

Statistical Profile of Education in sub-Saharan Africa (SPESSA)

Version 1

User's Guide

Sponsored by:



Data provided by:



Designed by:

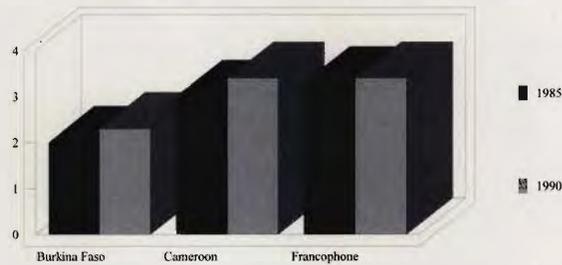


Association for the Development of African Education

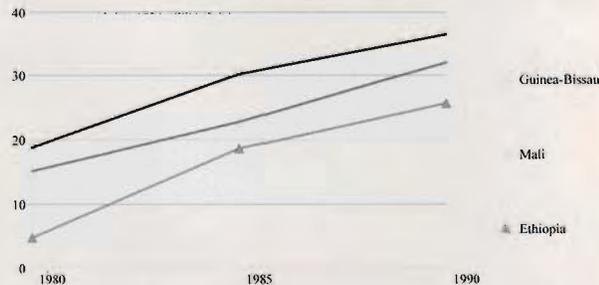
With **SPESSA** you can:

- Easily access the Association for the Development of African Education (DAE) dataset of over 80 indicators related to education in sub-Saharan Africa.
- Create eye-catching graphics comparing data across years and across countries in sub-Saharan Africa and African and world country groupings.
- Download the dataset into formats compatible with most word-processing and spreadsheet programs.
- Copy the data and graphics into other Windows and non-Windows applications using the Windows Clipboard.

Public Expenditures on Ed. as a % of GNP



Literates as % of Adult Pop.



MINIMUM SYSTEM REQUIREMENTS

- An IBM compatible personal computer.
 - A hard disk with 6 megabytes of free space.
 - A mouse or other pointing device.
 - 486 DX/33 processor or better (recommended).
 - A VGA or compatible display.
 - Minimum of 4 megabytes of random-access memory (8 megabytes recommended).
 - Microsoft Windows™ operating system version 3.1 or later.
-

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A. Quick Start

MINIMUM SYSTEM REQUIREMENTS

- An IBM compatible personal computer.
- A hard disk with 6 megabytes of free space.
- A mouse or other pointing device.
- 486 DX/33 processor or better (recommended).
- A VGA or compatible display.
- Minimum of 4 megabytes of random-access memory (8 megabytes recommended).
- Microsoft Windows™ operating system version 3.1 or later.

The following steps are for experienced Windows users. These steps may be all you need to run the **SPESSA** program, although completing the tutorial is highly recommended.

Installing the Software

1. Insert **Disk 1** in drive A or B.
2. Start Windows.
3. In the Windows Program Manager, select the **File** menu and choose **Run**.
4. Type **a:\install** or **b:\install** (depending on the drive you are using) in the Command Line box and choose **OK**.
5. Follow installation instructions.

Starting

1. In the Windows Program Manager, open the program group that contains the **SPESSA** icon.
2. Double-click the **SPESSA** icon.



Using SPESSA

1. Begin by clicking the **Introduction** button for a quick overview of the **SPESSA** program.
2. Click the **Begin** button and wait while the lists of countries, country groups, and indicators are loaded. (This takes between 1 and 2 1/2 minutes depending on the speed of your computer. Please be patient.)
3. Select the countries and/or country groups and indicators that interest you.
4. When in the *Country Selection*, *Country Group Selection*, and *Indicator Selection* screens, right-click on countries, country groups, indicator group names, and indicators to access further information.
5. Click the **View Data** button to view the data in both graph and spreadsheet format.
6. Use the buttons and drop-down lists at the top of the screen to print/copy/export the data, and manipulate the graphs.
7. Click **Exit** to exit the program.

B. Introducing SPESSA

With **SPESSA** you can:

- Easily access the Association for the Development of African Education (DAE) dataset of over 80 indicators related to education in sub-Saharan Africa.
- Create eye-catching graphics comparing data across years and across countries in sub-Saharan Africa and African and world country groupings.
- Download the dataset into formats compatible with most word-processing and spreadsheet programs.
- Copy the data and graphics into other Windows and non-Windows applications using the Windows Clipboard.

Introduction

The lack of availability of consistent and comprehensive information on the status of African education systems has long been a constraint to informed dialogue and education reform strategies. The Association for the Development of African Education (DAE) has begun to address this problem by sponsoring the compilation and dissemination of cross-country and -country group comparative data sets. The publication of the booklet *Statistical Profile of Education in sub-Saharan Africa in the 1980s* was the first step in this process. This Windows-based program, **Statistical Profile of Education in sub-Saharan Africa (SPESSA)**, is the second step in the dissemination of the data-sets. It provides the user with access to the data (compiled by the DAE from UNESCO and World Bank sources) in an interactive format.

Accessing the Data

SPESSA, designed for the DAE by USAID's Africa Bureau, allows the user to choose countries in sub-Saharan Africa and/or country groups in sub-Saharan Africa and the world from a map or a list. (See Appendix III for a list of the countries and country groups.) The user can then select indicators which are sorted into four groups: Country Information, Education Data, Education Indicators, and Education Finance. (See Appendix I for a list of the indicators.) The application processes the user's selections and presents them in graphic and spreadsheet formats. During the selection process, right-clicking on countries, country groups, indicator groups, and specific indicators gives the user further information on the selection, when available. The data and graphs can be printed or copied to the Windows Clipboard. The latter function allows the user to transfer the data or the graph to a temporary storage space and paste it into another application. The data can also be exported into a variety of formats including ASCII, Lotus 123, QuattroPro, and Microsoft Excel.

The Data

The data in **SPESSA** primarily provide information on the principal features of educational development for forty-seven countries in sub-Saharan Africa. They update to 1993 the data series first presented in the World Bank's 1988 *Education in Sub-Saharan Africa: Policies for Adjustment, Revitalization, and Expansion* and continued in *Education in Sub-Saharan Africa: Updated Statistical Tables* (World Bank 1990). These new tables are the most comprehensive, including, where available, data on South Africa and Namibia. The indicators have been calculated from data supplied by the Unesco Division of Statistics on Education and by research files and country documentation gathered by the Institut de recherche sur l'économie de l'éducation (IREDU) at the University of Burgundy in Dijon, France, supplemented by country documentation.

Although considerable effort has been made to standardize the data, statistical methods, coverage, practices, and definitions differ from country to country. Moreover, weaknesses in developing countries' statistical systems limit the availability and reliability of the data. The indicators should, therefore, be used to characterize the trends and major differences between countries and country groups rather than to show precise quantitative measures of those trends and differences.

Data Updates

It is the intention of the DAE to regularly update the **SPESSA** program when UNESCO is able to provide new data. The updated disks will be distributed to subscribers to **SPESSA**, and to all members of the DAE.

The User's Guide

For those unfamiliar with the Windows environment, this User's Guide includes a section explaining commonly-used "Windows Terms," a detailed "Getting Started" section, and a "Tutorial," all of which are highly recommended. The User's Guide also includes a "Quick Start" section for those familiar with Windows. Detailed information on each screen in the program, except the Introduction screen, can be found in the "Screens" section, which can be used as a reference as you move through the program.

Feedback

Please direct any feedback on **SPESSA** to the Executive Secretariat of the Association for the Development of African Education (DAE):

Association for the Development of African Education
c/o UNESCO: International Institute for Educational Planning
7-9 rue Eugène-Delacroix, 75116 Paris
Tel: (1) 45.03.37.96
Fax: (1) 45.03.39.65
Email: DSECRETARIAT1@WORLD BANK.ORG

C. Windows Terms

The following are common Windows-related terms used throughout this User's Guide.

Access Keys

Access keys are often provided as an alternative method of activating a button. The process involves pressing the Alt key on the keyboard in combination with the underlined letter in the button. For example, in the following example, you can either click on the **Select Countries** button to move to the Country Selection screen, or you can type **ALT-S** on the keyboard.

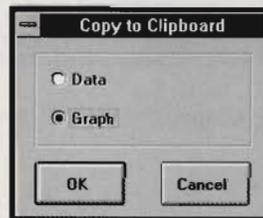


Click

Click means to press and immediately release the button on the mouse without moving the mouse. If you have a multiple-button mouse, "click" always refers to the left button. (See also "double-click" and "right-click.")

Dialog Box

A *dialog box* is a temporary window that requests information from the user.



Double-Click

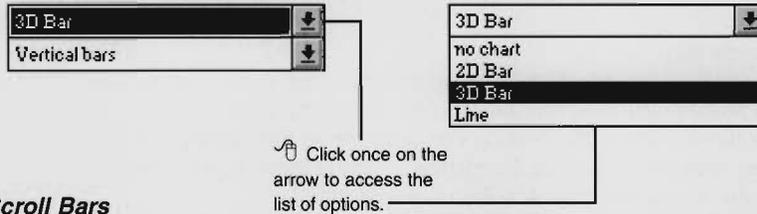
Double-click means to press and release the button on the mouse twice without moving the mouse. If you have a multiple-button mouse, "double-click" always refers to the left button. (See also "click" and "right-click.")

Drag

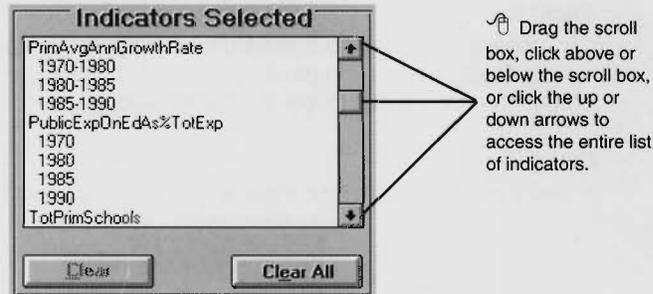
Drag means holding the mouse button down while selecting an item, and moving the mouse.

Drop-Down Box

A *drop-down box* is a list of options that is accessed by clicking on the corresponding down-arrow. The user can then scroll through the list and make a selection.

**Scroll Bars**

Scroll bars are used when there is not enough space in the box to view all of the text at one time. They can be found either along the right-hand side or the bottom of the box.

**Paste**

Pasting involves copying the contents of the Windows Clipboard into another application.

Right-Click 

If you have a multiple-button mouse, the left mouse button is the one you will use most frequently. The right mouse button is only used when you are instructed to "right-click." If you have a single-button mouse, pressing the CTRL key while clicking the button is the same as "right-clicking." (In the "Screens" section of this User's Guide, *right-click* functions are highlighted with the mouse icon.) (See also "click" and "double-click.")

Windows Clipboard

Copying to the *Windows Clipboard* allows you to transfer the graph or data to another Windows or non-Windows application. (You can view what you have copied into the Clipboard by opening the Clipboard Viewer in the Main program group in the Windows Program Manager.)

For more information on these and other Windows terms, please refer to your *Microsoft Windows™ User's Manual*.

D. Getting Started

Installing the Software

1. Insert **Disk 1** in drive A or B.
2. Start Windows.
3. In the Windows Program Manager, select the **File** menu and choose **Run**.
4. Type **a:\install** or **b:\install** (depending on the drive you are using) in the Command Line box and choose **OK**.
5. Follow installation instructions.

Starting

1. In the Windows Program Manager, open the program group that contains the **SPESSA** icon.
2. Double-click the **SPESSA** icon.



Introduction Screen

- » If you have already read the section "Introducing **SPESSA**" in this User's Guide, click the **Begin** button and wait while the lists of countries, country groups, and indicators are loaded. (This takes between 1 and 2 1/2 minutes depending on the speed of your computer. Please be patient.)

Selecting Countries

- » To select countries, click the **Select Countries** button.
- » Select countries by clicking once either on the map or in the alphabetical list of countries.
- » De-select countries by clicking a second time on a selection.



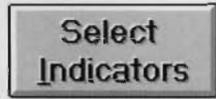
Selecting Country Groups

- » To select country groups, click the **Select Ctry Groups** button.
- » Select country groups by clicking once on the lists in the right-hand section of the screen.
- » De-select country groups by clicking a second time on a selection.
- » Right-click on the country groups to get an explanation of the country group as well as a list of all of the countries included in the group.



Selecting Indicators

- » To select indicators, click the **Select Indicators** button.
- » Choose from the five groups of indicators: **Country Information, Education Data, Education Indicators, Education Finance, and All Indicators**. (Right-clicking on these group names gives a short explanation of the grouping.)
- » Scroll through the list of indicators in the lower right-hand section of the screen to find the indicator(s) you want to select.
- » Select an indicator by clicking once on the name of the indicator to select all years, and de-select indicators/years by clicking on the highlighted selection.
- » Right-click on the indicator name to get a description of the indicator, when available, and specific notes on the data of the countries/country groups you have selected thus far.



Viewing the Data

- » To view the data, click the **View Data** button.
- » If you have more than one indicator selected, click once anywhere within the indicator's title or row of data to view that indicator's graph.
- » To manipulate the graphs, select options from the drop-down boxes in the upper-right corner of the screen.
- » To print, copy, and export the data, use the buttons in the upper-left corner of the screen.



Further Information

- » The tutorial in the next section takes you step-by-step through a sample data request.
- » The "Screens" section, pages 15 through 19, provides detailed information on the functionality of each of the five screens: *Main Menu, Country Selection, Country Group Selection, Indicator Selection* and *View Data*.

E. Tutorial

This tutorial will take you step-by-step through a sample data request. It assumes that you have completed the process of loading **SPESSA** as outlined in the "Getting Started" section. For explanations of Windows functions, please refer to the section of the User's Guide entitled "Windows Terms."

In this tutorial we will compare the data for Primary Gross Enrollment Ratios (1980 and 1990) and Females as a % of Total Primary Enrollment (1980 and 1990) of *Benin* and *Togo* against the median of *Francophone* sub-Saharan Africa.

Starting

1. Double-click the **SPESSA** icon in the Windows Program Manager to start the program.
2. Click the **Begin** button to load the data. (This takes between 1 and 2 1/2 minutes depending on the speed of your computer. Please be patient.)

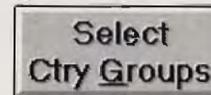
Selecting Countries

3. Click the **Select Countries** button.
4. Choose *Benin* either by clicking once on the country in the map on the left of the screen, or by clicking once on the country name in the alphabetical list on the right of the screen.
5. Choose *Togo* either by clicking once on the country in the map on the left of the screen, or by scrolling down the alphabetical list until *Togo* is in view and clicking on the country name.



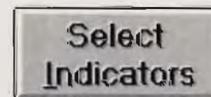
Selecting Country Groups

6. Click the **Select Ctry Groups** button.
7. Click once on the *Francophone* group under the sub-Saharan Africa country group list. Right-click on *Francophone* to see a list of the countries included in this country group.



Selecting Indicators

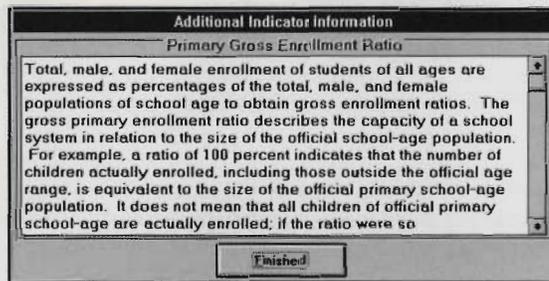
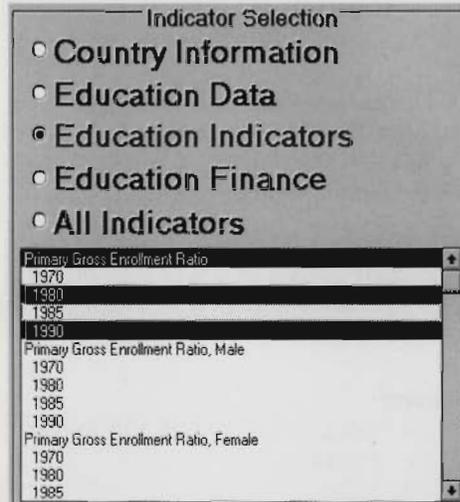
8. Click the **Select Indicators** button.
9. Click once on the **Education Indicators** group in the upper-right section of the screen. The indicators in this group will now be listed in the box in the lower-right section.



10. Click once on the first indicator in the list, Primary Gross Enrollment Ratio. All of the available dates will be highlighted.

11. Click once on each of the dates that you are not interested in for the tutorial, 1970 and 1985, and these dates will be de-selected. (This outcome can also be accomplished by initially clicking once on both the 1980 and 1990 in the list directly under Primary Gross Enrollment Ratio.)

12. Right-click on the indicator name, Primary Gross Enrollment Ratio, to access further information on your current selection. The dialog box that appears will include a definition of gross enrollment ratio and notes specific to the data of the countries and country group you have selected. Scroll down the dialog box to view the full text and notes. To access notes specific to the 1980 or 1990 data, right-click on the specific date of interest.



13. Click once on the **Education Data** group in the upper-right section of the screen. The indicators in this group will now be listed in the box in the lower-right section.

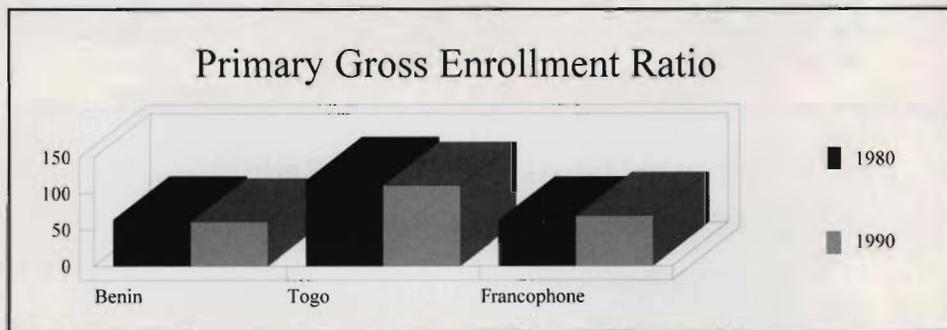
14. Scroll down the list until the indicator Females as a % of Total Primary Enrollment is in view.

15. Click once on both the 1980 and 1990 under the indicator name.

16. Right-click on the indicator name, Females as a % of Total Primary Enrollment, to access further information on your current selection. The dialog box that appears will include a description of the indicator and notes specific to the data of the countries and country group you have selected. Scroll down the dialog box to view the full text and notes. To access notes specific to the 1980 or 1990 data, right-click on the specific date of interest.

Viewing the Data

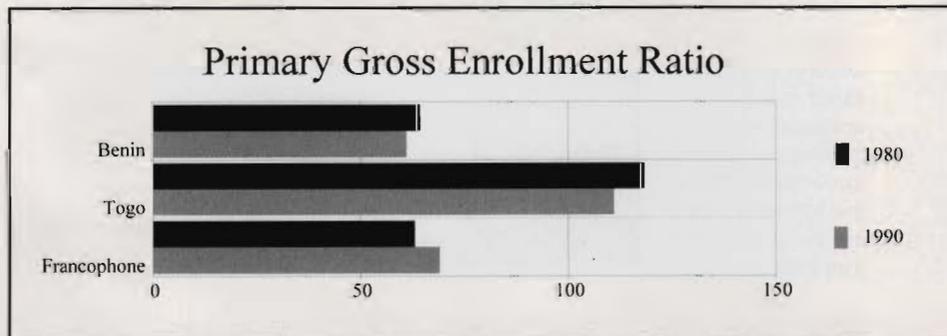
17. Click the **View Data** button to view the data in both graph and spreadsheet format. The indicator selected first will be the default graph. (Click the **Toggle Legend** button until the countries and country group are along the x-axis.)



[Note: The graph tells you that both Benin and Togo had a slight decline in primary GER between 1980 and 1990, whereas for all Francophone countries, there was a slight increase in GER.]

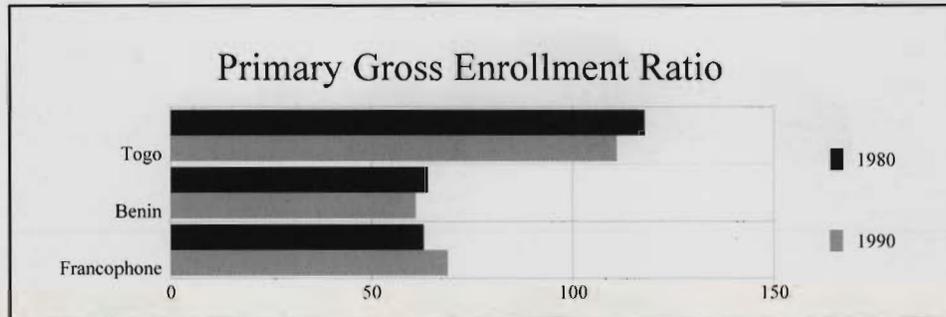
Manipulating the Graph

18. Choose the following options from the drop-down boxes in the top-right corner of the screen: 2D Bar, Horizontal, Both grids.



19. Click the **Tall View** button at the top of the screen to view the data and the graph side-by-side.
20. Click the **Wide View** button to return the graph to the default setting.

21. Change the order of the countries in the graph by returning to the *Select Countries* screen by clicking the **Select Countries** button. Click the **Select None** button, and re-select *Togo* and *Benin*, this time with *Togo* as your first selection, and *Benin* your second.
22. Click the **View Data** button. The style of graph will be the same as when you left the *View Data* screen, but the countries will be switched in both the graph and the spreadsheet.

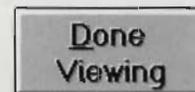


23. Click the small button with a plus (“+”) sign in the upper right-hand corner of the graph to maximize the graph to the full screen. Click the same button, which now shows a minus (“-”) sign to return the graph to the default setting.
24. To **Print**, **Export**, or **Copy** to the Windows Clipboard either the graph or the data, click the corresponding button at the top of the screen.

25. Choose the second indicator listed in the spreadsheet by clicking once anywhere within the indicator title or row of data for that indicator.

Indicators	Togo	Benin	Francophone
Primary Gross Enrollment Ratio			
1980	118	64	63
1990	111	61	69
Females as a % of Total Primary Enrollment			
1980	38	32	40
1990	39	34	42

26. Clear your selections by clicking the **Done Viewing** button and choosing **Yes**.



F. Screens

Main Menu

This button functions only when you have highlighted one of the selected countries or country groups listed in the adjacent boxes. It then allows you to clear the selection you have highlighted.

The map is a miniature version of the one in the *Country Selection* screen (see p. 16). It highlights those countries and/or sub-Saharan African country groups you have selected.

These boxes display the countries and country groups you have selected.

This button functions only when you have country(ies) or country group(s) selected. Clicking this button allows you to clear all of your selections.

This box displays in list form the indicators you have selected.

Click this button to go to the *Country Selection* screen (see p. 16).

This button allows you to return to the *Introduction* screen.

This button provides you with help text.

Click this button to go to the *Country Group Selection* screen (see p. 17).

Click this button to go to the *Indicator Selection* screen (see p. 18).

This button functions only when you have selected countries and/or country groups and indicators. Once they have been selected, clicking this button takes you to the *View Data* screen where you can view, print, copy, and export the data.

Click this button to exit the program at any time.

Country Selection

Moving your mouse over the map provides the names of the countries in sub-Saharan Africa. Clicking once on a country selects a country; clicking a second time de-selects it.

This box lists the countries you have selected. You **cannot** de-select countries here.

This box lists the country groups you have selected. You **cannot** de-select country groups here.

Click this button to go to the *Main Menu* screen (see p. 15).

Click this button to go to the *Country Group Selection* screen (see p. 17).

Click this button to go to the *Indicator Selection* screen (see p. 18).

This button functions only when you have selected countries and/or country groups and indicators. Once they have been selected, clicking this button takes you to the *View Data* screen where you can view, print, copy, and export the data.

Click this button to exit the program at any time.

This button provides you with help text.

These buttons allow you to select all of the available countries, or de-select all of the countries you have selected.

Drag the scroll box through the countries, or click in the scroll bar above or below the scroll box to move through the list.

You can match countries to their sub-Saharan African country groups by **right-clicking** on the country name.

This box lists alphabetically the countries in sub-Saharan Africa. Clicking once on a country selects a country; clicking a second time de-selects it.

The screenshot shows a window titled "Country Selection" with a map of Africa on the left and a list of countries on the right. The list includes: Côte d'Ivoire, Djibouti, Equatorial Guinea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, and Somalia. Below the list are "Select All" and "Select None" buttons. At the bottom of the window are buttons for "Main Menu", "Select Ctry Groups", "Select Indicators", "View Data", "Exit", and "?".

Country Group Selection

This map highlights the countries included in the sub-Saharan Africa country groups as you select them from the list.

This box lists the country groups in sub-Saharan Africa. The countries have been grouped linguistically and economically.

Right-clicking on a country group name gives an explanation of the grouping and a list of the countries included in the group.

This box lists country groups in the World. The countries have been grouped according to World Bank and UNESCO groupings. There is minimal data in this database for these groupings. Please see Appendix IV for the list of indicators available for these groups.

This box lists the countries you have selected. You cannot de-select countries here.

This box lists the country groups you have selected. You cannot de-select country groups here.

Click this button to go to the *Country Selection* screen (see p. 16).

Click this button to go to the *Main Menu* screen (see p. 15).

Click this button to go to the *Indicator Selection* screen (see p. 18).

This button functions only when you have selected countries and/or country groups and indicators. Once they have been selected, clicking this button takes you to the *View Data* screen where you can view, print, copy, and export the data.

Click this button to exit the program at any time.

These buttons allow you to select all of the available country groups, or de-select all of the country groups you have selected.

This button provides you with help text.

Indicator Selection

The map is a miniature version of the one in the *Country Selection* screen (see p. 16). It highlights those countries and/or sub-Saharan African country groups you have selected.

These boxes list the countries and country groups you have selected.

Click on the indicator group from which you would like to choose an indicator, or click on All Indicators to have access to all of the indicators in one list. The indicators will be listed in the box below. (See Appendix I for a list of indicators included in this database.)

Right-clicking on the name of an indicator group will give you a short description of the group.

Right-clicking on an indicator name will provide you with a description of the indicator and, when necessary, specific notes on the data of the country(ies) and/or country group(s) you have selected.

This button functions only when you have highlighted one of the selected countries or country groups listed in the adjacent boxes. It then allows you to clear the selection you have highlighted.

This button functions only when you have country(ies) or country group(s) selected. Clicking this button allows you to clear all of your selections.

Click this button to go to the *Country Selection* screen (see p. 16).

Click this button to go to the *Country Group Selection* screen (see p. 17).

Click this button to go to the *Main Menu* screen (see p. 15).

This button functions only when you have selected countries and/or country groups and indicators. Once they have been selected, clicking this button takes you to the *View Data* screen where you can view, print, copy, and export the data.

Click this button to exit the program at any time.

This button provides you with help text.

These buttons allow you to select all of the available indicators, or deselect all of the indicators you have selected.

The interface includes the following sections and controls:

- Areas Selected:** A map of Africa and a list of countries (Ghana, Sao Tome and Principe, Somalia).
- Country Groups:** A list containing 'Anglophone'.
- Indicators Selected:** A list of indicators such as 'PrimFemalesAc%TotEnr' and 'PrimEnrollmentTot' with years 1970, 1980, 1985, 1990.
- Indicator Selection:** A list of indicator groups: Country Information, Education Data (selected), Education Indicators, Education Finance, All Indicators.
- Indicator List:** A scrollable list of indicators including 'Total Primary Enrollment (1000s)', 'Females as a % of Total Primary Enrollment', '% of Priv. Prim. Students of Total Prim. Students', and 'Primary School Teachers (1000s)'.
- Buttons:** Clear, Clear All, Select Countries, Select Ctry Groups, Main Menu, View Data, Exit, and a help icon (?).

View Data

NEW: Gives you the option to return to the *Main Menu*, clearing your selections.

EXPORT: Exports the data to a variety of formats listed in the File Type drop-down box.

TALL (WIDE) VIEW: Toggles the screen so that you can view the data and the graph side-by-side -- Tall, or the graph above the data -- Wide.

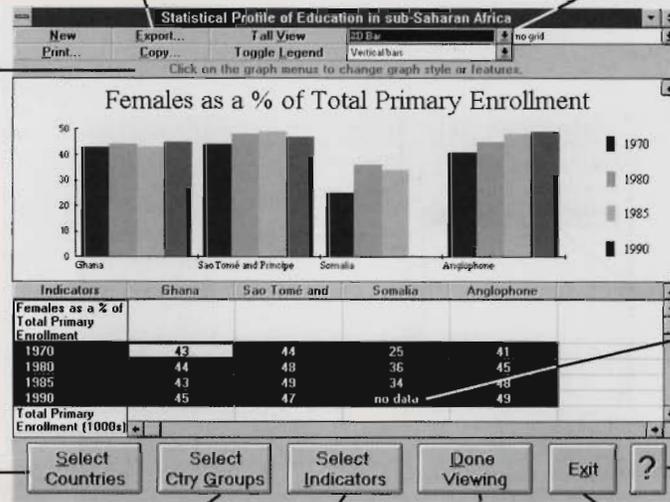
PRINT: Prints either the data or the current graph.

COPY: Copies the data or the current graph to the Windows Clipboard.

TOGGLE LEGEND: Exchanges areas with variables in the graph.

These drop-down boxes enable you to manipulate the graph style and features.

As your mouse moves over the screen, text in this space provides further information about the various features.



Clicking these buttons will maximize the graph or spreadsheet to the full screen.

When no data is available, this note is shown in the spreadsheet.

Click this button to go to the *Main Menu* screen (see p. 15).

This button provides you with help text.

Click this button to go to the *Country Group Selection* screen (see p. 17).

Click this button to go to the *Indicator Selection* screen (see p. 18).

Click this button to return to the *Main Menu* with or without clearing your current selections.

Click this button to exit the program at any time.

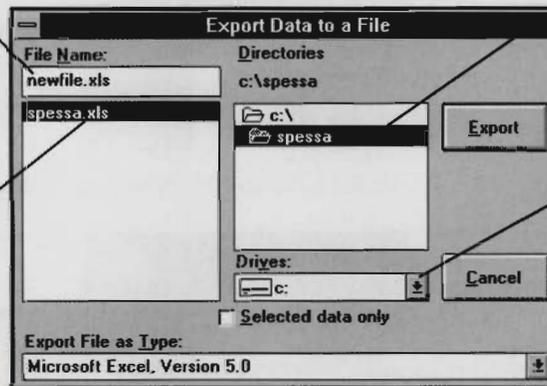
G. Exporting the Data

Data in **SPESSA** can be exported to a number of file formats:

Microsoft Excel, Versions 2.X - 5.0 (*.xls)
 Lotus 123, Versions 1X - 5.0 (*.wks, *.wk1, *.wk3, *.wk4)
 dBase II - IV (*.dbf)
 Quattro Pro (*.wkq)
 Data Interchange Format (*.dif)
 Microsoft Symbolic Link Format (*.syl)
 ASCII (Comma delimited with minimal quoting) (*.csv)
 ASCII (Tab delimited) (*.txt)

Name your exported file in this box. If you do not specify an extension, **SPESSA** will automatically give the file its proper three-character extension (e.g., *.xls for an Excel file or *.wkq for a QuattroPro file).

This box displays the files in the current directory of the chosen file type. There is one *.xls file already in this directory, *spessa.xls*.



This box lists the available directories to which you can save your file.

Clicking on this arrow allows you to choose the drive on which you want to save your file.

Clicking on this arrow will provide you with a list of the file types you can choose from.

Once you have exported the data to a file, you can retrieve or open the file in a variety of word-processing and spreadsheet programs, depending on which file formats they accept. For example, QuattroPro for Windows version 5.00 accepts files of the following formats:

Microsoft Excel (*.xls)
 Lotus 123 (*.wks, *.wk1, *.wk3)
 dBase (*.dbf)
 Data Interchange Format (*.dif)
 ASCII (tab delimited) (*.txt)
 QuattroPro (*.wkq)

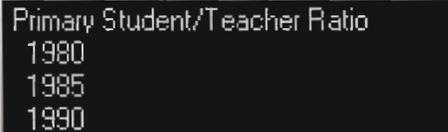
H. Notes on Data

Right-Clicking

When country(ies) and/or country group(s) have been selected, the user can go to the *Indicator Selection* screen, right-click on the indicator of interest, and access a general description of the indicator and technical notes on the indicator as it relates to the chosen country(ies) and/or country group(s), when available. [General descriptions of the indicators can be accessed regardless of whether or not any areas have been selected.]

Right-click here for technical notes on all available years.

Right-click on a specific year for technical notes on that year alone.



Primary Student/Teacher Ratio
1980
1985
1990

Methodology and Technical Notes

Estimates of enrollment and teaching force have been used when no observed data were available. These estimates have been calculated by fitting the least-squares regression line to available enrollment data to obtain enrollment estimates. As they are included only to obtain more valid aggregate measures, these estimates should not be interpreted as precise quantitative indicators of enrollment.

All dollar figures are U.S. dollars.

All monetary growth rates are in constant prices. In the **Education Indicators** group, growth rates have been computed with the use of the compound growth rate equation

$$x_t = x_0(1 + r)^t$$

where x is the variable, t is time, and r is the growth rate.

Growth rates are computed for those countries for which data for the first and last years are available, and hence may not appear at first glance to be consistent with regional and sub-regional totals. To illustrate this concern, consider one example: The sub-total of public expenditure on education in constant 1990 US\$ (millions) by the middle-income oil importers fell from 6438.0 in 1985 to 6434.4 in 1990. This database, however, shows a 1985-90 average annual growth rate of 1.9% for that country grouping. This apparent contradiction can be explained by the fact that *Côte d'Ivoire* is excluded from the calculation of the growth rate, since it shows a figure for 1985 only. When the 1985 *Côte d'Ivoire* figure of 588.3 is excluded, a growth rate of 1.9% is obtained from the adjusted sub-totals of 5849.7 for 1985 and 6434.4 for 1990.

Appendix I: List of Indicators (and Abbreviations) by Indicator Groups

Following is a list of all of the indicators included in **SPESSA**, as well as abbreviations that are used in the boxes showing which indicators you have selected thus far on the *Main Menu* and the *Indicator Selection* screen (see pages 15 and 18).

COUNTRY INFORMATION

Population (millions)	Population
Area (thousands of sq. kilometers)	Area
GNP/Capita (in \$)	GNP/Capita
GNP/Capita: Avg. Annual Growth Rate (%)	GNPGrowthRate
Life Expectancy at Birth (yrs)	LifeExpectancy
Average Annual Growth of Population (%)	PopAvgAnnGro
Age Structure of Population (%)	AgeStructure
Total Fertility Rate	TotFertilityRate
Infant Mortality Rate (per 1000 live births)	InfantMortRate
Avg. Annual Rate of Inflation (%)	Inflation
Languages	Languages
Ethnic Groups	EthnicGroups
Major Imports	MajorImports
Major Exports	MajorExports
Natural Resources	NaturalResources
Agricultural Products	AgricProducts
Major Industries	MajorIndustries

EDUCATION DATA

Official School Starting Age	OfficialSchoolStartAge
Literates as % of Adult Pop.	AdultLiteracyTot
Literates as % of Adult Pop., Male	AdultLiteracyMale
Literates as % of Adult Pop., Female	AdultLiteracyFemale
School-Age Pop. as a % of Total Pop.	SchoolAgePop%TotPop
Duration of Primary Cycle (years)	DurationOfPrimCycle
Primary School-Age Population (millions)	PrimSchoolAgePop
Total Number of Primary Schools	TotPrimSchools
Total Number of Priv. Primary Schools	TotPrivPrimSch
Total Primary Enrollment (1000s)	PrimEnrollmentTot
Females as a % of Total Primary Enrollment	PrimFemalesAs%TotEnr
% of Priv. Prim. Students of Total Prim. Students	%PrivatePrimStudentsOfTot
Primary School Teachers (1000s)	PrimTeachers
% of Female Teachers in Primary Schools	%FemalePrimTeachers
Duration of Secondary Cycle (years)	DurationOfSecCycle
Secondary School-Age Population (millions)	SecSchoolAgePop
Total Number of Secondary Schools	TotSecSchools
Total Number of Priv. Secondary Schools	TotPrivSecSch

Total Secondary Enrollment (1000s)	SecEnrollmentTot
Females as a % of Total Secondary Enrollment	SecFemalesAs%TotEnr
% of Priv. Sec. Students of Total Sec. Students	%PrivateSecStudentsOfTot
Secondary School Teachers (1000s)	SecTeachers
% of Female Teachers in Secondary Schools	%FemaleSecTeachers
% of Sec. Students in General Ed.	%SecStudentsInGeneralEd
% of Secondary Students in Teacher Training	%SecStudentsInTchrTrain
% of Secondary Students in Voc./Tech.	%SecStudentsInVoc/Tech
Females as a % of Secondary General Ed. Students.....	FemalesAs%SecGenEdEnr
Females as a % of Secondary Teacher Training Students.....	FemalesAs%SecTchrTrainEnr
Females as a % of Secondary Voc/Tech Students.....	FemalesAs%SecVocTechEnr
Total Tertiary Enrollment (1000s)	TerEnrollmentTot
Females as a % of Total Tertiary Enrollment	TerFemalesAs%TotEnr
% of Tertiary Students in the Arts	%TerStudentsInArts
% of Tertiary Students in the Sciences	%TerStudentsInSciences
% of Tertiary Students in Other	%TerStudentsInOther
Females as a % of Tertiary Arts Students	TerFemalesAs%ofArtsEnr
Females as a % of Tertiary Science Students	TerFemalesAs%ofScienceEnr

EDUCATION INDICATORS

Primary Gross Enrollment Ratio	PrimaryGER
Primary Gross Enrollment Ratio, Male	PrimaryMaleGER
Primary Gross Enrollment Ratio, Female	PrimaryFemaleGER
Prim. Enrollment: Avg. Annual Growth Rate (%)	PrimAvgAnnGrowthRate
Primary Student/Teacher Ratio	PrimStudent/TchrRatio
Primary Repeaters as a % of Total Enrollment	PrimRepeatersAs%TotEnr
Proportion of Prim. Cohort (1000) to Final Grade	#ofPrimCohortToFinalGr
Proportion of Prim. Cohort (1000) to Final Grade, Fem.	#ofFemPrimCohortToFinalGr
Avg. # of Years to Complete Prim. Cycle	Avg#YrsToCompletePrimCycle
Transition from last grade of Prim. to first grade of Sec. (%)	TransFromPrimToSec
Transition from last grade of Prim. to first grade of Sec., Fem.(%)	TransOfFemFromPrimToSec
Secondary Gross Enrollment Ratio	SecondaryGER
Secondary Gross Enrollment Ratio, Male	SecondaryMaleGER
Secondary Gross Enrollment Ratio, Female	SecondaryFemaleGER
Sec. Enrollment: Avg. Annual Growth Rate (%)	SecAvgAnnGrowthRate
Secondary Student/Teacher Ratio	SecStudent/TchrRatio
Sec. Repeaters as a % of Total Enrollment	SecRepeatersAs%TotEnr
Tertiary Enrollment: Avg. Annual Growth Rate (%)	TerAvgAnnGrowthRate

EDUCATION FINANCE

Public Expend. on Ed. in constant 1990 US\$ (millions)	PublicExpendituresOnEd
Avg. Annual Gr. Rate of Pub. Expend. on Ed. (in 1990 US\$)	AvgAnnGrowthOfExpOnEd
Public Expenditures on Ed. as a % of Total Govt. Expend.	PublicExpOnEdAs%TotExp
Public Expenditures on Ed. as a % of GNP	PublicExpOnEdAs%GNP
% of Public Recurrent Expenditures to Prim. Ed.	%PubRecurrentExpOnPrim
Primary Unit Cost	PrimUnitCost
Expenditures in US\$ per Prim. Student on Admin.	Exp/PrimStudentOnAdmin

Expenditures in US\$ per Prim. Student on Teachers	Exp/PrimStudentOnTeachers
Expenditures in US\$ per Prim. Student on Teaching Materials	Exp/PrimStudentOnMaterials
% of Public Recurrent Expend. on Prim. Teachers	%PrimRecurrentExpOnTeachers
Avg. Prim. Teacher Salary & Benefits (multiple of income/capita)	AvgPrimTchrSal-MultInc/Cap
% of Public Recurrent Expenditures to Sec. Ed.	%PubRecurrentExpOnSec
Secondary Unit Cost	SecUnitCost
Expenditures in US\$ per Sec. Student on Admin.	Exp/SecStudentOnAdmin
Expenditures in US\$ per Sec. Student on Teachers	Exp/SecStudentOnTeachers
Expenditures in US\$ per Sec. Student on Teaching Materials	Exp/SecStudentOnMaterials
Expenditures in US\$ per Sec. Student on Scholarships	Exp/SecStudentOnScholar
% of Public Recurrent Expenditures on Sec. Teachers	%SecRecurrentExpOnTeachers
Avg Sec. Teacher Salary & Benefits (multiple of income/capita)	AvgSecTchrSal-MultInc/Cap
% of Public Recurrent Expend. to Tertiary Ed.	%PubRecurrentExpOnTer
% of Public Recurrent Expend. to Unspecified	%PubRecurrentExpOnUnspec
Tertiary Unit Cost	TerUnitCost

Appendix II: Alphabetical List of Indicators (Abbreviations)

#ofFemPrimCohortToFinalGr	MajorImports
#ofPrimCohortToFinalGr	MajorIndustries
%FemalePrimTeachers	NaturalResources
%FemaleSecTeachers	OfficialSchoolStartAge
%PrimRecurrentExpOnTeachers	PopAvgAnnGro
%PrivatePrimStudentsOfTot	Population
%PrivateSecStudentsOfTot	PrimaryFemaleGER
%PubRecurrentExpOnPrim	PrimaryGER
%PubRecurrentExpOnSec	PrimaryMaleGER
%PubRecurrentExpOnTer	PrimAvgAnnGrowthRate
%PubRecurrentExpOnUnspec	PrimEnrollmentTot
%SecRecurrentExpOnTeachers	PrimFemalesAs%TotEnr
%SecStudentsInGeneralEd	PrimRepeatersAs%TotEnr
%SecStudentsInTchrTrain	PrimSchoolAgePop
%SecStudentsInVoc/Tech	PrimStudent/TchrRatio
%TerStudentsInArts	PrimTeachers
%TerStudentsInOther	PrimUnitCost
%TerStudentsInSciences	PublicExpendituresOnEd
AdultLiteracyFemale	PublicExpOnEdAs%GNP
AdultLiteracyMale	PublicExpOnEdAs%TotExp
AdultLiteracyTot	SchoolAgePop%TotPop
AgeStructure	SecAvgAnnGrowthRate
AgricProducts	SecEnrollmentTot
Area	SecFemalesAs%TotEnr
Avg#YrsToCompletePrimCycle	SecondaryFemaleGER
AvgAnnGrowthOfExpOnEd	SecondaryGER
AvgPrimTchrSal-MultInc/Cap	SecondaryMaleGER
AvgSecTchrSal-MultInc/Cap	SecRepeatersAs%TotEnr
DurationOfPrimCycle	SecSchoolAgePop
DurationOfSecCycle	SecStudent/TchrRatio
EthnicGroups	SecTeachers
Exp/PrimStudentOnAdmin	SecUnitCost
Exp/PrimStudentOnMaterials	TerAvgAnnGrowthRate
Exp/PrimStudentOnTeachers	TerEnrollmentTot
Exp/SecStudentOnAdmin	TerFemalesAs%ofArtsEnr
Exp/SecStudentOnMaterials	TerFemalesAs%ofScienceEnr
Exp/SecStudentOnScholar	TerFemalesAs%TotEnr
Exp/SecStudentOnTeachers	TerUnitCost
GNP/Capita	TotFertilityRate
GNPGrowthRate	TotPrimSchools
InfantMortRate	TotPrivPrimSch
Inflation	TotPrivSecSch
Languages	TotSecSchools
LifeExpectancy	TransFromPrimToSec
MajorExports	TransOfFemFromPrimToSec

**Appendix III:
Countries and Country Groups (sub-Saharan Africa and World)**

COUNTRIES OF SUB-SAHARAN AFRICA

Angola	Malawi
Benin	Mali
Botswana	Mauritania
Burkina Faso	Mauritius
Burundi	Mozambique
Cameroon	Namibia
Cape Verde	Niger
Central African Rep.	Nigeria
Chad	Rwanda
Comoros	Sao Tomé & Príncipe
Congo	Senegal
Côte d'Ivoire	Seychelles
Djibouti	Sierra Leone
Equatorial Guinea	Somalia
Ethiopia	South Africa
Gabon	Sudan
Gambia	Swaziland
Ghana	Tanzania
Guinea	Togo
Guinea-Bissau	Uganda
Kenya	Zaire
Lesotho	Zambia
Liberia	Zimbabwe
Madagascar	

N.B. This version of SPSSA does not include Eritrea. 1992 and 1993 data for Eritrea are available in the printed version of the *Statistical Profile of Education in sub-Saharan Africa, 1990-1993*. Through 1991, Eritrea is implicit in the Ethiopian data.

**SUB-SAHARAN AFRICAN COUNTRIES CLASSIFIED
BY LINGUISTIC AND ECONOMIC STATUS**

Francophone (n=21)	Anglophone (n=18)	Other (n=8)
<i>Low-income semiarid (n=7)</i>		
Burkina Faso	Gambia	Somalia
Chad		
Mali		
Niger		
Mauritania		
<i>Low-income other (n=25)</i>		
Benin	Ghana	Ethiopia
Burundi	Kenya	Equatorial Guinea
Central African Rep.	Lesotho	Guinea-Bissau
Comoros	Liberia	Mozambique
Guinea	Malawi	Sao Tomé & Príncipe
Madagascar	Nigeria	
Rwanda	Sierra Leone	
Togo	Sudan	
Zaire	Tanzania	
	Uganda	
	Zambia	
<i>Middle-income oil importers (n=11)</i>		
Côte d'Ivoire	Botswana	Cape Verde
Djibouti	Mauritius	
Senegal	Namibia	
Seychelles	South Africa	
	Swaziland	
	Zimbabwe	
<i>Middle-income oil exporters (n=4)</i>		
Cameroon		Angola
Congo, The		
Gabon		

To determine these sub-groupings, the countries of sub-Saharan Africa are first classified into two major economic groups — low-income and middle-income. Those countries with 1990 per capita incomes of less than \$500 are classified as low-income economies; those with income greater than \$500 are middle-income economies. Both the data and the classification are taken from the UNDP's *Human Development Report* of 1993. The economies are further classified to distinguish low-income semiarid from other low-income economies and middle-income oil exporters from middle-income oil importers. The resulting country groupings are organized by linguistic status.

OTHER COUNTRY GROUPS (WORLD)

World Bank Groupings

The main criterion used to classify economies and broadly distinguish different stages of economic development is GNP per capita. The per capita income groups are low-income, \$675 or less in 1992 (42 economies); middle-income, \$676 to \$8,355 (67 economies); and high-income, \$8,356 or more (23 economies).

Low Income Economies, classified by region:

East and Southern Africa: Burundi, Comoros, Eritrea, Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mozambique, Rwanda, Somalia, Sudan, Tanzania, Uganda, Zaire, Zambia, Zimbabwe.

West Africa: Benin, Burkina Faso, Central African Republic, Chad, Equatorial Guinea, The Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Sao Tomé and Príncipe, Sierra Leone, Togo.

East Asia and Pacific: Cambodia, China, Indonesia, Lao PDR, Myanmar, Viet Nam.

South Asia: Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka.

Eastern Europe and Central Asia: Tajikistan.

Middle East: Republic of Yemen.

North Africa: Arab Republic of Egypt.

Americas: Guyana, Haiti, Honduras, Nicaragua.

Middle-Income Economies, classified by region:

East and Southern Africa: Angola, Botswana, Djibouti, Mauritius, Mayotte, Namibia, Reunion, Seychelles, South Africa, Swaziland.

West Africa: Cameroon, Cape Verde, Congo, Côte d'Ivoire, Gabon, Senegal.

East Asia and Pacific: American Samoa, Fiji, Guam, Kiribati, Democratic Republic of Korea, Republic of Korea, Macao, Malaysia, Marshall Islands, Federated States of Micronesia, Mongolia, N. Mariana Islands, New Caledonia, Papua New Guinea, Philippines, Solomon Islands, Thailand, Tonga, Vanuatu, Western Samoa.

Eastern Europe and Central Asia: Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Krygyz Republic, Latvia, Lithuania, Macedonia FYR, Moldova, Poland, Romania, Russian Federation, Slovak Republic, Slovenia, Turkmenistan, Ukraine, Uzbekistan, Federal Republic of Yugoslavia.

Rest of Europe: Gibraltar, Greece, Isle of Man, Malta, Portugal, Turkey.

Middle East: Bahrain, Islamic Republic of Iran, Iraq, Jordan, Lebanon, Oman, Saudi Arabia, Syrian Arab Republic.

North Africa: Algeria, Libya, Morocco, Tunisia.

Americas: Antigua and Barbuda, Argentina, Aruba, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, French Guiana, Grenada, Guadeloupe, Guatemala, Jamaica, Martinique, Mexico, Netherland Antilles, Panama, Paraguay, Peru, Puerto Rico, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay, Venezuela.

High-Income Economies, classified by region:

East Asia and Pacific: Australia, Brunei, China, French Polynesia, Hong Kong, Japan, New Zealand, Singapore, Taiwan.

Rest of Europe: Andorra, Austria, Belgium, Channel Islands, Cyprus, Denmark, Faeroe Islands, Finland, France, Germany, Greenland, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, San Marino, Spain, Sweden, Switzerland, United Kingdom.

Middle East: Israel, Kuwait, Qatar, United Arab Emirates.

Americas: The Bahamas, Bermuda, Canada, United States, Virgin Islands (US).

UNESCO Groupings

Developing Countries: This group comprises all countries in the Sub-Saharan Africa, Arab States, Latin America/Caribbean, Eastern Asia/Oceania, and Southern Asia categories, plus Cyprus, Turkey, and the countries of the former Yugoslavia.

Sub-Saharan Africa: This group comprises Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Djibouti, Equatorial Guinea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tomé & Príncipe, Senegal, Seychelles, Sierra Leone, Somalia, Sudan, Swaziland, Togo, Uganda, United Republic of Tanzania, Zaire, Zambia, and Zimbabwe. (Djibouti, Mauritania, Somalia and Sudan are included under both Sub-Saharan Africa and Arab States.)

Arab States: This group comprises Algeria, Bahrain, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libyan Arab Jamahiriya, Mauritania, Morocco, Oman, Qatar, Saudi Arabia, Somalia, Sudan, Syrian Arab Republic, Tunisia, United Arab Emirates, and Yemen. (Djibouti, Mauritania, Somalia and Sudan are included under both Sub-Saharan Africa and Arab States.)

Latin America/Caribbean: This group comprises Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, British Virgin Islands, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Netherlands Antilles, Nicaragua, Panama, Paraguay, Peru, Saint Christopher and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay and Venezuela.

Eastern Asia/Oceania: This group comprises Brunei Darusalam, Cambodia, China, Democratic People's Republic of Korea, Fiji, Hong Kong, Indonesia, Kiribati, Lao People's Democratic Republic, Malaysia, Mongolia, Myanmar, Papua New Guinea, Philippines, Republic of Korea, Samoa, Singapore, Thailand, Tonga, Tuvalu, and Vietnam.

Southern Asia: This group comprises Afghanistan, Bangladesh, Bhutan, India, Islamic Republic of Iran, Maldives, Nepal, Pakistan and Sri Lanka.

Developed Countries: This group comprises all countries in the Northern America, Asia and Oceania, and Europe and Former USSR categories, plus South Africa.

Northern America: This group comprises Canada and the United States of America.

Asia and Oceania: This group comprises Australia, Israel, Japan and New Zealand.

Europe and Former USSR: This group comprises Albania, Austria, Belgium, Bulgaria, the former Czechoslovakia, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Monaco, Netherlands, Norway, Poland, Portugal, Romania, San Marino, Spain, Sweden, Switzerland, United Kingdom and the countries of the former USSR (Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Republic of Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan).

**Appendix IV:
Indicators Available for World Country Groups**

WORLD BANK GROUPS (for description, see Appendix III):

Country Information

GNP/Capita (in \$), 1992
 GNP/Capita: Avg. Annual Growth Rate (%), 1980-1992
 Life Expectancy at Birth (yrs), 1992
 Average Annual Growth of Population (%), 1970-1980, 1980-1992
 Age Structure of Population (%), 0-14 yrs., 15-64 yrs., 1990
 Total Fertility Rate, 1970, 1992
 Infant Mortality Rate (per 1000 live births), 1970, 1992
 Avg. Annual Rate of Inflation (%), 1970-1980, 1980-1992

Education Indicators

Primary Gross Enrollment Ratio, 1990
 Primary Gross Enrollment Ratio, Female, 1990
 Primary Student/Teacher Ratio, 1990
 Secondary Gross Enrollment Ratio, 1990
 Secondary Gross Enrollment Ratio, Female, 1990

UNESCO GROUPS (for description, see Appendix III):

Country Information

Population (millions), 1992
 GNP/Capita (in \$), 1992
 GNP/Capita: Avg. Annual Growth Rate (%), 1980-1992
 Average Annual Growth of Population (%), 1980-1992

Education Data

Literates as % of Adult Pop., 1980, 1985, 1990
 Literates as % of Adult Pop., Male, 1980, 1985, 1990
 Literates as % of Adult Pop., Female, 1980, 1985, 1990
 Total Primary Enrollment (1000s), 1980, 1990
 Females as a % of Total Primary Enrollment, 1980, 1990
 Primary School Teachers (1000s), 1980, 1990
 % of Female Teachers in Primary Schools, 1980, 1990
 Total Secondary Enrollment (1000s), 1980, 1990
 Females as a % of Total Secondary Enrollment, 1980, 1990
 Secondary School Teachers (1000s), 1980, 1990
 % of Female Teachers in Secondary Schools, 1980, 1990
 Total Tertiary Enrollment (1000s), 1980, 1990
 Females as a % of Total Tertiary Enrollment, 1980, 1990

Education Indicators

Primary Gross Enrollment Ratio, 1970, 1980, 1990
Primary Gross Enrollment Ratio, Male, 1980, 1990
Primary Gross Enrollment Ratio, Female, 1980, 1990
Primary Student/Teacher Ratio, 1980, 1990
Primary Repeaters as a % of Total Enrollment, 1980, 1990
Secondary Gross Enrollment Ratio, 1970, 1980, 1990
Secondary Gross Enrollment Ratio, Male, 1980, 1990
Secondary Gross Enrollment Ratio, Female, 1980, 1990
Secondary Student/Teacher Ratio, 1980, 1990

Education Finance

Public Expend. on Ed. in constant 1990 US\$ (millions), 1980, 1985, 1990
Public Expenditures on Ed. as a % of GNP, 1980, 1985, 1990
Primary Unit Cost, 1970, 1980, 1990
Secondary Unit Cost, 1970, 1980, 1990
Tertiary Unit Cost, 1970, 1980, 1990

Appendix V: Data Sources and Bibliography

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