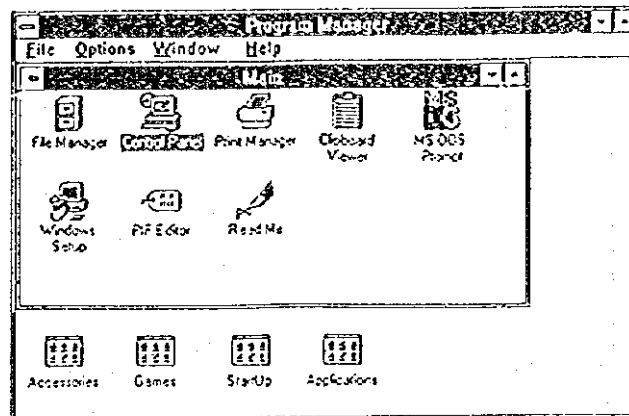
The *Workspace* is where most of the work with an application are done. For example, the content of the documents appears in the workspace when starting a wordprocessor. Hence, an application can allow the opening of more than one document window within this workspace.

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

Starting Windows

At the DOS prompt, type *win* and press ENTER.

When starting windows, the Program Manager window is automatically opened with the Main Group window opening inside it and other window groups represented as group icons located at the lower edge of the Program Manager window as show in the illustration in below.



Quitting Windows

Mouse

1. Quit any application that are currently running.
2. Click Program Manager's File menu to open it.
3. Click *Exit Windows*.
The *Exit Windows* confirmation dialog box appears.
4. Click *OK* to exit windows.

Keyboard

1. Quit any application that are currently running.
Press ALT-F to open Program Manager's File Menu.
2. Press X (the underlined letter in Exit).
Or use arrow key to move the highlight to *Exit Window* and the press ENTER.
3. The *Exit Windows* confirmation dialog box appears.
4. Press ENTER to choose OK and exit windows.

Starting Window Application

To make starting application easy, Window offers three methods:

Choose a program item from a group window in Program Manager.

Choose a program file from the appropriate directory window in File Manager.

Choose the Run command from the File menu in Program Manager or File Manager.

Starting Applications from Program Manager

As long as an application belongs to a group, the easiest way to start is to choose from the group window. If a document is included with the application, it will be loaded into the application workspace.

- Mouse
1. Open the Program Manager window, if not already open, and open the group window that contain the application you want to start.
 2. Double-click the icon for the application.
- Keyboard
1. Open the Program Manager window, if not already open, and open the group window that contain the application you want to start.
 2. Use the arrow keys to move the highlight to the icon for application.
 3. Choose Open from the File menu and press ENTER.

Starting Applications from File Manager

You start an application from File Manager by opening the program file from a directory window. You can execute an application program file having .COM, .EXE, .PIF, or .BAT filename extension. If the application can run in a window environment, the window will appear in front of any File Manager windows that are open.

- Mouse
1. Start File Manager and open the directory window that contain the program file.
 2. Double-click the filename.
- Keyboard
1. Start File Manager and open the directory window that contain the program file.
 2. Use the arrow keys to move the highlight to the icon for application.
 3. Choose Open from the File menu and press ENTER.

Starting Applications with the Run Command

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

1. Choose Run from the File menu in Program Manager or File Manager.

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






5.2. MS-EXCEL

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


















Standard Toolbar

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

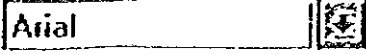
















Excel's Standard Toolbar

Button	Nome	Function
	New Workbook	Creates a new workbook
	Open	Opens a document
	Save	Saves the active workbook
	Print	Prints the active workbook
	Print Preview	Shows the active document in print preview mode

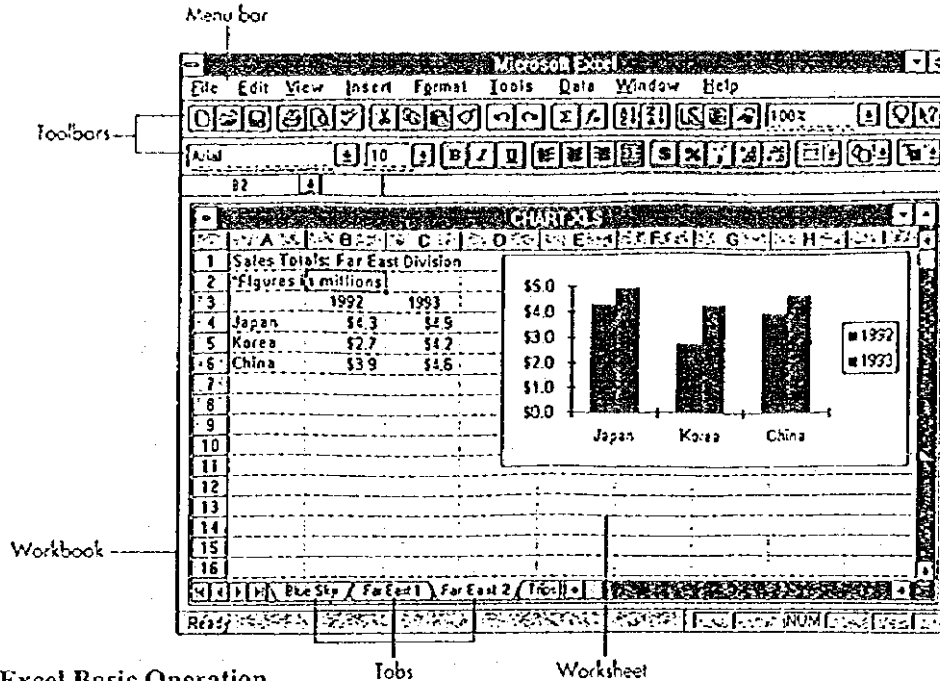
Excel's Standard Toolbar

Button	Name	Function
	Speller	Checks the spelling of the document
	Cut	Cuts the selection to the Clipboard
	Copy	Copies the selection to the Clipboard
	Paste	Places the Clipboard contents at the insertion point
	Format Painter	Copies and pastes formats for cells and objects
	Undo	Undoes the last action or command
	Repeat	Repeats the last action or command; this is the same as the redo feature in Word 6
	AutoSum	Inserts the SUM function and shows sum range
	Function Wizard	Starts the Function Wizard
	Sort Ascending	Sorts selected rows in ascending order
	Sort Descending	Sorts selected rows in descending order
	Chart Wizard	Activates the Chart Wizard
	Text Box	Inserts text or text box
	Drawing	Turns the drawing toolbar on or off
	Zoom Control	Sets the view of the document
	Tip Wizard	Turns the Tip Wizard toolbar on or off
	Help	Displays Help

Excel's Formatting Toolbar

Button	Name	Function
	Font	Sets the font for the selection
	Font Size	Sets the font size for the selection
	Bold	Boldfaces the selection
	Italic	Italicizes the selection
	Underline	Underlines the selection
	Align Left	Left-aligns the selection
	Center	Centers the selection
	Align Right	Right-aligns the selection
	Center Across Columns	Centers the selection across columns
	Currency Style	Changes the selected cells to default currency style
	Percent Style	Changes the selected cells to default percent style
	Comma Style	Changes the selected cells to default comma style
	Increase Decimal	Adds one decimal place to the number format
	Decrease Decimal	Removes one decimal place from the number format
	Borders	Enables you to select a border for the selection
	Color	Sets the color for the selection
	Font Color	Sets the color for the selected font

Basic Part of Excel Screen



MS-Excel Basic Operation

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

Creating a New Worksheet

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

Saving the Workbook

1. Move mouse pointer to File menu and click on it to bring the File menu option.
2. From the option available. Select Save.
3. If the document your saving is new. The Save As dialog box appear. In the File Name box type the name of the workbook.

Enter Data in a Cell

1. First select the *cell* by moving the mouse pointer and clicking the right button. This routine place the insertion point in the active cell, which is highlighted on-screen with border around it.

2. You can start entering the data from your keyboard or numeric keypad.
3. To confirm the input, you can press ENTER or move the mouse pointer to the Formula bar and click the Check icon.

Editing Cell Contents

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

Clearing Cells

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

To clear cells by dragging

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

Copying Cells

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

Undo Command

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

Creating Border around Cell

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

Deleting Rows and Columns

1. Select the row or column
To delete more than one row or column, extend the selection to include all the rows or columns you want to delete.

2. From the Edit menu, choose delete (Entire rows or column)
3. Click OK button

Inserting Rows and Columns

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

Selecting a Sheet or Sheets

To select a single sheet, click the sheet tab.

To select two or more sheets

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

Ungroup Selected Sheets

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

Inserting Worksheet

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

Deleting Worksheet

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

Moving Worksheet Within the Workbook

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

Alternate Method

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

Moving Sheets to Other Workbook

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

Alternative Method

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

Copying sheets within a workbook

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

Alternative Method

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

Copying sheets to other workbook

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

Printing your Work

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

5.3. MS-WORD

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

MS-Word offer more advance features that you need to create from simple to complex type of document. When you start Word you will notice almost the identical appearance with that of MS-Excel. Most of the command are represented in terms of icon, in the middle of the workspace were you enter your text and other object included in your documents.

Starting Word

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







Quiting Word

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
















Standard Toolbar

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

Standard Toobar Icons

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

Standard Toolbar Icons

Icon	Name	Description
	Cut	Cuts selected material to the Windows Clipboard
	Copy	Copies selected material to the Clipboard
	Paste	Pastes material from the Clipboard into your document
	Format Painter	Copies the formatting of a selection to the text you specify
	Undo	Undoes the commands you select from the list presented
	Redo	Redoes the commands you select from the list presented
	AutoFormat	Formats your document automatically
	Insert AutoText	Inserts an AutoText entry
	Insert Table	Inserts a table into your document
	Insert Excel Worksheet	Inserts an Excel worksheet into your document
	Columns	Formats your document using columns
	Drawing	Opens the drawing application and enables you to draw a picture in your document
	Insert Chart	Inserts a chart into your document
	Zoom Control	Scales your view of the document by the percentage you select
	Help	Activates context-sensitive help

MS-Word Basic Operation

Opening and Existing Document

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

Changing the Format of the Text

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

Changing the Font Size

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

Choose a Style

Perform any of the following procedures to change a font style:

- Click on the button labeled **B** to set the *bold* feature on.
You also can press **Ctrl+B** from the keyboard.
- Click on the button labeled **I** to set the *italic* feature on.
You also can press **Ctrl+I** from the keyboard.
- Click on the button labeled **U** to set the *underlined* feature on.
You also can press **Ctrl+U** from the keyboard.
- Click on the button labeled **B** and **I** to set both *bold and italic* features
You also can press **Ctrl+B** followed by **Ctrl+I** from the keyboard.

Setting Special Effects

You can use a variety of special text effects:

- Strikethrough
- Superscript
- Subscript
- Hidden
- Small caps
- All caps

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

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

Setting the Indentation

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

Setting Line Spacing

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

Copying and Inserting Text

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

Undoing and Redoing

If you do make a mistake, you can undo it by selecting the **Undo** option from the **Edit** menu. This procedure undoes the last change you made to the document. Word always will add the name of the operation you are about to undo as the second word of the **Undo** menu item. If you cannot undo anything, this option change to **Can't Undo** and is dimmed.

Overstriking Text

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

Deleting Text

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

Insert File

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

Creating the Header or Footer

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

Previewing the Document

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

Printing your Document

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

6. PW4SP DATA FILES

Data files are collection of information relevant to the preparation of PW4SP. Data files are logically 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	Title
Chapter - 3	MT 3.1.1	Outline of City and Municipality	Socio.xls	M 1.2.2	Past Population Page 2
	MT 3.2.1	Current LandUse	Landuse.xls	M 2.1	Existing Landuse
	MF 3.3.1	Distribution of Households by Income Class	Chap-3.xls	ST 3.3.1	Distribution of Household by Income Class
	MF 3.3.2	Population Distribution by Occupation	Chap-3.xls	ST 3.3.2	Gainful Workers by Occupation Group and Major Industry Group
	MF 3.3.3	Population Distribution by Highest Attainment of Education	Chap-3.xls	ST 3.3.3	Household Population by Highest Education Attainment
	MT 3.4.1 & MF 3.4.1	Previous Population Development by Municipality	Socio.xls	MT 1.2.1	Past Population Page 1
	MF 3.4.2	Present Population Distribution	Socio.xls	M 1.2.2	Past Population Page 2
	MT 3.4.2	Outline of Urban and Rural Areas in the Province	Chap-3.xls	MT 3.1.1	Outline of City and Municipality
				ST 3.3.2	Education Level and Literacy of Population
	MT 3.4.3	Households Numbers and Household Sizes	Socio.xls	M 1.2.2	Past Population Page 2
				M 1.4	Household Number
	MT 3.5.1	Number and Rates of Ten Leading Causes of Morbidity, Mortality, & Infant Mortality	Socio.xls	MT 3.4.2	Outline of Urban and Rural Areas in the Province
	MT 3.5.2	Reported Cases and Deaths of Notifiable Water related Diseases	Health.xls	M 3.1	Morbidity and Mortality Summary
MT 3.6.1	Municipal Solid Waste Collection and Disposal, and Service Coverage, 1994	Health.xls	M 3.1	Morbidity and Mortality Summary	
Chapter - 4	ST 3.3.1	Number of Family by Income Class by Municipality	Socio.xls	M 1.4	Household Number
	ST 3.3.2	Population Distribution by Occupation	Sanit.xls	M 6.5	SolidWaste Collection and Disposal
	ST 3.3.3	Education Level and Literacy of Population	Chap-3.xls	MT 3.3.2	Public Facilities and Services by Municipality
			Socio.xls	M 1.7	Family Income and Education
	MT 4.1.2	Information on Existing Level III Systems	Socio.xls	M 1.6	Occupation
			M 1.7	Family Income and Education	
			Chap-4.xls	ST 4.1.1	Information on Existing Level III Systems
				Sheet 1, 3, and 4	

continue to next page ...

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

Table 2.6.2 Data File Linkages

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

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

Table 2.6.2 Data File Linkages

Destination Link		Source Link			
Chapter No.	Table No.	Title	Filename	Table/Form Number	Title
Chapter - 4	ST 4.1.6 Sheet 1	Estimation of Population Covered by Safe and Unsafe Source by Municipality	Chap-4.xls	ST 4.1.4	Number of Level I Facilities by Safe and Unsafe Classification
	ST 4.1.6 Sheet 2	Estimation of Population Covered by Safe and Unsafe Source by Municipality	Chap-4.xls	ST 4.1.5	Estimation of Unserved Population by Municipality
Chapter - 8	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	Estimation of Unserved Population by Municipality Estimation of Population Covered by Safe and Unsafe Source by Municipality Key Parameter Table Population to be served by target year(Water Supply)
				MT 8.5.2	Additional Number of Households to be Served by Target Year(Household Toilets)
				MT 8.5.5	Population to be Served in Urban Sewerage in Phase II
				MT 8.5.6	Add'l No.of Urban Households to be served by Municipal Solid Waste System in Phase I
				ST 8.5.7	Number of Public Utilities with Sanitary Toilets in Phases I and II
				ST 8.6.6	Public School Toilets Required by Target Year
	MT 8.2.2	Base Year Coverage in Water Supply	Chap-4.xls Chap-8.xls	MT 4.1.7 ST 8.2.1	Water Supply Service Coverage by Municipality Estimation of Base Year Service Coverage of Water Supply
	MT 8.2.3	Base Year Service Coverage of Household Toilets	Chap-8.xls	MT 8.3.1	Future Population by Urban and Rural Area by Municipality
	MT 8.2.4	Base Year Service Coverage of Public School Toilets and Public Toilets	Chap-4.xls	ST 8.2.3 MT 8.3.1	Number of Households Served by Sanitary Toilets in the Base Year(1994) Future Population by Urban and Rural Area by Municipality
				MT 4.2.2 Sheet 1	School Toilet Facilities and Service Coverage in 1994

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

Table 2.6.2 Data File Linkages

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

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 8.2.3	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 ST 8.3.6	School Toilets Facilities and Service Coverage, 1994 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
	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	MT 8.2.3 ST 8.2.3 ST 8.3.5	Base Year Service Coverage of Household Toilets 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 8.3.5	Projected Number of Households by Urban and Rural Area by Municipality by Target Year	Socio.xls	ST 8.2.4 ST 8.2.5 ST 8.3.6 ST 8.3.7	Number of Public School Students Served by School Toilets in the Base Year(1994) Number of Public Utilities with Sanitary Toilets in the Base Year (1994) Projected School Enrollment by Municipality by Target Year Projected No. of Public Utilities by Municipality by Target Year
	ST 8.3.6	Projected School Enrollment by Municipality by Target Year	Socio.xls	M 1.2.2 M 1.3 M 1.4	Past Population Page 2 Projected Population Household Number
	ST 8.3.7	Projected Number of Public Utilities by Municipality by Target Year	Chap-8.xls	M 1.2.2 M 1.3 ST 8.2.5	Past Population Page 2 Projected Population Number of Public Utilities with Sanitary Toilets in the Base Year (1994)

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Table 2.6.2 Data File Linkages

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

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Table 2.6.2 Data File Linkages

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

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Table 2.6.2 Data File Linkages

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

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Table 2.6.2 Data File Linkages

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

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Table 2.6.2 Data File Linkages

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

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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 P 30,000 to P 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 P 40,000 to P 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 P 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 **F**ile menu, select **O**pen.

Short-cut: Click the **O**pen button.

2. From the **O**pen 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 (BHIS):** 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 **F**ile menu, select **O**pen.
Short-cut: Click the **O**pen button.
2. From the **O**pen Dialog Box. Select the *keypar.xls* filename.
3. To update the **K**ey Parameter Data,
click the tab of *S*Table 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 *S*Table 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 *S*Table 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 *S*Table 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 *S*Table 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 *S*Table 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 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 **F**ile 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 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 **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 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.

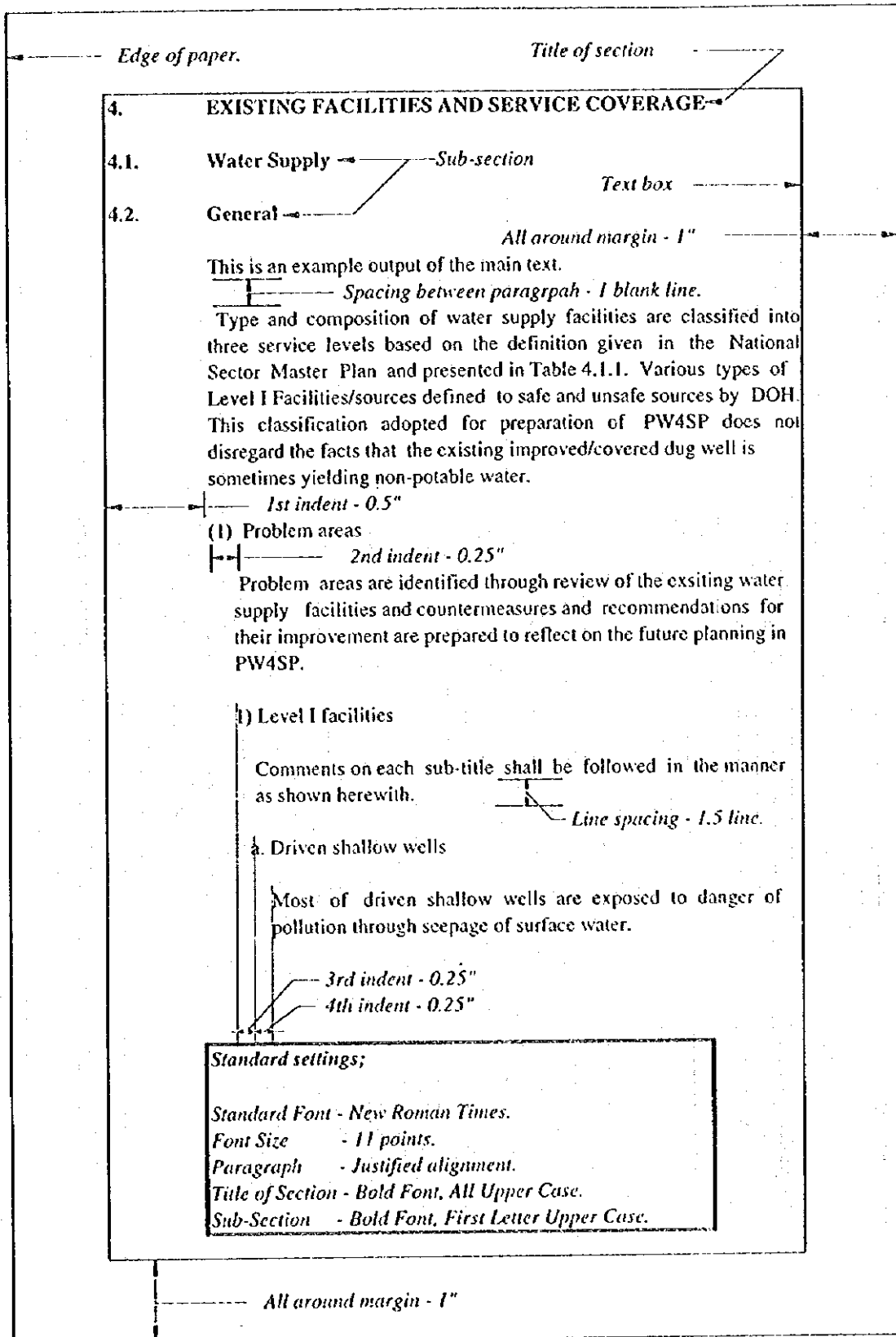
3.5.To update the **Unit Cost of Public Toilet**
click the tab of *STable 10.2.14* sheet.

- **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



Key Parameter

No.	Description of Key Parameter		Unit	Values	
1.	Service Level	<i>Water Supply</i>			
		Number of household to be served by Level I Facility	HH/Well		
		Water Consumption Rate for Level III System	Liter/capita/day		
		<i>Sanitation</i>			
		Std. number of student to be served by a unit of sanitary toilet	Student/Toilet		
		Standard number of toilets for a public utility	Toilet/Public Facility		
2.	Provincial Sector Target	Medium Term Plan	<i>Water Supply</i>		
			Urban Water Supply	% of Population	
			Rural Water Supply	% of Population	
			<i>Sanitation</i>		
			Household Toilet	% of Household	
			<i>Urban Household Toilet</i>		
			Flush	% of Household	
			Pour Flush	% of Household	
			VIP Latrine	% of Household	
			<i>Rural Household Toilet</i>		
			Flush	% of Household	
			Pour Flush	% of Household	
			VIP Latrine	% of Household	
			School Toilet	% of Public Student	
		Public Toilet	% of Public Utility		
		Solid Waste	% of Population		
		Long Term Plan	<i>Water Supply</i>		
			Urban Water Supply	% of Population	
			Rural Water Supply	% of Population	
			<i>Sanitation</i>		
			Household Toilet	% of Household	
			<i>Urban Household Toilet</i>		
			Flush	% of Household	
			Pour Flush	% of Household	
			VIP Latrine	% of Household	
			<i>Rural Household Toilet</i>		
			Flush	% of Household	
			Pour Flush	% of Household	
VIP Latrine	% of Household				
School Toilet	% of Public Student				
Public Toilet	% of Public Utility				
Urban Sewerage	% of Urban Population				
3.	Percentage of Level I Wells for Rehabilitation		%		
4.	Percentage of Sector Management Cost to Construction Cost				
	Feasibility and Detail Design		% of Construction Cost		
	Construction Supervision		% of Construction Cost		
5.	Contingencies				
	Physical Contingency		% of Construction Cost		
	Price Contingency		Percent per annum		
6.	Community Development and Training Cost				
	Level III		% of Construction Cost		
	Levels I and II		% of Construction Cost		
7.	Recurrent Cost	Level III System (Operating Cost)	Pesos/HH/year		
		Level III System (Spare Parts/Equipment)	% of Construction Cost		
		Level II System (Spare Parts/Equipment)	Pesos/HH/year		
		Level I System (Spare Parts/Equipment)	Pesos/HH/year		
		Public School Toilet Maintenance Cost	Pesos/Toilet/year		
		Public Utility Toilet Maintenance Cost	Pesos/Toilet/year		
8.	Allocation factors/Percentages of IRA				
	From Provincial		%		
	From Municipality and Brgy.		%		
9.	Funding Levels/Percentages for Different Financing Scenarios				
	1st Scenario		% Funding Available		
	2nd Scenario		% Funding Available		
	3rd Scenario		% Funding Available		
	4th Scenario		% Funding Available		
	5th Scenario		% Funding Available		

Composition of Well Sources and Specific Capacity

Municipality	Area	Source	Proportion (%)	Standard Specification		
				Depth (m)	SWL (m)	Specific Capacity (lit/sec/m)
	Rural	Shallow Well				
		Deep Well				
	Urban	Shallow Well				
		Deep Well				
	Rural	Shallow Well				
		Deep Well				
	Urban	Shallow Well				
		Deep Well				
	Rural	Shallow Well				
		Deep Well				
	Urban	Shallow Well				
		Deep Well				
	Rural	Shallow Well				
		Deep Well				
	Urban	Shallow Well				
		Deep Well				
	Rural	Shallow Well				
		Deep Well				
	Urban	Shallow Well				
		Deep Well				
	Rural	Shallow Well				
		Deep Well				
	Urban	Shallow Well				
		Deep Well				
	Rural	Shallow Well				
		Deep Well				
	Urban	Shallow Well				
		Deep Well				
	Rural	Shallow Well				
		Deep Well				
	Urban	Shallow Well				
		Deep Well				
	Rural	Shallow Well				
		Deep Well				
	Urban	Shallow Well				
		Deep Well				
	Rural	Shallow Well				
		Deep Well				
	Urban	Shallow Well				
		Deep Well				

Unit Construction Cost of Different Facilities

Description	Unit Construction Cost (Pesos)	Service Coverage		Unit Cost	
		Served Population	Served Household	Pesos/ Person	Pesos/ Household
Water Supply					
<i>Level III - New System</i>					
For 5000 Population					
For 10000 Population					
For 15000 Population					
<i>Level III - Expansion</i>					
For 5000 Population					
For 10000 Population					
For 15000 Population					
<i>Level II</i>					
<i>Level I</i>					
Deep Well - 30 meter depth					
Deep Well - 50 meter depth					
Deep Well - 70 meter depth					
Shallow Well					
Spring Development					
<i>Rehabilitation Cost for Level I Deep Well</i>					
<i>Disinfection of Level I Wells</i>					
Sanitation					
Flush					
Pour Flush					
VIP Latrine					
School Toilet					
Public Toilet					
Urban Sewerage					

Scoring Factor for Municipal Investment Ranking for Urban Water Supply

Unit: Percent

Score	Underserved and Uninsured Population in Base Year	Underserved and Uninsured Population in Phase I	Population Uninsured by Level III Systems in Base Year
1.0	< %	< %	< %
0.8	< %	< %	< %
0.6	< %	< %	< %
0.4	< %	< %	< %
0.2	%	%	%
Weight Allocation Score			

Scoring Factor for Municipal Comprehensive Investment Ranking

Unit: Percent

Score	Urban Water Supply	Rural Water Supply	Urban Sanitation	Rural Sanitation
1.0	N.A.	< %	< %	< %
0.8	N.A.	< %	< %	< %
0.6	N.A.	< %	< %	< %
0.4	N.A.	< %	< %	< %
0.2	N.A.	%	%	%
Weight Allocation Score				

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												
Content: Socio-economy - Services			Date:			Page: 1 of 1			Filename: socio.xls			
Data Collection Level: Municipal			Prov. No.: 0209			Sheetname: (M) Services			Form Number: M 1.5			
Region Number: 02			Prov. Name: Batanes									
NEDA Geographic Code	Municipality	Elementary School		High School		College	Hospital	Public Market	Bank	SERVICES (As of July 1995)		
		Public	Private	Public	Private					Total	Total	
020901	Basco (Capital)	4	0	4	1	0	1	2	1	1	2	
020902	Ibayat	3	0	3	1	0	1	0	1	0	0	
020903	Ivana	2	0	2	1	0	1	0	0	0	0	
020904	Mahatao	1	0	1	1	0	1	0	0	0	0	
020905	Sabatang	5	0	5	1	0	1	0	0	0	0	
020906	Uyugan	3	0	3	1	0	1	0	0	0	0	
Provincial Total		18	0	18	6	0	6	2	2	1	2	

3.5 Health Status

3.5.1 Morbidity, Mortality and Infant Mortality

Table 3.5.1 Morbidity, Mortality and Infant Mortality by Municipality (Annual incidence per 100,000 persons)

Content: Health - Morbidity and Mortality		Date:	Page Number: 1 of 1			
Data Collection Level: Municipal		Region Number: 02	Filename: health.xls			
Prov. No.: 0209		Mun. Number: Not Applicable	Sheetname: (SM) Morbidity and Mortality			
Prov. Name: Batanes		Mun. Name: Not Applicable	Form Number: M 3.1			
Cause Group Diseases of:	Disease No.	Name of Diseases (Group)	Water Related Diseases	Number of Cases		
				Morbidity	Mortality	Infant Mortality
Infective and Parasitic (001-136)	A.01	2-4/ Typhoid/Paratyphoid	X			
	A.02	5-7/ Dysentery	X			
	A.03	8-10/ Intestinal Parasitism	X	220		
	A.04	11-13/ Diarrhea	X	497		
	A.05	14-16/ Tuberculosis		42	4	
	A.06	17-19/ Conjunctivitis	X			
	A.07	20-22/ Whooping Cough				
	A.08	23-25/ Throat/Ear/Nose				
	A.09	26-28/ Tetanus				
	A.10	29-31/ Septicemia				
	A.11	32-34/ Cholera	X			
	A.12	35-37/ Varicella, Chickenpox		32		
	A.13	38-40/ Measles		54		
	A.14	41-43/ Dengue Fever	X			
	A.15	44-46/ Viral Hepatitis	X			
	A.16	47-49/ Malaria	X			
	A.17	50-52/ Schistosomiasis	X			
	A.18	53-55/ Filariasis	X			
	A.19	56-58/ Venereal Diseases				
	A.20	59-61/ Other Bacter./ Viral Dis.				
Neoplasms (140-239)	B.01	62-64/ Malignant Neoplasms			3	
	B.02	65-67/ Leukemia				
Endocrine, Nutritional & Metabolic (250-279)	C.01	68-70/ Diabetes Mellitus			1	
	C.02	71-73/ Nutritional Deficiencies		151		
	C.03	74-76/ Endocrine Disorder				
Blood & Blood Forming Organs (280-289)	D.01	77-79/ Anemias		178		1
	D.02	77-80/ Hemorrhage Respiratory Arrest			3	
Mental Disorder (290-319)	E.01					
Nervous System and Sense Organs (320-389)	F.01	80-82/ Meningitis				
	F.02	83-85/ Nervous System			2	
Circulatory Systems (390-459)	G.01	86-88/ Heart Diseases		48		
	G.02	89-91/ Vascular Diseases			5	1
Respiratory Systems (460-519)	H.01	92-94/ Bronchitis/Asthma		712	2	
	H.02	95-97/ Pneumonia		263	19	1
	H.03	98-100/ Influenza		775		
	H.04	101-103/ Obstructive Pulmonary/Cardio-Resp. Distress			8	
	H.05	104-106/ ARI		3788		
Digestive System (520-579)	I.01	107-109/ Appendicitis			3	
	I.02	110-112/ Gastroint. Colitis/BFU		714		
	I.03	113-115/ Chronic Liver Disease				
	I.04	116-118/ Other Diges. Diseases/Gastritis				
Genito-Urinary System (580-629)	J.01	119-121/ Kidney/ Nephritis				
	J.02	122-124/ Urinary Infections				
Complication of Pregnancy and Puerperium (630-676)	K.01	Cardio-Pulmonary Arrest-Prematurity				1
		125-127/ Prematurity				1
		Cardio-Respiratory Arrest				1
Skin & Subcutaneous Tissue (680-709)	L.01	128-130/ Skin Diseases	X	1413		
	L.02	131-133/ Scabies	X			
Musculoskeletal & Connective Tissue (710-739)	M.01	134-136/ Arthrop., Rheumatism				
		Musculo-Skeletal Disorder		386		
Congenital Anomalies (740-759)	N.01	Aspiration Pneumonia				1
		137-139/ Congenital Anomalies Dehydration/Severe Diarrhea				1
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/Aspiration Pneumonia				
	P.04	159-151/ Other Prenatal Causes/Premature				
Symptoms & Ill-defined Condition (780-799)	Q.01	152-154/ Senility				
	Q.02	155-157/ Ill-Defined Conditon/Myocardial Infaction			19	
Accidents, Poisoning & Violence (800-999)	R.01	158-160/ Hypoglycemia RA			1	
	R.02	161-163/ Suffoc. Foreign Body				3
	R.03	164-166/ Other Accidents			7	

3.5.3 Health Facilities and Practitioners

Table 3.5.2 Number of Health Facilities and Practitioners by Municipality

Content: Health - Facility and Practitioner		Date:	Page No.	1 of 1	Filename: health.xls				
Data Collection Level: Municipal		Prov. No. : 0209	Shtname: (M)FacilityPractitioner						
Region Number: 02		Prov. Name: Batanes							
NEDA Geographic Code	Municipality	Number of Facilities				Number of Medical Practitioners			
		Hospital	RHU	BHS	Doctors	Nurses	Midwives	Dentists	
020901	Baseco	1	1	3	6	19	3	2	
020902	Itbayat	1	1	1	1	5	4	1	
020903	Ivana	0	1	0	0	1	1	0	
020904	Mahatao	0	1	1	0	1	2	0	
020905	Sabtang	0	1	0	0	1	1	0	
020906	Uyugan	0	1	1	1	1	1	0	
Provincial Total		2	6	6	8	28	12	3	

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											
Content : Environment Sanitation - Municipal Solid Waste Collection and Disposal											
Filename: sanit.xls											
Data Collection Level: Municipal			Prov. No. : 0209			Date:			Shname: (M) SolidWaste		
Region Number: 02			Prov. Name: Batanes			Page No. : 1 of 1			Form No. : M 6.5		
NEDA Geographic Code	Municipality	With Municipal Service			Without Service			Number of Manner of Disposal			
		Open Dump Trucks	Closed Type Trucks	Total Units	No. of HHs Served by Open Dump Site	No. of HHs Served by Sanitary Landfill	No. of HHs Served by Disposal	Dumping (Land and Water)	Burying	Composting	
020901	Basco (Capital)	2	0	2	1,216	0	0	0	0	0	67
020902	Itbayat	0	0	0	0	0	0	563	159	20	20
020903	Ivana	0	0	0	0	0	0	200	38	24	24
020904	Mahatao	0	0	0	0	0	0	329	38	23	23
020905	Sabtang	0	0	0	0	0	0	330	23	20	20
020906	Uyugan	0	0	0	0	0	0	249	3	0	0
Provincial Total		2	0	2	1,216	0	0	1,671	261	154	154

4. EXISTING FACILITIES AND SERVICE COVERAGE

4.2 Sanitation and Sewerage

4.2.3 Sanitation Facilities and Service Coverage

PROVINCIAL WATER SUPPLY, SEWERAGE AND SANITATION SECTOR PLAN

Content: Environment Sanitation - Household Toilets		Date:	Page No.: 1 of 1		Filename: sanit.xls											
Data Collection Level: Municipal		Prov. No. : 0209	Shname: (M) Household Toilets		Form No. : M 6.1											
Region Number: 02		Prov. Name: Batanes														
NEDA Geo- graphic Code	Municipality	Number of Households Using Sanitary Toilet						Unsanitary Latrine			No Facilities					
		Water Sealed		Sanitary Pit Latrine (VIP)		Total		Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
		Flush	Pour Flush	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Total
020901	Basco (Capital)	14	5	847	339	13	35	874	379	11	10	21	6	3	9	
020902	Irbayat	0	0	0	659	0	10	0	669	0	59	59	0	14	14	
020903	Ivana	0	4	0	246	0	5	0	255	0	5	5	0	2	2	
020904	Mahatao	5	0	76	294	0	0	81	294	1	3	4	0	11	11	
020905	Sabtang	0	0	131	146	31	16	162	162	18	20	38	8	3	11	
020906	Uyugan	0	0	0	248	0	2	0	250	0	2	2	0	0	0	
Provincial Total		19	9	1,054	1,932	44	68	1,117	2,009	30	99	129	14	33	47	

PROVINCIAL WATER SUPPLY, SEWERAGE AND SANITATION SECTOR PLAN

Content: Environment Sanitation - School Toilets		Page No.: 1 of 1		Filename: sanit.xls														
Data Collection Level: Municipal		Prov. No.: 0209		Shtname: (M) School Toilets														
Region Number: 02		Prov. Name: Batanes		Form No.: M 6.2														
NEDA Geographic Code	Municipality	Number of School		Number of Student		Number of Toilets												
		Public	Private	Total	Public	Private	Total	Sanitary		Unsanitary		Total Units						
020901	Basco (Capital)	5	0	5	1,685	0	1,685	39	0	39	0	0	0	0	0	0	0	39
020902	Itbayat	4	0	4	1,009	0	1,009	9	0	9	0	0	0	0	0	0	0	9
020903	Ivana	3	0	3	302	0	302	10	0	10	0	0	0	0	0	0	0	10
020904	Mahatao	2	0	2	405	0	405	9	0	9	0	0	0	0	0	0	0	9
020905	Sabtang	6	0	6	349	0	349	8	0	8	0	0	0	0	0	0	0	8
020906	Uyugan	4	0	4	295	0	295	13	0	13	0	0	0	0	0	0	0	13
Provincial Total		24	0	24	4,045	0	4,045	88	0	88	0	0	0	0	0	0	0	88

PROVINCIAL WATER SUPPLY, SEWERAGE AND SANITATION SECTOR PLAN

Content: Environment Sanitation - Public Toilets		Date:		Page No.: 1 of 1		Filename: sanit.xls	
Data Collection Level: Municipal		Prov. No. : 0209		Shname: (M) Public Toilets		Form No. : M 6.3	
Region Number: 02		Prov. Name: Batanes					
NEDA Geographic Code	Municipality	Public Markets		Jeepney/Bus Terminal		Parks/Playground	
		Number	Number of Toilets Sanitary Unsanitary Total	Number	Number of Toilets Sanitary Unsanitary Total	Number	Number of Toilets Sanitary Unsanitary Total
020901	Basco (Capital)	1	1 0 0 1	1	2 0 0 2	0	0 0 0 0
020902	Itbayat	0	0 0 0 0	1	1 0 0 1	0	0 0 0 0
020903	Ivana	0	0 0 0 0	1	1 0 0 1	1	0 0 0 0
020904	Mahatao	0	0 0 0 0	0	0 0 0 0	1	0 0 0 0
020905	Sabtang	0	0 0 0 0	0	0 0 0 0	0	0 0 0 0
020906	Uyugan	0	0 0 0 0	0	0 0 0 0	0	0 0 0 0
Provincial Total		1	1 0 0 1	3	4 0 0 4	2	0 0 0 0



7. WATER SOURCE DEVELOPMENT

7.1 General

Table 7.1.1
Water Source Information

Content: Water Sources - General Information		Page : 1 of 1	Date:	Filename: h20-res.xls	
Data Collection Level: Municipal		Prov. No. : 0209	Sheetname: (M) General Information		
Region Number: 02		Prov. Name: Batanes	Form No. : M4.1		
Type of Source		Shallow Well	Deep Well	Spring	
General Information	1/ Total Number of Source	#	51	47	16
	Implementation				
	2/ Government Agency	#	46	47	16
	3/ Private	#	5	0	0
	Usage				
	4/ Drinking	#	22	12	16
	5/ Washing/Bathing	#	0	0	0
	6/ Gardening	#	0	0	0
	7/ Irrigation	#	0	0	0
	8/ Industrial	#	0	0	0
	Water Quality				
	9/ High Iron/Manganese Content	#	0	0	0
	10/ High Chloride Content	#	0	0	0
11/ Turbidity/Color/Smell	#	0	0	0	
Production					
12/ Less/No Water in dry season	#	1	1	0	
13/ Usable through the year	#	20	11	15	
Well Information	Technical				
	14/ Diameter < 100 mm (4")	#			
	15/ Diameter >= 100 mm (4")	#			
	16/ SWL < 5 m below ground	#	6	0	0
	17/ SWL >= 5 m below ground	#	45	45	0
	18/ Specific Capacity < 3 m ³ /hr/m	#			
	19/ Specific Capacity >= 3 m ³ /hr/m	#			
	20/ B-Value < 1,000 s/m ³	#			
	21/ B-Value < 1,000 s/m ³	#			
22/ C-Value < 60,000 s ³ /m ⁶ (Well Loss Const.)	#				
23/ C-Value >= 60,000 s ³ /m ⁶	#				
Aquifer Information	Technical				
	24/ T-Value < 0.001 m ² /s	#			
	25/ T-Value >= 0.001 m ² /s	#			
	26/ S-Value < 0.01	#			
	27/ S-Value >= 0.01	#			
	Geology				
	28/ Alluvial Formation	#			
29/ Volcanic Formation	#				
30/ Limestone Formation	#				
31/ Sandstone Formation	#				
32/ Other Sediment Formation	#				
Spring Info.	Technical				
	33/ Minimum Yield < 10 m ³ /h	#	20	6	2
	34/ Minimum Yield >= 10 m ³ /h	#	0	1	13
	Other				
	35/ Tapped Using Gravity	#	0	0	15
36/ Undeveloped Using Gravity	#	0	0	0	
37/ Untapped Spring	#	0	0	0	

LEGEND: # - Specify figure

PROVINCIAL WATER SUPPLY, SEWERAGE AND SANITATION SECTOR PLAN

Content: Water Sources - General Information		Page : 1 of 1	Date:	Filename: h20-res.xls				
Data Collection Level: Munklpat		Prov. No. : 0209	Shtname: (M) General Information					
Region Number: 02		Prov. Name: Batanes	Form No. : M 4.1					
Municipal Number/Municipal Name		Basco/020901			Itbayat/020902			
Type of Source		Shallow Well	Deep Well	Spring	Shallow Well	Deep Well	Spring	
General Information	1/ Total Number of Source	#	9	17	4	2	8	1
	Implementation							
	2/ Government Agency	#	9	17	4	2	8	1
	3/ Private	#						
	Usage							
	4/ Drinking	#	2	4	4		1	1
	5/ Washing/Bathing	#						
	6/ Gardening	#						
	7/ Irrigation	#						
	8/ Industrial	#						
	Water Quality							
	9/ High Iron/Manganese Content	#						
	10/ High Chloride Content	#						
11/ Turbidity/Color/Smell	#							
Production								
12/ Less/No Water in dry season	#							
13/ Usable through the year	#	2	4	4		1	1	
Well Information	Technical							
	14/ Diameter < 100 mm (4")	#						
	15/ Diameter >= 100 mm (4")	#						
	16/ SWL < 5 m below ground	#						
	17/ SWL >= 5 m below ground	#	9	17		2	8	
	18/ Specific Capacity < 3 m ³ /hr/m	#						
	19/ Specific Capacity >= 3 m ³ /hr/m	#						
	20/ B-Value < 1,000 s/m ³	#						
	21/ B-Value >= 1,000 s/m ³	#						
	22/ C-Value < 60,000 s ² /m ⁶ (Well Loss Const.)	#						
23/ C-Value >= 60,000 s ² /m ⁶	#							
Aquifer Information	Technical							
	24/ T-Value < 0.001 m ² /s	#						
	25/ T-Value >= 0.001 m ² /s	#						
	26/ S-Value < 0.01	#						
	27/ S-Value >= 0.01	#						
	Geology							
	28/ Alluvial Formation	#						
29/ Volcanic Formation	#							
30/ Limestone Formation	#							
31/ Sandstone Formation	#							
32/ Other Sediment Formation	#							
Spring Info.	Technical							
	33/ Minimum Yield < 10 m ³ /h	#			1			1
	34/ Minimum Yield >= 10 m ³ /h	#			3			
	Other							
	35/ Tapped Using Gravity	#			4			1
36/ Undeveloped Using Gravity	#							
37/ Untapped Spring	#							

LEGEND: # - Specify figure

Content: Water Sources - General Information		Page : 1 of 1	Date:	Filename: h20-res.xls					
Data Collection Level: Municipal		Prov. No. : 0209	Shtname: (M) General Information						
Region Number: 02		Prov. Name: Batanes	Form No. : M 4.1						
Municipal Number/Municipal Name		Ivana/020903			Mahatao/020904				
Type of Source		Shallow Well	Deep Well	Spring	Shallow Well	Deep Well	Spring		
General Information	1/ Total Number of Source	#	14	3	2	3	7	2	
	Implementation								
	2/ Government Agency	#	12	3	2	3	7	2	
	3/ Private	#	2						
	Usage								
	4/ Drinking	#	7	2	2	1	2	2	
	5/ Washing/Bathing	#							
	6/ Gardening	#							
	7/ Irrigation	#							
	8/ Industrial	#							
	Water Quality								
	9/ High Iron/Manganese Content	#							
	10/ High Chloride Content	#							
11/ Turbidity/Color/Smell	#								
Well Information	Production								
	12/ Less/No Water in dry season	#		1					
	13/ Usable through the year	#	7	1	2	1	2	1	
	Technical								
	14/ Diameter < 100 mm (4")	#							
	15/ Diameter >= 100 mm (4")	#							
	16/ SWL < 5 m below ground	#	2						
	17/ SWL >= 5 m below ground	#	12	1		3	7		
	18/ Specific Capacity < 3 m ³ /hr/m	#							
	19/ Specific Capacity >= 3 m ³ /hr/m	#							
	20/ B-Value < 1,000 s/m ³	#							
	21/ B-Value < 1,000 s/m ³	#							
	22/ C-Value < 60,000 s ² /m ⁶ (Well Loss Const.)	#							
23/ C-Value >= 60,000 s ² /m ⁶	#								
Aquifer Information	Technical								
	24/ T-Value < 0.001 m ² /s	#							
	25/ T-Value >= 0.001 m ² /s	#							
	26/ S-Value < 0.01	#							
	27/ S-Value >= 0.01	#							
	Geology								
	28/ Alluvial Formation	#							
	29/ Volcanic Formation	#							
	30/ Limestone Formation	#							
	31/ Sandstone Formation	#							
	32/ Other Sediment Formation	#							
	Spring Info.	Technical							
		33/ Minimum Yield < 10 m ³ /h	#	7	1		1	2	
34/ Minimum Yield >= 10 m ³ /h		#		1	2			1	
Other									
35/ Tapped Using Gravity		#			2			1	
36/ Undeveloped Using Gravity		#							
37/ Untapped Spring		#							

LEGEND: # - Specify figure

Content: Water Sources - General Information		Page : 1 of 1	Date:	Filename: h20-res.xls			
Data Collection Level: Municipal		Prov. No. : 0209	Shtname: (M) General Information				
Region Number: 02		Prov. Name: Batanes	Form No. : M 4.1				
Municipal Number/Municipal Name		Sabtang/020905			Uyugar/020906		
Type of Source		Shallow Well	Deep Well	Spring	Shallow Well	Deep Well	Spring
General Information	1/ Total Number of Source	# 22	2	2	1	10	5
	Implementation						
	2/ Government Agency	# 19	2	2	1	10	5
	3/ Private	# 3					
	Usage						
	4/ Drinking	# 11		2	1	3	5
	5/ Washing/Bathing	#					
	6/ Gardening	#					
	7/ Irrigation	#					
	8/ Industrial	#					
	Water Quality						
	9/ High Iron/Manganese Content	#					
	10/ High Chloride Content	#					
11/ Turbidity/Color/Smell	#						
Production							
12/ Less/No Water in dry season	# 1						
13/ Usable through the year	# 10		2		3	5	
Well Information	Technical						
	14/ Diameter < 100 mm (4")	#					
	15/ Diameter >= 100 mm (4")	#					
	16/ SWL < 5 m below ground	# 3			1		
	17/ SWL >= 5 m below ground	# 19	2			10	
	18/ Specific Capacity < 3 m ³ /hr/m	#					
	19/ Specific Capacity >= 3 m ³ /hr/m	#					
	20/ B-Value < 1,000 s/m ³	#					
	21/ B-Value < 1,000 s/m ³	#					
	22/ C-Value < 60,000 s ² /m ⁶ (Well Loss Const.)	#					
23/ C-Value >= 60,000 s ² /m ⁶	#						
Aquifer Information	Technical						
	24/ T-Value < 0.001 m ² /s	#					
	25/ T-Value >= 0.001 m ² /s	#					
	26/ S-Value < 0.01	#					
	27/ S-Value >= 0.01	#					
	Geology						
	28/ Alluvial Formation	#					
29/ Volcanic Formation	#						
30/ Limestone Formation	#						
31/ Sandstone Formation	#						
32/ Other Sediment Formation	#						
Spring Info.	Technical						
	33/ Minimum Yield < 10 m ³ /h	# 11			1	3	
	34/ Minimum Yield >= 10 m ³ /h	#		2			5
	Other						
	35/ Tapped Using Gravity	#		2			5
36/ Undeveloped Using Gravity	#						
37/ Untapped Spring	#						

LEGEND: # - Specify figure

7.3 Groundwater Sources
7.3.2 Groundwater Availability in the Province

Table 7.3.1 Major References

NO.	REPORT/INFORMATION	AGENCY/AUTHOR/ PUBLISHED YEAR	CONTENTS	REFERENCE DATA/DESCRIPTION	OUTPUT
1.	Administrative Map (1:150,000)	NAMRIA	municipal boundaries	municipal boundaries	Figures 7.3.1, 7.3.3, 7.5.1
2.	Topographic Map (1:50,000)	NAMRIA	topographic contours, natural waterways, road, etc.	highest peak, major river basins	Figures 7.5.1 Table 7.6.2
3.	Rapid Assessment of Water Supply Sources	NWRB	groundwater availability, well data and inventory	no. of wells, well specific capacity, static water level and depth	Tables 7.1.1, 7.6.1, 7.6.2, 7.6.3 Sections 7.3.2, 7.6
4.	Groundwater Resources Investigation	NWRB	groundwater availability area with salt water intrusion, resistivity	resistivity survey result, area potential for high yielding wells and salt water intrusion	Figures 7.3.1, 7.3.3 Section 7.2
5.	Geology and Mineral Resources of the Philippines	MGB	Philippine physiographic provinces sedimentary, metamorphic and igneous rocks	stratigraphy of Batanes	Section 7.2 Table 7.6.2
6.	Geological Map of the Philippines (1:1,000,000)	MGB	lithologic distribution and structural features in the Philippines	lithologic distribution and structural features of the province	Figures 7.2.1, 7.3.1, 7.3.2
7.	Provincial Profile	PPDO-Batanes	physical & socio-economic description of the province	Land area of municipality	Table 7.6.2 Sections 7.2, 7.3.2

Table 7.3.2 Well Inventory by Municipality

BATANES

MUNICIPAL	LOCATION	WELL NO	DATE	DEPTH	SWL	DISCHGE	DRAWDWN	SPCCP	USAGE	REMARKS
BASCO	BSAI	BPW	10/27/86	17.50	15.30	0.32				POTABLE
BASCO	CHANARIAN	BPW20034		13.11	6.10	0.31				
BASCO	DIPTAN	BPW	11/10/85	16.40	14.65	0.32				
BASCO	DIPTAN	NWS20038	06/28/60	42.08	21.34	0.95	0.91	1.040		
BASCO	KAYHUYUKAN	BPW	11/24/85	19.00	17.30	0.32				
BASCO	KAYHUYUKAN	BPW	07/12/86	30.00	24.80	0.32				
BASCO	KAYHUYUKAN	BPW	03/18/86	24.50	8.35	0.32				
BASCO	MECS	BPW	08/01/86	12.50	11.40	0.32				POTABLE
BASCO	SAN JOAQUIN	BPW20035		43.70	28.10	0.31	0.86	0.960		POTABLE
BASCO	TUCON	BPW	12/31/86	19.23	16.73	0.32				POTABLE
BASCO	VALUGA	BPW20036		36.60	25.90	0.61				
TIBAYAT	HOSPITAL	BPW	05/17/86	50.50	45.00	0.32				POTABLE
MAHATAO	KALIBAKAN	BPW	01/15/86	17.50		0.32				POTABLE
SABTANG	DIPTAN	BPW-7601		42.70	22.90	0.61				
SABTANG	MALAKDANG	BPW	03/18/87	13.50	11.00	0.32				POTABLE
SABTANG	MALAKDANG	BPW-7612		15.24	7.32	0.31	0.30	1.030		
SABTANG	MALAKDANG	BPW-8755		19.80	9.45	0.94				
SABTANG	MAYUMA	BPW	09/13/86	12.10	10.95					POTABLE
SABTANG	NAKANMUAN	BPW-8754		42.70	0.61	0.94				
SABTANG	SAN JOAQUIN II	BPW-7591		41.80	22.90	0.31				
SABTANG	SAVIDOG	BPW-7611		21.00	5.79	0.61	1.33	0.460		
SABTANG	SINAKAN	BPW-7613		14.90	5.79	0.31				
SABTANG	SINAKAN	BPW-8751		20.73	10.70	0.94				
SABTANG	SUMNANGA	BPW-8753		18.90	9.76	0.94				
SABTANG	TOEL	BPW-8752		12.20	3.66	0.94				

Source:

Notes:

NWRB Well Inventory

DEPTH = Meters Below Ground Level (m)

DRAWDWN = Drawdown (m)

SWL = Static Water Level (m)

SPCCP = Specific Capacity (l/sec/m)

DISCHGE = Discharge Rate (l/sec)

7.5 Surface Water Sources

Table 7.5.1
Water Quality Examination Results

In reply, please refer to
Tel. Nos. (2) 95-32-11 to 29
FAX No. (2) 921-2637
Telex No. (722) 27947 MWSS PH



Republika ng Pilipinas
PANGASIWAAN NG TUBIG AT ALKANTARILYA SA METROMANILA
Metropolitan Waterworks and Sewerage System
Katipunan Road, Balara, Quezon City 1105, Philippines

CENTRAL LABORATORY DIVISION
Sewage Research and Analysis Section

14 July 1995

Sample Submitted by : ANTONIO ASTORGA
Date/Time Collected : 29 June 1995/10:30 am
Data/Time Submitted : 30 June 1995/10:45 am
Source of Sample : MIAGA SPRING
Basco, Batanes
Sample Analyzed by : N. Alma Jose, R.M. Xavier, M.B. Pineda
and H. B. Labaro

ANALYSIS OF RIVERWATER SAMPLE*

Color	units	:	5.00
Turbidity	units	:	5.10
Conductivity	us/cm	:	490.00
pH		:	7.30
Alkalinity	mg/L	:	127.00
Total Hardness as CaCO ₃	mg/L	:	125.00
Ca Hardness as CaCO ₃	mg/L	:	35.30
Mg Hardness as CaCO ₃	mg/L	:	89.70
Chemical Oxygen Demand (COD)	mg/L	:	75.80
Chloride	mg/L	:	50.20
Sulfate	mg/L	:	15.00
Total Iron	mg/L	:	0.03
Manganese	mg/L	:	0.06
Ammonia-Nitrogen	mg/L	:	0.10

* Sample received as submitted by client.

Submitted by:

Buhay S. Astudillo
BUHAY S. ASTUDILLO
Chief Chemist

Sewage Research and Analysis Section

31/2-96

Certified Correct:

Concepcion M. Masanga
CONCEPCION M. MASANGA

Division Manager A, Central Laboratory

CABLE ADDRESS:
"MWSS PH"

In reply, please refer to
Tel. Nos. (2) 95-32-11 to 29
FAX No. (2) 921-2887
Telex No. (722) 27947 MWSS PH



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PANGASIWAAN NG TUBIG AT ALKANTARILYA SA METROMANILA
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CENTRAL LABORATORY DIVISION
Sewage Research and Analysis Section

14 July 1995

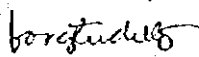
Sample Submitted by : ANTONIO ASTORGA
Date/Time Collected : 29 June 1995/8:15 am
Data/Time Submitted : 30 June 1995/10:45 am
Source of Sample : MAKALEBKEB SPRING
Mahatao, Batanes
Sample Analyzed by : N. Alma Jose, R.M. Xavier, M.B. Pineda
and H. B. Labaro

ANALYSIS OF RIVERWATER SAMPLE*

Color	units	:	5.00
Turbidity	units	:	3.20
Conductivity	us/cm	:	400.00
pH		:	7.20
Alkalinity	mg/L	:	116.00
Total Hardness as CaCO ₃	mg/L	:	108.00
Ca Hardness as CaCO ₃	mg/L	:	32.10
Mg Hardness as CaCO ₃	mg/L	:	75.90
Chemical Oxygen Demand (COD)	mg/L	:	60.60
Chloride	mg/L	:	30.60
Sulfate	mg/L	:	14.00
Total Iron	mg/L	:	0.05
Manganese	mg/L	:	0.40
Ammonia-Nitrogen	mg/L	:	0.10

* Sample received as submitted by client.

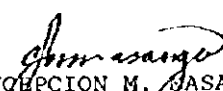
Submitted by:


BUHAY S. ASTUDILLO
Chief Chemist

Sewage Research and Analysis Section

30/7/95

Certified Correct:


CONCEPCION M. GASANGA
Division Manager A, Central Laboratory

7.6 Future Development Potential of Water Sources

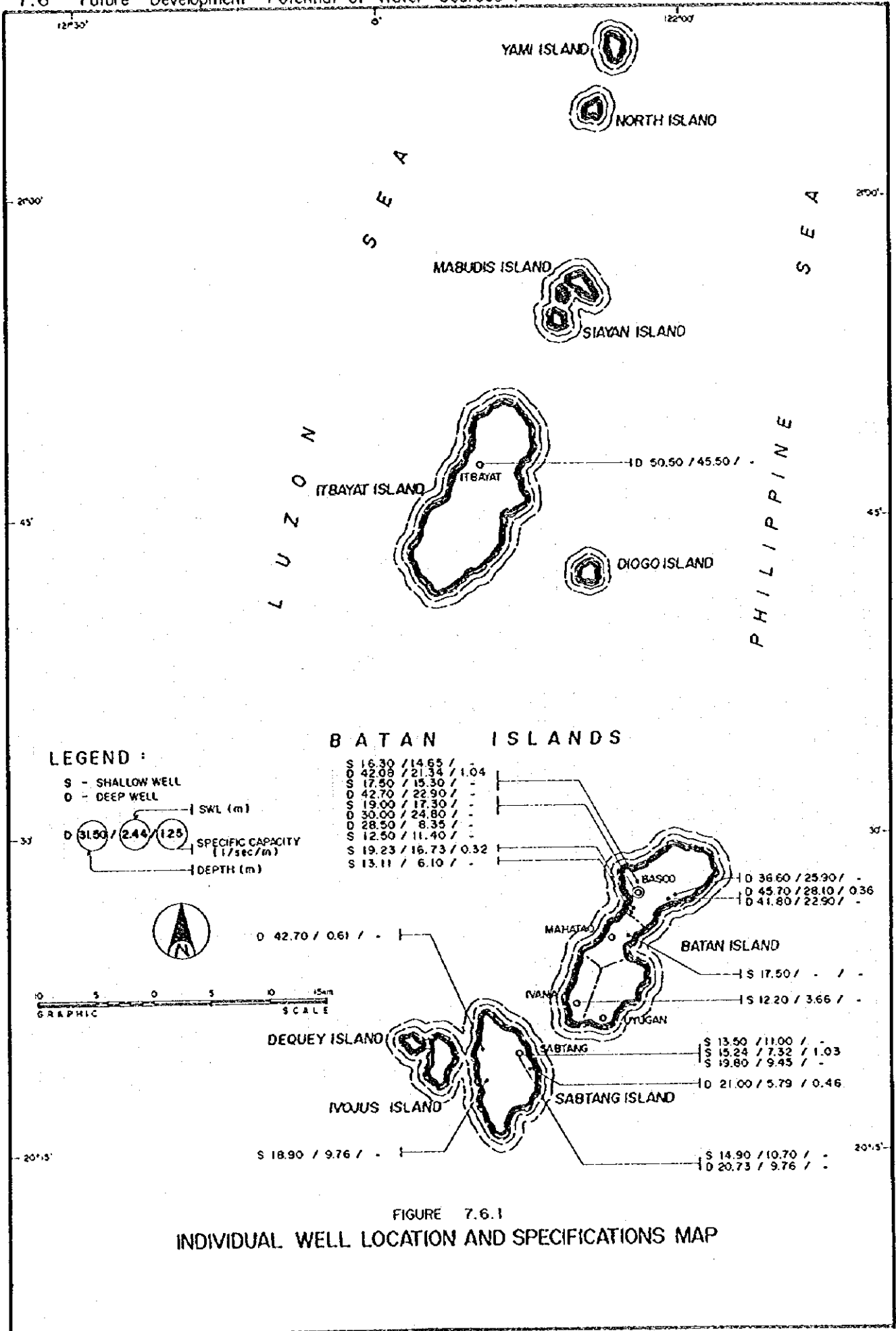


FIGURE 7.6.1
INDIVIDUAL WELL LOCATION AND SPECIFICATIONS MAP



JICA