



World Health Organization

Western Pacific Regional Office

# WWPT



## WPRO WORKFORCE PROJECTION TOOL

VERSION 1.0

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### User's Manual

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## Chapter I

# OVERVIEW

The **WPRO Workforce Projection Tool (WWPT)** system is an application designed for projecting the workforce or human resources needs of a country or area.

WWPT allows users to produce individual reports, by country or area, as well as comparative reports with another profession. WWPT also generates summary reports which provide a dashboard view of specific human resources for health surplus/deficit and costs related to it.

However, the data projected in the reports are not intended to be prescriptive standards for countries or areas. They may serve as guideposts for countries to base their plans and strategies in determining and meeting the optimal number of health workers necessary to address the needs of a country or area. In addition, information requirements of the system, i.e. data, standards, policy and funds, should be based on the most current accepted data to ensure relevant and up-to-date projections.

WWPT incorporates various parameters, such as attrition rate, population growth, projection patterns, salaries, training costs, etc., when creating new projection models. External factors (e.g. socio-economic, geographical and local ethno-cultural status) are also taken into consideration for the production and deployment of human resources.

The parameters used may also be manipulated (e.g. such as drastic increase/decrease in population, sudden surge in migration patterns, zero-growth budget period, decline in health science courses enrollment, etc.) for scenario setting. Results may be played up to guide workforce analysis in determining the appropriate and relevant strategies to address the effects of a particular situation.

WWPT also complements the Human Resources for Health (HRH) system of HQ as data generated by WWPT is expected to assist planners and decision makers in areas concerning HRH planning, policy development, HRH production, Performance Management, Deployment and Retention of HRH, among other components of HRH.

The WWPT system was developed for the Human Resources & Development (HRD) unit, Health Sector Development (DHS) division by the Information and Technology Group (ITG) of the Western Pacific Regional Office (WPRO).



## Chapter II

# DEFINITION OF TERMS

|  |  |
|--|--|
| <b>Annual Population Growth Rate</b>           | - rate at which the country/area's population grows on an annual basis; usually based on the most recent census or official report of the country/area   |
| <b>Attrition Rate</b>                          | - rate of exit (regardless of form) from a profession, computed annually for the particular profession   |
| <b>Backup</b>                                  | - a replica of the original database; process of creating a duplicate copy   |
| <b>Category</b>                                | - a sub classification of workers belonging to a single profession   |
| <b>Compact and Repair</b>                      | - minimizing storage space and fixing of damaged database  |
| <b>Country/Area</b>                            | - location where the projection model is being applied to  |
| <b>Current cost to train</b>                   | - average cost to produce a graduate of a given profession   |
| <b>Current salary cost</b>                     | - average annual salary of a profession at entry level post  |
| <b>Current Population</b>                      | - current population of the country or area where the projection model is being applied to; usually based on the most recent census or official report of the country/area                               |
| <b>Data</b>                                    | - includes population figures and projections, current workforce numbers, workforce classification, training costs and budget available for each workforce   |
| <b>Equity Factor</b>                           | - multiplier assigned for each country/area that is based on the Human Development Index (HDI), ethnicity and race, and economic statistics as expressed in real % growth in GDP of countries and areas. |
| <b>Export</b>                                  | - converting a projection model to another file format   |
| <b>Funds</b>                                   | - the amount available for the growth or reduction in workforce needs  |
| <b>Max Growth allowed in budget</b>            | - number of new entrants in the sector of a particular profession above the budget received for the current year   |
| <b>Number at beginning of year</b>             | - estimated population of the specified profession for the current year  |
| <b>Policy</b>                                  | - includes the current workforce growth and projected workforce growth for the coming years  |
| <b>Print Preview</b>                           | - snapshot of a printout or hardcopy   |
| <b>Profession/Category to Population Ratio</b> | - ratio of a particular profession/category to the country/area population for the current year  |
| <b>Profession</b>                              | - an occupation or career  |

|                                       |   |
|---------------------------------------|---|
| <b>Production Pattern</b>             | - average production of graduates of the profession being projected from the previous 3-5 years |
| <b>Ratio to Other Profession</b>      | - proportion of a particular profession as compared with another profession                     |
| <b>Report: Comparative Projection</b> | - a report that differentiate the projection results of two professions                         |
| <b>Report: Individual Category</b>    | - a group of reports containing projection results of each of the selected professions          |
| <b>Report: Summary</b>                | - a report containing compilation of projection results of each profession                      |
| <b>Restore</b>                        | - to bring back to its original state by repairing or rebuilding                                |
| <b>Standards</b>                      | - includes workforce-to-population and profession-to-population ratios                          |
| <b>Workforce</b>                      | - total number of engaged or available workers  |

## Chapter III

# INSTALLATION

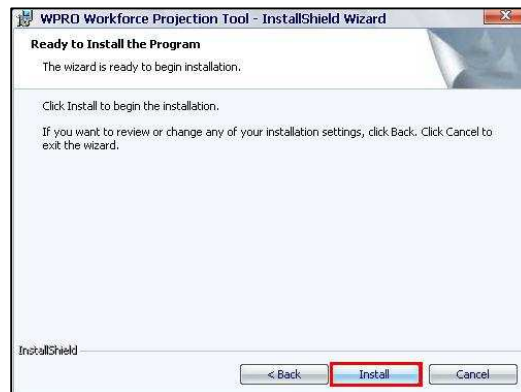
1. Insert the Installation CD. The installation procedure will commence upon insertion of the installer CD to the CD-drive.
2. The **WPRO Workforce Projection Tool Setup Welcome** dialog box will appear. Click **Next**.



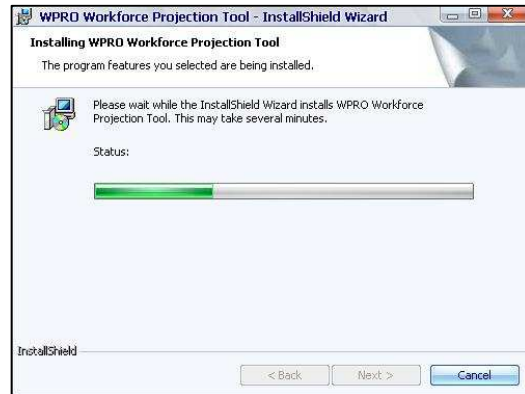
3. In the **Destination Folder** screen, define the physical location where the system files will be stored. Click the **Change** button to select a new location. Otherwise, click **Next**.



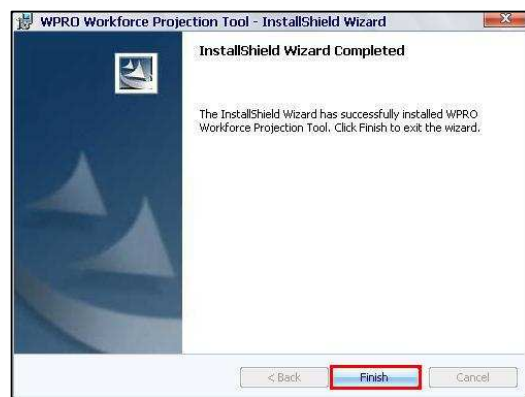
4. In the next dialog box, click **Install** to continue with the installation process.  
Click **Cancel** to terminate the installation process.



5. WWPT files will now be copied to your computer. You may stop the process by clicking the **Cancel** button anytime.



6. A dialog box will appear, indicating that the setup was successfully completed. Click **Finish**. The application is now ready for use.



7. To run the application, click the **Start** button, select **Programs**, then select **WPRO Workforce Projection Tool**, then, click the **WPRO Workforce Projection Tool** icon. You can also double-click the **WPRO Workforce Projection Tool** icon located on the desktop.



## Chapter IV

# GETTING STARTED

Before creating projection models, it is necessary to define the parameters that will be used. The system provides three (3) modules to maintain the various parameters required in making a comprehensive and reliable projection.

## COUNTRY

The **Country** module allows users to modify the basic parameters for the default country/area. These parameters are **Population**, **Annual Population Growth Rate** and **Equity Factor**. Entries in this module will be used as the values for the required parameters in the **Projection Wizard – Step 1** dialog box.

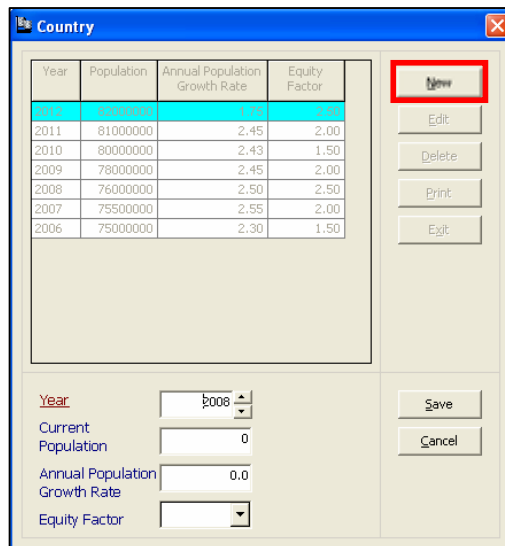
### To access this module:

1. Expand the **Tools** menu, then, select **Country**.



### To create new entries:

1. In the **Country** dialog box, click the **New** button. The field boxes located at the bottom portion of the dialog box will now be editable. Type (or select using the up and down arrows) the **Year** for which new data will be provided for.
2. Provide the appropriate entries in the **Population** and **Annual Population Growth Rate** field boxes. Select the appropriate **Equity Factor** from the drop down menu.
3. Click **Save** to store the new entry.
4. Repeat steps 1 to 3 for additional entries.
5. Click **Exit** to close the dialog box.



**To edit existing entries:**

1. In the **Country** dialog box, select the line of **Year** to be modified, then, click the **Edit** button. The field boxes located at the bottom portion of the dialog box will now be editable.
2. After making the necessary modifications, click **Save** to store the adjusted entries for the edited parameters.
3. Repeat steps 1 and 2 to edit other entries.
4. Click **Exit** to close the dialog box.

The screenshot shows the 'Country' dialog box with a table of data. The 'Edit' button is highlighted with a red box. Below the table are input fields for Year, Current Population, Annual Population Growth Rate, and Equity Factor.

| Year | Population | Annual Population Growth Rate | Equity Factor |
|------|------------|-------------------------------|---------------|
| 2011 | 83000000   | 2.40                          | 1.50          |
| 2010 | 80000000   | 2.43                          | 1.50          |
| 2009 | 78000000   | 2.45                          | 2.00          |
| 2008 | 76000000   | 2.50                          | 2.50          |
| 2007 | 75500000   | 2.40                          | 1.50          |
| 2006 | 75000000   | 2.30                          | 1.50          |

Year: 2011  
 Current Population: 83000000  
 Annual Population Growth Rate: 2.4  
 Equity Factor: 1.5

**To delete entries:**

1. In the **Country** dialog box, select the **Year** to be deleted. Then, click the **Delete** button.

The screenshot shows the 'Country' dialog box with the 'Delete' button highlighted in red. The table and input fields are the same as in the previous screenshot.

2. Click **Yes** and **OK** in the succeeding dialog boxes to confirm deletion.
3. Repeat steps 1 and 2 to delete other entries.
4. Click **Exit** to close the dialog box.

WPRO Workforce Projection Tool

Delete Year 2012?

Yes No

WPRO Workforce Projection Tool

Year 2012 deleted.

OK

## **PROFESSION**

The **Profession** module allows users to create new entries for profession, as well as modify or delete existing professions. It also allows users to provide statistics related to health professions (i.e. **Profession to Population Ratio**). Like the Country module, entries here will be used in the **Projection Wizard**.

### To access this module:

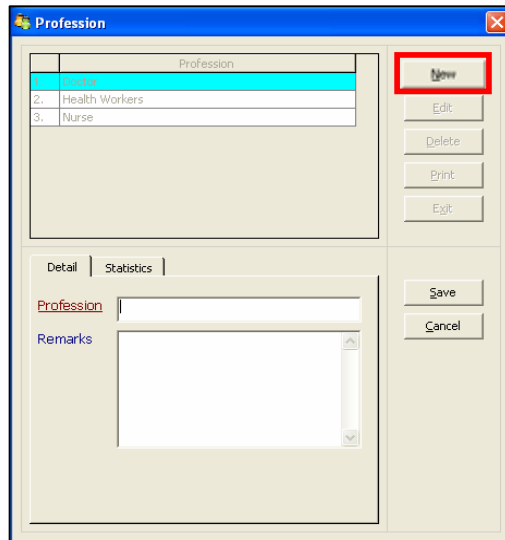
1. Expand the **Tools** menu, then, select **Profession**.



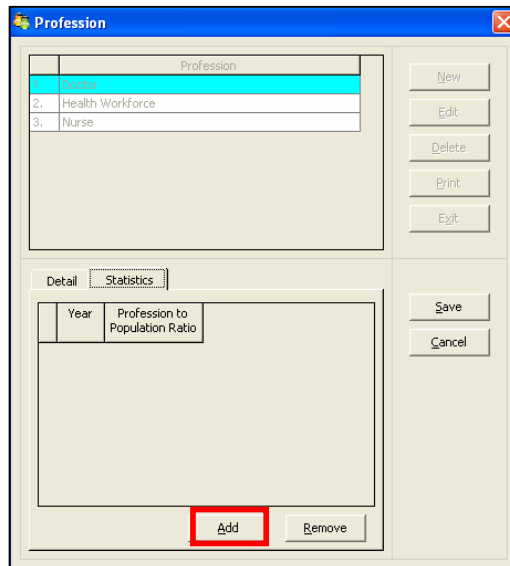
### To create new entries:

1. In the **Profession** dialog box, click the **New** button.
2. In the **Detail** tab, provide the appropriate entries for the **Profession** and **Remarks** fields.

*Note: fields in red require entries.*



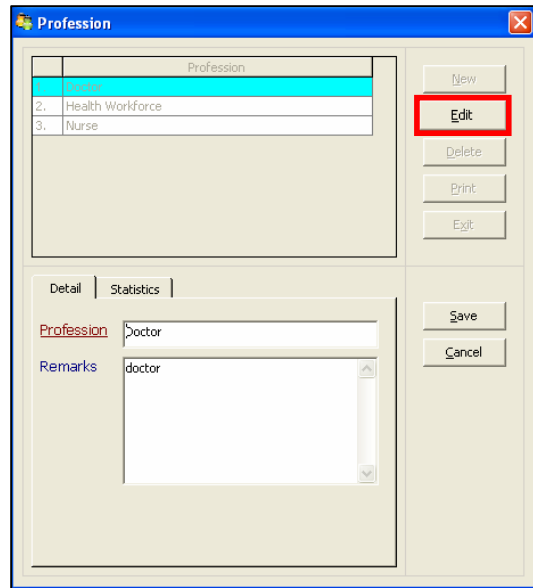
3. Click the **Statistics** tab. Click the **Add** button and type the appropriate entries for the **Year** and **Profession to Population Ratio** fields.
4. Click **Save** to store the new entry.
5. Repeat steps 1 to 4 for additional entries.
6. Click **Exit** to close the dialog box.



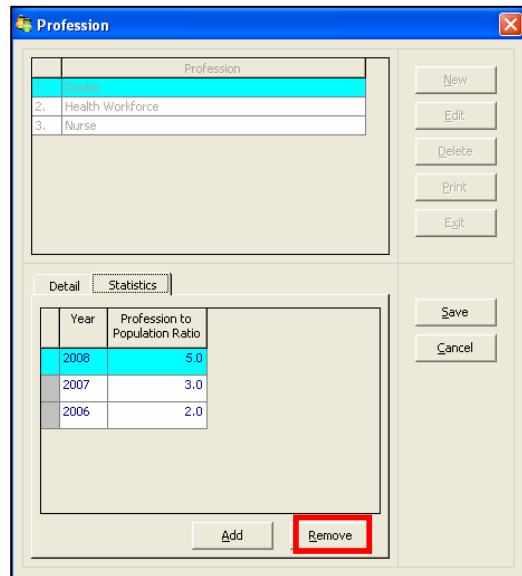
### To edit existing entries:

1. In the **Profession** dialog box, select the **Profession** to be modified, then, click the **Edit** button. The field boxes in both **Detail** and **Statistics** tab will now be editable.

*Note: fields in red require entries.*

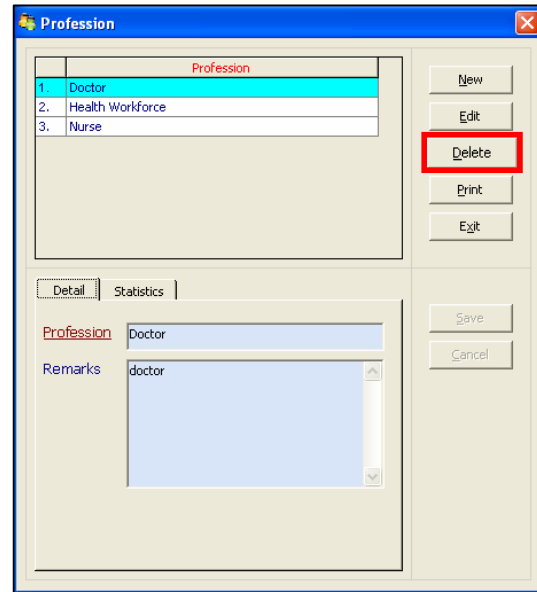


2. To remove entries in the **Statistics** tab, select the entries to be removed, then, click the **Remove** button. Click **OK** to confirm.
3. After making the necessary modifications, click **Save** to store the changes made.
4. Repeat steps 1 to 3 to edit other entries.
5. Click **Exit** to close the dialog box.

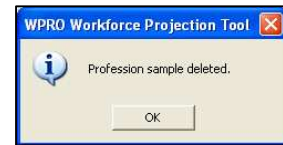
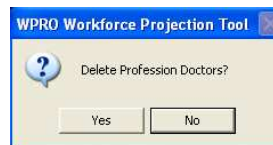


**To delete entries:**

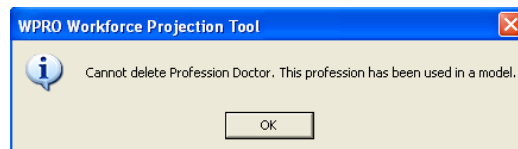
1. In the **Profession** dialog box, select the **Profession** to be deleted. Then, click the **Delete** button.



2. Click **Yes** and **OK** in the succeeding dialog boxes to confirm deletion.
3. Repeat steps 1 and 2 to delete other entries.
4. Click **Exit** to close the dialog box.



*Note: the system will not allow the deletion of professions that were used for stored projection models.*



## **CATEGORY**

The **Category** module allows users to create new categories for each profession, as well as modify and delete entries for each category. It also allows users to provide pertinent statistics related to profession categories, such as **Attrition Rate, Cost of Salary & Training, Production Patterns and Budget Growth**, etc. Like the Country module, entries here will be used in the **Projection Wizard**.

### To access this module:

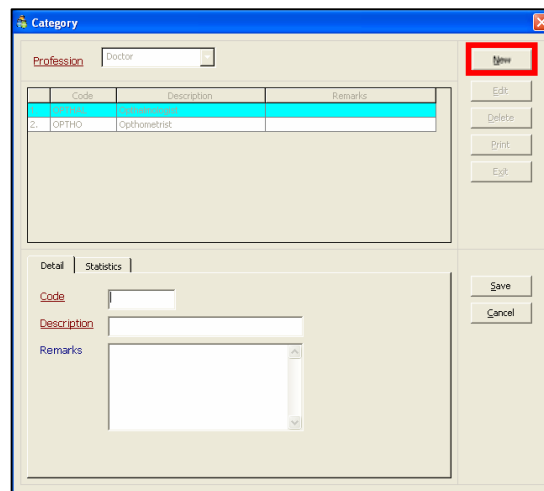
1. Expand the **Tools** menu, then, select **Category**.



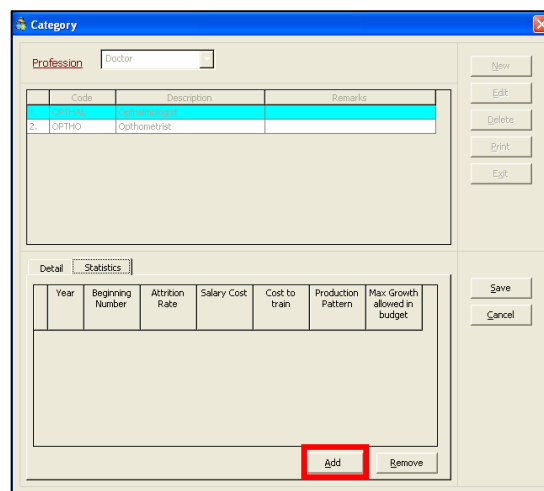
### To create new entries:

1. In the **Category** dialog box, select the specific profession (from the **Profession** field drop-down menu) for which new categories will be created for.
2. Once the Profession has been selected, click the **New** button.
3. In the Detail tab, provide the appropriate entries for the **Code**, **Description** and **Remarks** fields.

*Note: fields in red require entries.*



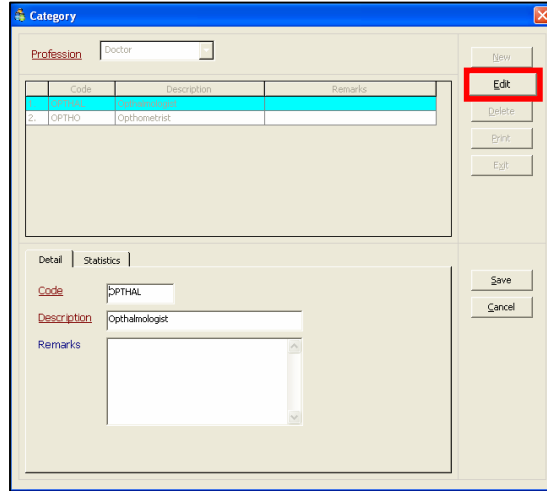
4. Click the **Statistics** tab. Click the **Add** button and type the appropriate entries for the following fields:
  - Year
  - Beginning Number
  - Attrition Rate
  - Salary Cut
  - Cost to Train
  - Production Pattern
  - Maximum Growth allowed in budget
5. Click **Save** to store the new entry.
6. Repeat steps 1 to 5 for additional entries for each profession.
7. Click **Exit** to close the dialog box.



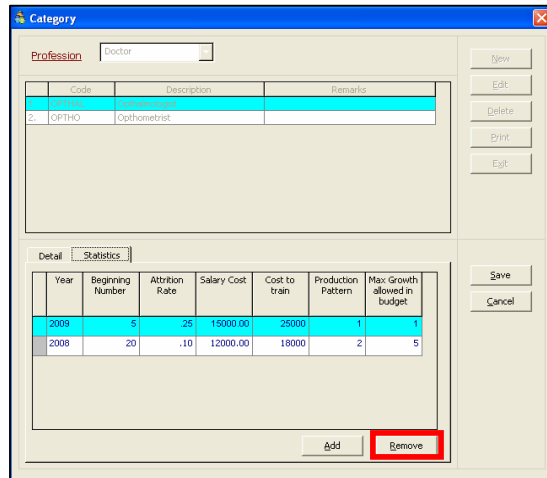
**To edit existing entries:**

1. In the **Category** dialog box, select the **Profession** to be modified. From the list, select the specific **Category** to be edited.
2. Click the **Edit** button. The field boxes in both **Detail** and **Statistics** tab will now be editable.

*Note: fields in red require entries.*

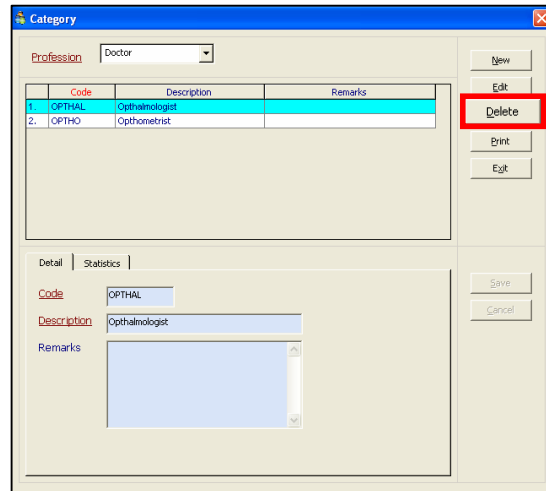


3. To remove entries in the **Statistics** tab, select the entries to be removed, then, click the **Remove** button. Click **OK** to confirm.
6. After making the necessary modifications, click **Save** to store the changes made.
7. Repeat steps 1 to 6 to edit other entries.
8. Click **Exit** to close the dialog box.



**To delete entries:**

1. In the **Category** dialog box, select the **Profession** to be modified. From the list, select the specific **Category** to be deleted. Then, click the **Delete** button.



2. Click **Yes** and **OK** in the succeeding dialog boxes to confirm deletion.
3. Repeat steps 1 and 2 to delete other entries.
4. Click **Exit** to close the dialog box.



*Note: the system will not allow the deletion of categories that were used for stored projection models.*



## Chapter V

# PROJECTIONS

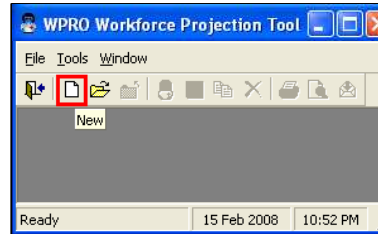
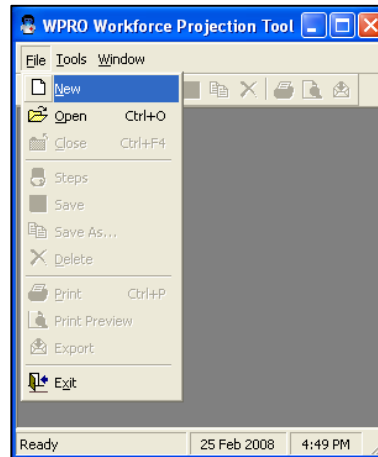
The main purpose of the system is to produce workforce projection models, taking into consideration external variables, such as population, growth rate, training costs, etc. These projections are contained in a report generated by the system – the **Workforce Requirements and Supply Projections Report**.

## CREATING A NEW PROJECTION MODEL

There are two (2) ways of creating a new projection model: from the Menu/Toolbar, or, thru the Projection List.

### A. From the Menu/Toolbar

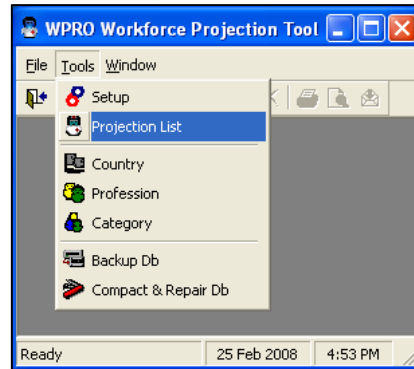
1. Expand the **File** menu. Then, select **New**, or, simply click the **New** icon on the toolbar.



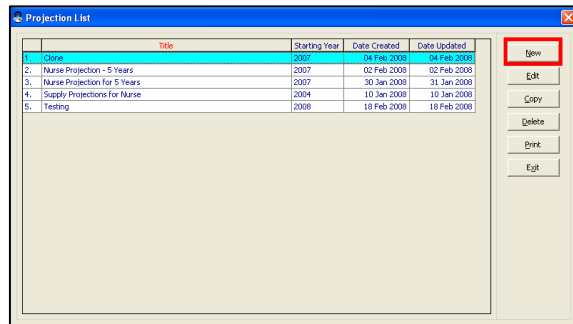
2. The **Projection Wizard – Step 1** window will open.

## B. From the Projection List

1. Expand the **Tools** menu. Then, select **Projection List**.



2. In the **Projection List** window, click the **New** button.
3. The **Projection Wizard – Step 1** window will open.



*Note: Regardless of how a new projection model is initiated, the application will begin the **Projection Wizard** to assist the user in setting up a new projection.*

## **PROJECTION WIZARD**

The **Projection Wizard** makes it easier to create and/or modify a projection model. The wizard has four (4) steps.

### **Projection Wizard – Step 1**

In **Step 1**, the parameters to be used in the projection are defined:

- **Country / Area**
  - Specifies which country or area the projection model is being applied to.
  - This value is read-only but can be modified through the **Setup** module.
- **Profession**
  - Defines the profession for which the projection model will be made.
  - If the profession that is needed is not in the list, a new profession may be created through the **Profession** module.
- **Inclusive Years (maximum 20 yrs)**
  - Defines the scope (in years) of the projection model. The difference between the beginning year and ending year should not exceed 20 years.
  - When creating a new projection model, the beginning year is set to the current year by default. Changing the beginning year will adjust the default values under **Current Population**, **Annual Population Growth Rate** and **Equity Factor**.
- **Title**
  - Name of the projection model being created. Entry here will also be reflected as title for related reports to be generated for this projection.
  - Note: The user is encouraged to provide details, such as dates, to establish a unique title for easier retrieval.*
- **Current Population**
  - Relates to the current population of the country or areas where the projection model is being applied to. This is usually based on the most recent census or official report of the country/area.
  - This value changes whenever the starting year is modified. The default population for any year may be defined through the Country module.
- **Annual Population Growth Rate**
  - Rate at which the country/area's population grows on an annual basis. This is usually based on the most recent census or official report of the country/area.
  - The value changes whenever the starting year is modified. The default growth rate for any year may be defined through the Country module.
- **Equity Factor**
  - The multiplier assigned for each country/area that is based on the Human Development Index (HDI), ethnicity and race, and economic statistics as expressed in real % growth in GDP of countries and areas. Weights have been given to these factors as determinants to the production and deployment of human resources for health. More workers are envisioned to be produced and deployed to countries/areas where their equity factors are high.
  - This value changes whenever the starting year is modified. The default equity factor for any year may be defined through the Country module.

The screenshot shows the 'Projection Wizard - Step 1' dialog box. It has a title bar with a close button. The main area contains the following fields:

- Country / Area:** A text box containing 'Philippines'.
- Profession:** A dropdown menu with an empty selection.
- Inclusive Years (max 20 yrs):** Two spinners showing '2008' and '2017' with 'to' between them.
- Title:** A large text area with a scroll bar, currently empty.
- Current Population:** A text box containing '0'.
- Annual Population Growth Rate:** A text box containing '0'.
- Equity Factor:** A dropdown menu with '0' selected.
- Ratio to other Profession:** Two dropdown menus with empty selections and 'to' between them.

At the bottom right, there are three buttons: 'Next >>', 'Cancel', and 'Finish'.

➤ **Ratio to Other Profession**

- The current number of a particular profession being projected against another profession. Provides a preview of a country/area's skill mix.
- This value may be altered, based on the country or area's set standards for the concerned profession/s.
- Used only if it is necessary to do a comparative analysis of skill mix from the selected country/area.

## **Projection Wizard – Step 2**

**Step 2** requires information regarding category-specific variables. When creating a new projection model, the initial data are automatically loaded. These initial data can be modified through the **Category** module.

| Category  | Number at beginning of year | Attrition rate | Profession / Category to Population Ratio | Current salary cost | Current cost to train |
|---|-----------------------------|----------------|---|---------------------|-----------------------|
| <input checked="" type="checkbox"/> Nurse Assistants    | 63                          | 0.80           | 1.20                                      | 55,000              | 11,000                |
| <input checked="" type="checkbox"/> Nurse Midwives      | 49                          | 1.00           | 1.40                                      | 80,000              | 15,000                |
| <input checked="" type="checkbox"/> Nurse Practitioners | 36                          | 1.00           | 0.20                                      | 95,000              | 15,000                |
| <input checked="" type="checkbox"/> Registered Nurses   | 290                         | 0.80           | 0.10                                      | 70,000              | 35,000                |

➤ **Category**

- Lists all categories available for a particular profession. Check a category to include them in the projection. Uncheck them if you wish to remove them.
- To add new categories for each profession, use the **Category** module under the **Tools** menu.
- Categories that have been selected in the **Ratio to Other Profession** field from **Projection Wizard – Step 1** cannot be removed.

➤ **Number at beginning of year**

- Estimated population of the specified profession for the current year. This is also referred to as the current stock of the particular profession. The year is assumed to be the same as the beginning year specified in Step 1, but, the actual data encoded will be based on data available to the user.
- The value should not be below zero (0). Zero (0) may be used for non-existent categories/professions.

➤ **Attrition Rate**

- The average rate of exit (regardless of form) from a profession, computed annually for the particular profession. Value is expressed as the number of staff exiting the profession against the total number of that particular workforce.
- The value should be in percentage form. (e.g. 1.0 here means 1.0% attrition rate)

➤ **Profession/Category to Population Ratio**

- The current number of a particular profession against the total population of a given country/area. This is a rough estimate of the population density relative to the number of health professionals actually serving.
- The total population ratio for all categories should be less than the **Profession to Population Ratio** field from the **Projection Wizard – Step 1** form.

*Note: It is suggested that countries/areas set their own "ideal" profession to population ratio based on their agreed criteria in consultation with other stakeholders. "Ideal" ratio is expressed as the number of health professionals needed against a population of one thousand.*

➤ **Current salary cost**

- Average annual salary of a profession at entry level post.
- Value should be based on the actual budget approved for the specific profession. Value may be expressed in U.S. dollars or any other currency provided it is duly noted in the projection.
- The value should not be below zero (0).

➤ **Current cost to train**

- Average cost to produce a graduate of a given profession. This is a summative computation of current fees spent in the pre-service education of a health worker. Expenses may be expressed in detail, but, duly noted to further support the analysis of results.
- The value should not be below zero (0).

### **Projection Wizard – Step 3**

**Step 3** requires the user to make assumptions that will calculate the input data needed to progressively make an estimate based on historical information.

When creating a new projection model, the initial data are automatically loaded. The initial data can be modified through the **Category** module.

| Year                                | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|-------------------------------------|------|------|------|------|------|------|------|------|------|------|
| NA Production Pattern               | 0    | 10   | 0    | 0    | 10   | 0    | 0    | 10   | 0    | 0    |
| NM Production Pattern               | 0    | 0    | 0    | 0    | 0    | 6    | 0    | 0    | 0    | 0    |
| NP Production Pattern               | 0    | 0    | 6    | 0    | 0    | 0    | 0    | 0    | 6    | 0    |
| RN Production Pattern               | 10   | 0    | 0    | 10   | 0    | 0    | 10   | 0    | 0    | 10   |
| Max Growth of NAs allowed in budget |      |      | 0    | 10   | 10   | 10   | 20   | 20   | 30   | 30   |
| Max Growth of NMs allowed in budget |      |      | 0    | 0    | 0    | 0    | 0    | 6    | 6    | 6    |
| Max Growth of NPs allowed in budget |      |      | 0    | 0    | 6    | 6    | 6    | 12   | 18   | 24   |
| Max Growth of RNs allowed in budget |      |      | 8    | 8    | 8    | 18   | 18   | 18   | 28   | 28   |

➤ **Production Pattern**

- Average number of students graduating from a particular health education course and are ready for inclusion to the health workforce for the current year.
- The user will have to:
  - i. Establish the rate of increase or decrease in the production of graduates. This rate is computed by getting the actual number of graduates for the particular profession annually. It is suggested that a 3 to 5-year data range be used.
  - ii. Determine the rate of increase or decrease per year and derive the average for the period. This percentage rate will be used as the multiplier to estimate the production of graduates in the succeeding years of the projection.
- The value should not be below zero (0).

➤ **Max Growth allowed in budget**

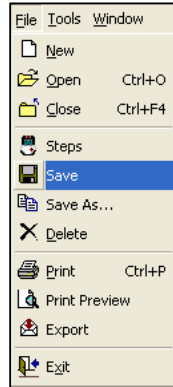
- This refers to the number of new health workers entering the workforce annually.
- The user will have to provide the data on the number of new entrants in the workforce of a particular profession for the past 3 - 5 years. Compute for the frequency of entrants per profession annually. This will serve as your anticipated value of calculated number of new entrants for the projected years.
- The value should not be below zero (0).

### **Projection Worksheet – Workforce Requirements and Supply Projections**

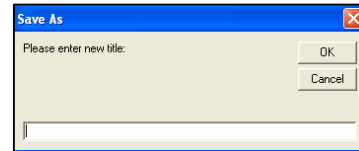
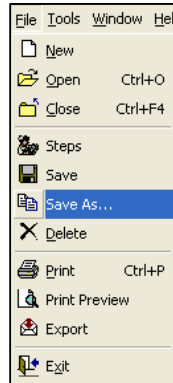
This step will display the **Workforce Requirements and Supply Projections** containing multiple reports sheets. Please refer to **Chapter VI, Reports** for more details.

## **SAVING A PROJECTION MODEL**

- After the **Workforce Requirements and Supply Projections** table has been generated, select **File** from the menu, then click **Save**, or, simply click the **Save** icon on the toolbar.



- If you wish to save a copy with another title, select **File** from the menu, then, click **Save As**. In the **Save As** dialog box, type the new title, then, click **OK**.

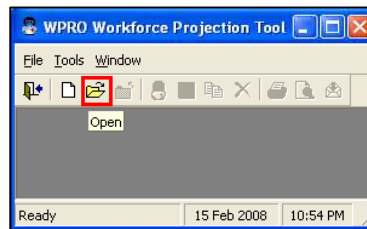
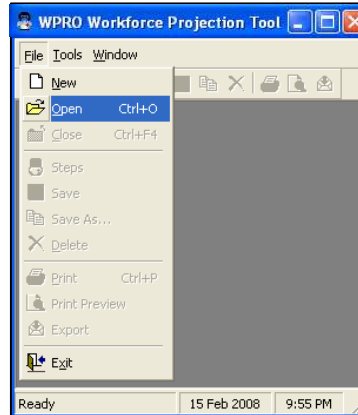


## OPENING AN EXISTING PROJECTION MODEL

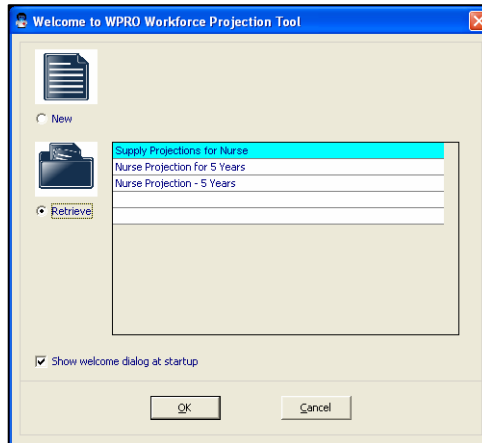
There are two (2) ways of opening an existing projection model: from the Menu/Toolbar, or, thru the Projection List.

### A. From the Menu/Toolbar

1. Expand the **File** menu. Then, select **Open**, or, simply click the **Open** icon on the toolbar.

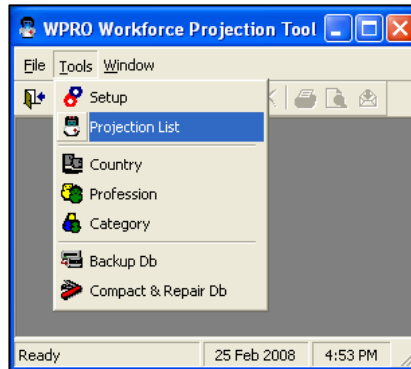


2. The **Welcome to Workforce Projection Tool** screen will open. Select **Retrieve** to activate the list. Then, from the list of existing projection models, select the appropriate model to open.
3. Click **OK**.
4. The **Projection Wizard – Step 1** window will open.

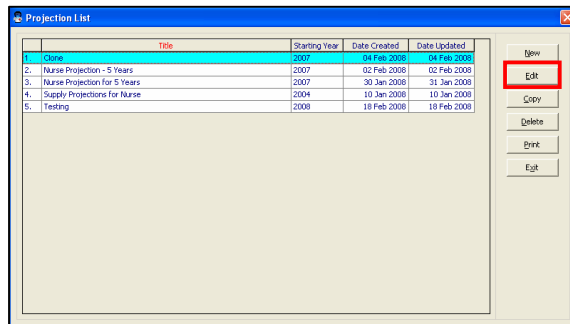


**B. From the Projection List**

1. Expand the **Tools** menu. Then, select **Projection List**.



2. In the **Projection List** window, select the appropriate projection model to open, then, click the **Edit** button.
3. The **Projection Wizard – Step 1** window will open.

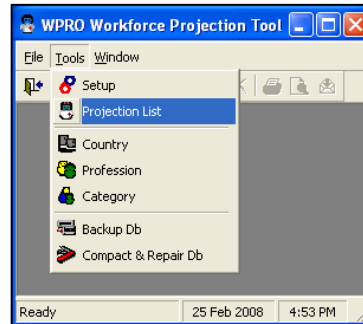


*Note: Regardless of how an existing projection model is opened, the application will load the selected projection using the **Projection Wizard**. The wizard makes it easier for the user to modify the variables used for the projection models.*

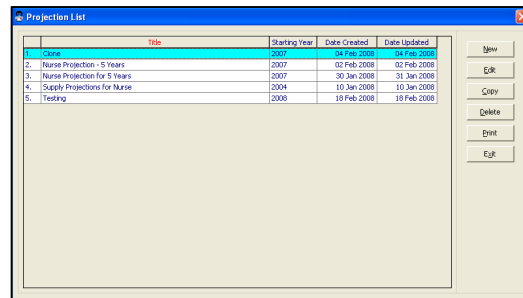
## **PROJECTION LIST**

The Projection List is a listing of all saved projection models. This module allows easier management of stored projections.

1. Expand the **Tools** menu, and then select **Projection List**.



2. From the **Projection List** screen, select the specific entry to **edit, copy, delete** or **print**. Then, click the appropriate command button.



### **New:**

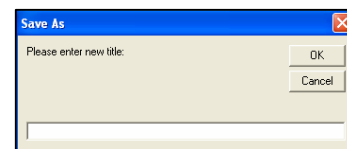
- Allows another way for the user to create a new projection model.
- To add a new entry, click the **New** button. Then, follow the steps provided in an earlier section - **Creating A New Projection**.

### **Edit:**

- Allows the user to make changes to existing projection models.
- To modify an existing entry, click the **Edit** button. The system will then load the stored projection.

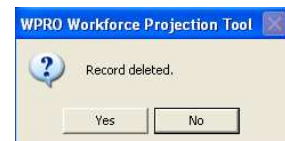
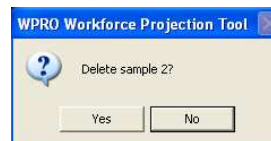
### **Copy:**

- Allows the user to make duplicate copies of an existing projection model, with the option of providing another name for the duplicate.
- To make a new copy of an existing projection model, click the **Copy** button.
- Type the new name in the **Save As** dialog box.
- The new copy will then appear in the Projection list.



### **Delete:**

- Allows the user to delete existing projection models.
- To delete an existing entry, click the **Delete** button.
- Click **Yes** and **OK** in the succeeding dialog boxes to confirm deletion.



### **Print:**

- Allows the user to print existing projection models without having to open the document.
- To print an existing entry, click the **Print** button.
- The **Print** dialog box will appear. Click **Print** to continue with the process.



# Chapter VI REPORTS

There are 3 kinds of reports that may be generated for every projection model:

- ⇒ Comparative Projection Report
- ⇒ Category Reports
- ⇒ Summary Report

These reports are all contained in the **Workforce Requirements and Supply Projections** worksheet. To ensure easier analysis and comparison, uniform **Workforce and Cost Parameters** are reflected in all report types. Also, in any surplus/deficit row, negative values are displayed in red.

## COMPARATIVE PROJECTION REPORT

- Located on the first sheet of the Projection Worksheet. The report displays the projections for a specific profession, as well as comparative figures against another profession, as specified in the **Projection Wizard – Step 1** dialog box.

|    | A  | B                 | C                 | D                 | E                 | F                 | G                           | H              | I                   | J                     | K                              |
|----|--|-------------------|-------------------|-------------------|-------------------|-------------------|-----------------------------|----------------|---------------------|-----------------------|--------------------------------|
| 1  | <b>Workforce Requirements and Supply Projections</b> |                   |                   |                   |                   |                   |                             |                |                     |                       |                                |
| 2  | <b>Comparative Projection Report (Philippines)</b>   |                   |                   |                   |                   |                   |                             |                |                     |                       |                                |
| 4  | <b>Health Worker Projection Model #1</b>             |                   |                   |                   |                   |                   |                             |                |                     |                       |                                |
| 5  | <b>Workforce and Cost Parameters</b>                 |                   |                   |                   |                   |                   |                             |                |                     |                       |                                |
| 6  | <b>Health Workers</b>                                |                   |                   |                   |                   |                   | Supply at Beginning of Year | Attrition Rate | Current Salary Cost | Current Cost to Train | Profession to Population Ratio |
| 7  | Inclusive Years                                      | 2008 - 2013       |                   |                   |                   |                   | 500                         | 2.50%          | 25,000              | 50,000                | 0.00                           |
| 8  | Current Population                                   | 76,000,000        |                   |                   |                   |                   | 1,530                       | 5.25%          | 12,000              | 20,000                | 0.00                           |
| 9  | Annual Population Growth Rate                        | 2.50%             |                   |                   |                   |                   |                             |                |                     |                       |                                |
| 10 | Equity Factor  | 2.50%             |                   |                   |                   |                   |                             |                |                     |                       |                                |
| 12 | <b>Projection Patterns</b>                           |                   |                   |                   |                   |                   |                             |                |                     |                       |                                |
| 13 |  | 2008              | 2009              | 2010              | 2011              | 2012              | 2013                        |                |                     |                       |                                |
| 14 | MD Production Pattern                                | 25                | 28                | 31                | 34                | 37                | 41                          |                |                     |                       |                                |
| 15 | RN Production Pattern                                | 570               | 627               | 690               | 759               | 835               | 918                         |                |                     |                       |                                |
| 17 | Max Growth of MDs allowed in budget                  |                   | 20                | 21                | 23                | 24                | 25                          |                |                     |                       |                                |
| 18 | Max Growth of RNs allowed in budget                  |                   | 50                | 53                | 56                | 57                | 59                          |                |                     |                       |                                |
| 20 | <b>Workforce Projections</b>                         |                   |                   |                   |                   |                   |                             |                |                     |                       |                                |
| 21 |  | 2008              | 2009              | 2010              | 2011              | 2012              | 2013                        |                |                     |                       |                                |
| 22 | MD Requirement                                       | 0                 | 0                 | 0                 | 0                 | 0                 | 0                           |                |                     |                       |                                |
| 23 | RN Requirement                                       | 0                 | 0                 | 0                 | 0                 | 0                 | 0                           |                |                     |                       |                                |
| 24 | <b>Total Requirement</b>                             | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>0</b>          | <b>0</b>                    |                |                     |                       |                                |
| 26 | MD Supply at Beginning of Year                       | 500               | 513               | 528               | 546               | 566               | 589                         |                |                     |                       |                                |
| 27 | RN Supply at Beginning of Year                       | 1,530             | 1,580             | 1,633             | 1,689             | 1,746             | 1,805                       |                |                     |                       |                                |
| 28 | <b>Total at Beginning of Year</b>                    | <b>2,030</b>      | <b>2,093</b>      | <b>2,161</b>      | <b>2,235</b>      | <b>2,312</b>      | <b>2,394</b>                |                |                     |                       |                                |
| 30 | MD:RN Ratio  | 32.68%            | 32.47%            | 32.33%            | 32.33%            | 32.42%            | 32.63%                      |                |                     |                       |                                |
| 32 | MD Surplus/Deficit                                   | 500               | 513               | 528               | 546               | 566               | 589                         |                |                     |                       |                                |
| 33 | RN Surplus/Deficit                                   | 1,530             | 1,580             | 1,633             | 1,689             | 1,746             | 1,805                       |                |                     |                       |                                |
| 34 | <b>Total Surplus/Deficit</b>                         | <b>2,030</b>      | <b>2,093</b>      | <b>2,161</b>      | <b>2,235</b>      | <b>2,312</b>      | <b>2,394</b>                |                |                     |                       |                                |
| 36 | <b>Cost Workforce Projections</b>                    |                   |                   |                   |                   |                   |                             |                |                     |                       |                                |
| 37 |  | 2008              | 2009              | 2010              | 2011              | 2012              | 2013                        |                |                     |                       |                                |
| 38 | Cost of Training MDs                                 | 25,000,000        | 25,650,000        | 26,400,000        | 27,300,000        | 28,300,000        | 29,450,000                  |                |                     |                       |                                |
| 39 | Cost of Training RNs                                 | 30,860,000        | 31,600,000        | 32,660,000        | 33,780,000        | 34,920,000        | 36,100,000                  |                |                     |                       |                                |
| 40 | <b>Sub-total Training Costs</b>                      | <b>55,860,000</b> | <b>57,250,000</b> | <b>59,060,000</b> | <b>61,080,000</b> | <b>63,220,000</b> | <b>65,550,000</b>           |                |                     |                       |                                |
| 42 | Salaries and Wages for MDs                           | 12,500,000        | 12,825,000        | 13,200,000        | 13,650,000        | 14,150,000        | 14,725,000                  |                |                     |                       |                                |
| 43 | Salaries and Wages for RNs                           | 18,360,000        | 18,960,000        | 19,596,000        | 20,268,000        | 20,952,000        | 21,660,000                  |                |                     |                       |                                |
| 44 | <b>Sub-total Training Costs</b>                      | <b>30,860,000</b> | <b>31,785,000</b> | <b>32,796,000</b> | <b>33,918,000</b> | <b>35,102,000</b> | <b>36,385,000</b>           |                |                     |                       |                                |
| 46 | <b>Total Costs</b>                                   | <b>86,460,000</b> | <b>89,035,000</b> | <b>91,856,000</b> | <b>94,998,000</b> | <b>98,322,000</b> | <b>101,935,000</b>          |                |                     |                       |                                |

### Total Requirement

- the total number of health workers needed to respond to the health needs of the population based on the given parameters

### Supply at Beginning of Year

- the number of health workers who are actually eligible to enter the workforce based on the given parameters

**Ratio Between Professions**

- proportion of a particular health profession to another. This will provide a picture of the skill mix of available professions

**Surplus/Deficit**

- the number of health workers that are in excess or lacking to deliver the health services needs of the population based on the total requirement and supply at the beginning of the year.

**Cost of Training**

- the cost saved or budget needed to be allocated by the country/area based on the surplus or deficit of health workers in a particular projection

**Salaries and Wages**

- the budget saved or allocated by the country/area to address the surplus/deficit of health workers in a particular projection

**CATEGORY REPORTS**

- The report provides individual projection for each category of the selected profession, as specified in the **Project Wizard – Step 2** dialog box. The projections for each category are displayed in separate worksheets.

|    | A   | B                 | C                 | D                              | E                 | F                 | G                 |
|----|---|-------------------|-------------------|--------------------------------|-------------------|-------------------|-------------------|
| 1  | <b>Workforce Requirements and Supply Projections</b>                                  |                   |                   |                                |                   |                   |                   |
| 2  | <b>Individual Category Report (Philippines)</b>                                       |                   |                   |                                |                   |                   |                   |
| 3  |   |                   |                   |                                |                   |                   |                   |
| 4  | <b>Health Worker Projection Model #1</b>  |                   |                   |                                |                   |                   |                   |
| 5  | <b>Workforce and Cost Parameters</b>  |                   |                   |                                |                   |                   |                   |
| 6  | <b>Doctors</b>  |                   |                   | Attrition Rate                 |                   | 2.50%             |                   |
| 7  | Inclusive Years   | 2008 - 2013       |                   | Supply at Beginning of Year    |                   | 500               |                   |
| 8  | Current Population  | 76,000,000        |                   | Current Salary Cost            |                   | 25,000            |                   |
| 9  | Annual Population Growth Rate   | 2.50%             |                   | Current Cost to Train          |                   | 50,000            |                   |
| 10 | Equity Factor   | 2.50%             |                   | Profession to Population Ratio |                   | 0.00              |                   |
| 11 |   |                   |                   |                                |                   |                   |                   |
| 12 | <b>Projections</b>  |                   |                   |                                |                   |                   |                   |
| 13 |   | 2008              | 2009              | 2010                           | 2011              | 2012              | 2013              |
| 14 | Production Patterns   | 25                | 28                | 31                             | 34                | 37                | 41                |
| 15 | Maximum Growth Allowed in Budget  |                   | 20                | 21                             | 23                | 24                | 25                |
| 16 |   |                   |                   |                                |                   |                   |                   |
| 17 | Total Requirements  | 0                 | 0                 | 0                              | 0                 | 0                 | 0                 |
| 18 | Supply at Beginning of Year   | 500               | 513               | 528                            | 546               | 566               | 589               |
| 19 | Surplus/Deficit   | 500               | 513               | 528                            | 546               | 566               | 589               |
| 20 |   |                   |                   |                                |                   |                   |                   |
| 21 | Cost of Training  | 25,000,000        | 25,650,000        | 26,400,000                     | 27,300,000        | 28,300,000        | 29,450,000        |
| 22 | Salaries and Wages  | 12,500,000        | 12,825,000        | 13,200,000                     | 13,650,000        | 14,150,000        | 14,725,000        |
| 23 | <b>Total Cost</b>   | <b>37,500,000</b> | <b>38,475,000</b> | <b>39,600,000</b>              | <b>40,950,000</b> | <b>42,450,000</b> | <b>44,175,000</b> |
| 24 | <span>Comparative Projection</span> <span>Doctors / Nurse</span> <span>Summary</span> |                   |                   |                                |                   |                   |                   |

# SUMMARY REPORT

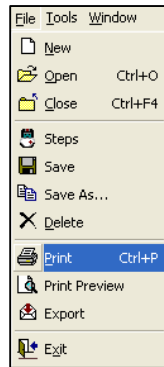
- The report contains a summary display of projections for all categories of the selected profession. The results are tallied in the **Cumulative Total** section of the worksheet.

|    | A  | B           | C          | D          | E          | F          | G                           | H              | I                   | J                     | K                              |
|----|--|-------------|------------|------------|------------|------------|-----------------------------|----------------|---------------------|-----------------------|--------------------------------|
| 1  | <b>Workforce Requirements and Supply Projections</b> |             |            |            |            |            |                             |                |                     |                       |                                |
| 2  | <b>Summary Report (Philippines)</b>                  |             |            |            |            |            |                             |                |                     |                       |                                |
| 4  | <b>Health Worker Projection Model #1</b>             |             |            |            |            |            |                             |                |                     |                       |                                |
| 5  | <b>Workforce and Cost Parameters</b>                 |             |            |            |            |            |                             |                |                     |                       |                                |
| 6  | <b>Health Workers</b>                                |             |            |            |            |            | Supply at Beginning of Year | Attrition Rate | Current Salary Cost | Current Cost to Train | Profession to Population Ratio |
| 7  | Inclusive Years                                      | 2008 - 2013 |            |            |            | Doctors    | 500                         | 2.50%          | 25,000              | 50,000                | 0.00                           |
| 8  | Current Population                                   | 76,000,000  |            |            |            | Nurse      | 1,530                       | 5.25%          | 12,000              | 20,000                | 0.00                           |
| 9  | Annual Population Growth Rate                        | 2.50%       |            |            |            |            |                             |                |                     |                       |                                |
| 10 | Equity Factor  | 2.50%       |            |            |            |            |                             |                |                     |                       |                                |
| 12 | <b>Projection Patterns</b>                           |             |            |            |            |            |                             |                |                     |                       |                                |
| 13 |  | 2008        | 2009       | 2010       | 2011       | 2012       | 2013                        |                |                     |                       |                                |
| 15 | <b>Doctors</b>                                       |             |            |            |            |            |                             |                |                     |                       |                                |
| 16 | MD Requirement                                       | 0           | 0          | 0          | 0          | 0          | 0                           |                |                     |                       |                                |
| 17 | MD Supply at Beginning of Year                       | 500         | 513        | 528        | 546        | 566        | 589                         |                |                     |                       |                                |
| 18 | Surplus / Deficit                                    | 500         | 513        | 528        | 546        | 566        | 589                         |                |                     |                       |                                |
| 20 | Cost of Training                                     | 25,000,000  | 25,850,000 | 26,400,000 | 27,300,000 | 28,300,000 | 29,450,000                  |                |                     |                       |                                |
| 21 | Salaries and Wages                                   | 12,500,000  | 12,825,000 | 13,200,000 | 13,650,000 | 14,150,000 | 14,725,000                  |                |                     |                       |                                |
| 22 | Total Cost   | 37,500,000  | 38,475,000 | 39,600,000 | 40,950,000 | 42,450,000 | 44,175,000                  |                |                     |                       |                                |
| 24 | <b>Nurse</b>   |             |            |            |            |            |                             |                |                     |                       |                                |
| 25 | RN Requirement                                       | 0           | 0          | 0          | 0          | 0          | 0                           |                |                     |                       |                                |
| 26 | RN Supply at Beginning of Year                       | 1,530       | 1,580      | 1,633      | 1,689      | 1,746      | 1,805                       |                |                     |                       |                                |
| 27 | Surplus / Deficit                                    | 1,530       | 1,580      | 1,633      | 1,689      | 1,746      | 1,805                       |                |                     |                       |                                |
| 29 | Cost of Training                                     | 30,600,000  | 31,600,000 | 32,660,000 | 33,780,000 | 34,920,000 | 36,100,000                  |                |                     |                       |                                |
| 30 | Salaries and Wages                                   | 18,360,000  | 18,960,000 | 19,596,000 | 20,268,000 | 20,952,000 | 21,660,000                  |                |                     |                       |                                |
| 31 | Total Cost   | 48,960,000  | 50,560,000 | 52,256,000 | 54,048,000 | 55,872,000 | 57,760,000                  |                |                     |                       |                                |
| 33 | <b>Cumulative Total</b>                              |             |            |            |            |            |                             |                |                     |                       |                                |
| 34 | Requirement  | 0           | 0          | 0          | 0          | 0          | 0                           |                |                     |                       |                                |
| 35 | Supply at Beginning of Year                          | 2,030       | 2,093      | 2,161      | 2,235      | 2,312      | 2,394                       |                |                     |                       |                                |
| 36 | Surplus / Deficit                                    | 2,030       | 2,093      | 2,161      | 2,235      | 2,312      | 2,394                       |                |                     |                       |                                |
| 38 | Cost of Training                                     | 55,600,000  | 57,250,000 | 59,060,000 | 61,080,000 | 63,220,000 | 65,550,000                  |                |                     |                       |                                |
| 39 | Salaries and Wages                                   | 30,860,000  | 31,785,000 | 32,796,000 | 33,918,000 | 35,102,000 | 36,385,000                  |                |                     |                       |                                |
| 40 | Over-all Cost  | 86,460,000  | 89,035,000 | 91,856,000 | 94,998,000 | 98,322,000 | 101,935,000                 |                |                     |                       |                                |

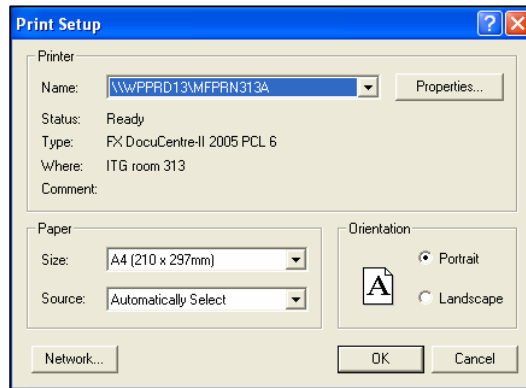
## **PRINTING REPORTS**

Hardcopies of the reports may be generated by using the built-in **Print** facility of the system.

1. Expand the **File** menu. Then, select **Print**, or, simply click the **Print** button on the toolbar.



2. In the **Print Setup** dialog box, specify the **Printer Name**, **Paper Size** and **Orientation**.
3. Then, click **OK**.



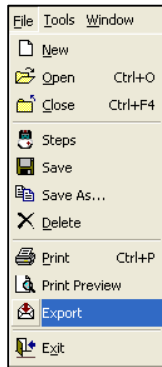
## **EXPORTING REPORTS TO MS EXCEL**

As a means of sharing data with other users who have no access to the system, reports may easily be converted to **MS Excel** format via the **Export** facility. After the report has been converted into an MS Excel spreadsheet, the file may then be e-mailed to other users for sharing.

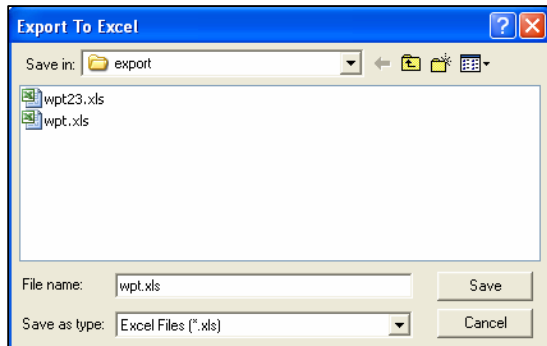
As an MS Excel file, other users may modify data in the spreadsheet. However, they have to unprotect the document before changes in the entries can be made. This may require a password from the source/original user.

### **To export a report to MS Excel format:**

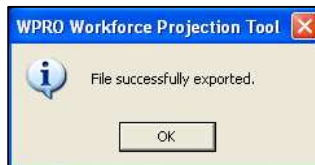
1. Expand the **File** menu. Then, select **Export**, or, simply click the **Export** icon on the toolbar.



2. The **Export To Excel** dialog box will appear. Provide the appropriate **File name**, then, click **Save**.



3. Click **OK** to complete the Export process.





## Chapter VII

# ADMINISTRATION

The WWPT system also provides modules for storage location and database management.

The **Setup** module allows users to define the specific storage locations for files related to the WWPT system. Meanwhile, database-related modules provide users with capability to backup existing database (**Backup Db**), and, recover damaged data (**Compact & Repair Db**).

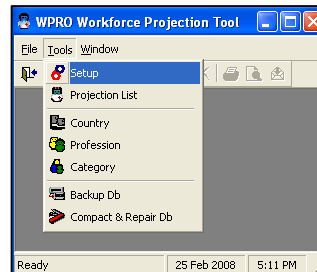
## FILE MANAGEMENT

### Setup Module

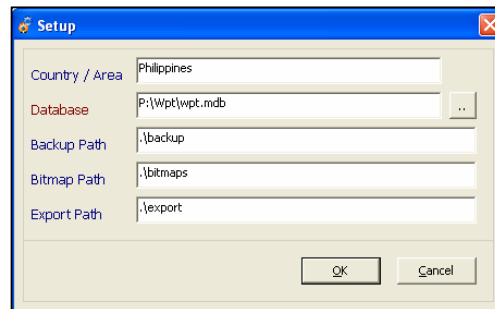
This module allows users to change the default location where files related to the WWPT system will be stored. Under this module, users may define the following storage locations:

- **Backup Path** – storage location for backup copies. This is the default/target location whenever the Backup Db module is utilized.
- **Bitmap Path** – miscellaneous graphics and icons referenced by the system are stored in this location.
- **Export Path** – target location where generated MS Excel files, using the Export facility, are stored.

1. Expand the **Tools** menu, then, select **Setup**.



2. In the **Setup** screen, define the **Country/Area** of study site and the corresponding **Database** to use.
3. Type the appropriate folders/destinations for the following:
  - Backup Path
  - Bitmap Path
  - Export Path
4. Click **OK**.



## **DATABASE MANAGEMENT**

### **A. Creating a Backup**

The system provides a module for creating copies of an existing database. The default location of the backup copies may be defined using the **Setup** module (please refer to the previous section).

1. Expand the **Tools** menu, and then select **Backup Db.**



### **B. Compacting and Repairing**

This module allows users to efficiently manage the database's physical storage.

As a database continues to grow and expand over time, files may become fragmented in the course of adding and deleting objects in the database, causing errors which may eventually lead to performance issues.

With the **Compact & Repair Db** module, the system makes a copy of the file and rearranges how the file is physically stored on the disk. The size of a database is minimized by removing free spaces within the physical storage partitions. This module also provides fixes for damaged files, thereby guaranteeing the integrity of your database.

1. Expand the **Tools** menu, and then select **Compact & Repair Db.**

