

IMPS - Getting Started

IMPS 4.1 U.S. Bureau of the Census

Introduction

What is IMPS?

The Integrated Microcomputer Processing System (IMPS) is a software package for entry, editing, tabulation, management, and dissemination of census and survey data. This release continues progress toward a complete Windows version of IMPS. It is a combination of IMPS 3.1 for DOS and several Windows modules. IMPS 4.1 lets you create and maintain data dictionaries, perform cross-tabulations with or without geographic areas, sort data files, view table and text files, and display geographic area tabulations as thematic maps.

During installation, both the Windows and DOS parts of IMPS are installed on your computer.

New Features in IMPS 4.1

- Map Viewer - Displays thematic maps of one variable or the ratio or difference of two variables. Can receive exported tabulated data from CrossTab.
 - Data Sort - Sorts a data file (up to 2 Gbytes in size) either by questionnaires or by records.
 - Data Dictionary - Automatically converts dictionaries between IMPS 3.1 and IMPS 4.1. Allows definition of more complex record hierarchies (for example: household, family, person). CrossTab can tabulate data items between any of these records.
 - Cross Tabulation - Produces tables by geographical areas, like IMPS 3.1 CENTS, as well as for the entire file. Uses an Area Names file to add the geographic area names to the tables. Tabulated values can be exported to Map Viewer.
 - Table Viewer & Text Viewer - More control is available for printing. Both viewers allow definitions of margins, headings and footings. The text viewer allows different font sizes for printing.
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Installation

Hardware and Software Requirements

A minimum configuration:

- 33MHz 486 processor
- 16MB of RAM
- VGA monitor
- mouse
- 17MB of free hard drive space (6MB if you already have IMPS 3.1 installed)
- Microsoft Windows 95

A recommended configuration:

- Pentium processor
- 16MB of RAM
- SVGA monitor (PCI or VESA graphics)
- mouse
- 17MB of free hard drive space (6MB if you already have IMPS 3.1 installed)
- Microsoft Windows 95, Windows 98, Windows NT

Installation Procedure from Diskettes

- Place Disk 1 of IMPS 4.1 in your diskette drive.
- Click the **Start** button on the taskbar.
- Click **Run option**.
- Enter **a:\setup**.
- Click **OK**.

Installation Procedure from the WWW

- In option "Downloading" select IMPS 4.1
- Select a folder to save the file "imps.exe"
- Go to folder and double click on "imps.exe" to install software

The setup takes you through a series of dialog boxes that prompt you for setup information. Accept default values if you have any doubts.

Taskbar

To start IMPS:

- Click the **Start** button
- Highlight the **Programs** line
- Then highlight **IMPS 4.1** line next to **Programs**

- Then highlight and click **IMPS 4.1** line next to **IMPS 4.1**.

The following toolbar will appear on your screen.



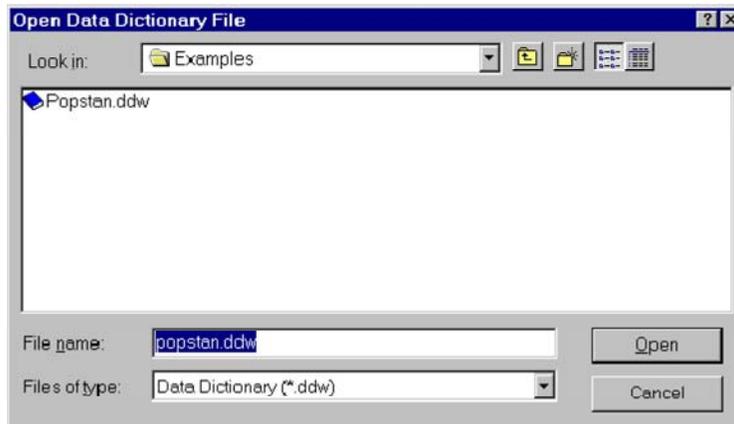
Press any of the buttons on this bar to start an IMPS 4.1 module. The modules from left to right are:

- Data Dictionary
- Cross Tabulation
- Text Viewer
- Table Viewer
- Map Viewer
- Data Sort
- IMPS 3.1 (DOS Version)
- Microsoft Explorer (to manipulate files on your disk)

You will want to start your use of IMPS 4.1 by creating or viewing a Data Dictionary.

Data Dictionary

Press the Data Dictionary button  on the tool bar. A dialog box will open, asking you for a Data Dictionary file name.



You can do the following:

Select the Data Dictionary *Popstan.ddw* in the *IMPS41\Projects\Examples* folder and press the **Open** button to inspect and edit it.

or

Press the **Cancel** button to create a new Data Dictionary.

or

Move to another folder to find an existing IMPS 3.1 or IMPS 4.0 Data Dictionary. IMPS 3.1 Data Dictionaries have the extension *.dd*, while IMPS 4.0 Data Dictionaries have the extension *.ddw*.

Try selecting *Popstan.ddw* and pressing the **Open** button.

IMPS 4.1 Data Dictionary - [Popstan.ddw (Questionnaire)]

File Edit View Options Tools Window Help

Dictionary Label: 2000 Population and Housing Census of Popstan

Record Type Indicator: Start: 1 Length: 1

Questionnaire ID's: Province, District, Enumeration Area, Building Number, Housing Unit Number

Add Insert Delete Questionnaire

Record Label	Name	Type value	Required	Hierarchy	Max
Person	POP-REC	1	No	1	30
Household	HOUSE-REC	2	Yes	1	1

IMPS is questionnaire-oriented, that is, it processes data files by questionnaire. The Data Dictionary module is used to create and maintain a description of the organization of a questionnaire in the data file. The other modules of IMPS use this Data Dictionary description to access data files.

A questionnaire can contain a single record, multiple records of the same kind, or multiple records of different kinds. If any questionnaire contains multiple records, then the questionnaire must have one or more **Questionnaire ID** items. These items, usually geographic codes and household or establishment codes, uniquely define all the records that belong to any given questionnaire.

In the Popstan Data Dictionary (*Popstan.ddw*) shown above, there are two kinds of records (record types), *Person* and *Household*. Because more than one kind of record exists, questionnaire ids are defined: *Province, District, Enumeration Area, Building Number, and Housing Unit Number*.

The **Questionnaire Window** shown above contains general information:

- a label for the Data Dictionary for use in report listings.
- the data items used as questionnaire ids.
- the size and location of the record type code.

Each different kind of data record has attributes:

Record Label	Identifier used by the Windows modules to refer to the record
Name	Identifier used by the DOS (IMPS 3.1) modules to refer to the record
Type Value	The value the record type for this kind of record
Required	Whether this record must be present or not in each questionnaire
Hierarchy	Hierarchy level of this record
Max	Maximum number of records of this type which may be present in a questionnaire

Each of these attributes can be changed by clicking on them. Use the **Add**, **Insert**, or **Delete** buttons to add or remove records.

Questionnaire ID items are selected from the Common items. These items occur in the same position on each record. They are defined in the **Common items Window** of the dictionary. Items for each type of record are defined in the **Record items Window** of the dictionary. Use the following buttons to move between these windows.



Questionnaire Window (yellow marks)



Common items Window (dark blue marks)



Record items Window (light blue marks)

The **Common** items and **Record** items Windows are split. The top half contains a list of items:

Item Label	Identifier used by the Windows modules
Name	Identifier used by DOS (IMPS 3.1) modules
Data	Type of data in the item (Numeric, Alphanumeric, or Mixed)
Item	Complete item or subset of a larger item (Item, Subitem)
Start	Location in a data record where the item begins
Len	Number of digits/characters in the item
Occ	Number of adjacent occurrences (repeats) of the item
Dec	Number of decimal places in the item (numeric only)
Sign	Whether the item is signed (can have negative and positive values)

The bottom half contains a list of sets of values or categories of the item highlighted in the top half of the screen:

Value Set	One or more names for a specific set of values which can be used to classify the data values associated with the data item
Value Label	Label for a value or range of values
From	A single value or the beginning value in a range
To	Blank for a single value or the last value in a range

If you press the Common items button, , you will see the following screen:

IMPS 4.1 Data Dictionary - [Popstan.ddw (Common Items)]							
File Edit View Options Tools Window Help							
Add Insert Delete Common Items							
Item Label	Name	Data	Item	Start	Len	Occ	Dec Sign
Province	PROVINCE	Numeric	Item	2	2	1	0 No
District	DISTRICT	Numeric	Item	4	2	1	0 No
Enumeration Area	EA-ENUMER-AREA	Numeric	Item	6	3	1	0 No
Building Number	BUILDING-NUMBER	Numeric	Item	9	3	1	0 No
Housing Unit Number	HU-HOUS-UNIT-NO	Numeric	Item	12	3	1	0 No
Household	HH	Numeric	Item	15	1	1	0 No
Village	VILLAGE	Numeric	Item	16	3	1	0 No
Urban/Rural	UR-URBAN-RURAL	Numeric	Item	19	1	1	0 No

Value Set	Value Label	From	To
Province	Artesia	01	
	Copal	02	
	Dari	03	
	Eris	04	
	Girda	05	
	Hali	06	
	Kerac	07	
	Lacuna	08	
	Laya	09	
	Lira	10	
	Matanga	11	
	Patan	12	
	Rift	13	
	Terra	14	
	Tumar	15	

All the items listed here occur on both the *Person* and the *Household* records, that is, they are common to all the different record types. The values for the item highlighted at the top of the Window appear at the bottom on the Window. Each of the attributes can be changed by clicking on them.

You can use the **Add**, **Insert**, and **Delete** buttons under the toolbar to add and remove items, value sets or individual values. The buttons refer to items if an item is highlighted. They refer to values if a value set or value is highlighted.

If you press the Record items button, , you will see the following screen:

IMPS 4.1 Data Dictionary - [Popstan.ddw (Record: POP-REC)]

File Edit View Options Tools Window Help

Add Insert Delete Record Items Record: POP-REC

Item Label	Name	Data	Item	Start	Len	Occ	Dec	Sign
Line Number	P00-LINE-NUMBER	Numeric	Item	20	2	1	0	No
Relationship	P02-RELATIONSHIP	Numeric	Item	22	1	1	0	No
Sex	P03-SEX	Numeric	Item	23	1	1	0	No
Date of Birth	P04-DOB	Numeric	Item	24	8	1	0	No
Day of Birth	P04D-DAY	Numeric	SubItem	24	2	1	0	No
Month of Birth	P04M-MONTH	Numeric	SubItem	26	2	1	0	No
Year of Birth	P04Y-YEAR	Numeric	SubItem	28	4	1	0	No
Age	P05-AGE	Numeric	Item	32	2	1	0	No
Marital Status	P06-MARITAL-ST	Numeric	Item	34	1	1	0	No
Mother Living	P07-MOTHER-ALIVE	Numeric	Item	35	1	1	0	No
Place of Birth	P08-BIRTHPLACE	Numeric	Item	36	2	1	0	No
Residence in 1995	P09-1995-RESID	Numeric	Item	38	2	1	0	No
Attending School	P10-ATTEND-SCH	Numeric	Item	40	1	1	0	No
Highest Grade Completed	P11-HIGH-GRADE	Numeric	Item	41	2	1	0	No
Literacy	P12-RD-WR	Numeric	Item	43	1	1	0	No
Economically Active	P13-ECON-ACTIVE	Numeric	Item	44	1	1	0	No
Occupation	P14-OCCUPATION	Numeric	Item	45	2	1	0	No
Occupation by Major Branch	P14A-OCC-BRANCH	Numeric	SubItem	45	1	1	0	No
Industry	P15-INDUSTRY	Numeric	Item	47	2	1	0	No
Industry by Major Branch	P15A-IND-BRANCH	Numeric	SubItem	47	1	1	0	No
Work Status	P16-WORK-STATUS	Numeric	Item	49	1	1	0	No
Number of Children Ever Born	P17-CHILD-BORN	Numeric	Item	50	2	1	0	No
Number of Children Still Living	P18-CHILD-LIVING	Numeric	Item	52	2	1	0	No

Value Set	Value Label	From	To
Age		00	98
	Not Reported	99	
Age in 5 year groups	0 to 4 years	00	04
	5 to 9 years	05	09
	10 to 14 years	10	14
	15 to 19 years	15	19
	20 to 24 years	20	24
	25 to 29 years	25	29
	30 to 34 years	30	34

For Help, press F1

Start MS-DO... IMPS 4... Vickget... Getting ... 02:08 PM

The data item Age is selected. Two value sets associated with Age are shown. The first is required to have the same name as the item label. The second, *Age in 5 Year Groups*, is a user-defined name. By defining different value sets, you can develop different categorizations for tabulation.

To move between different type records, select the record name from the drop list box under the toolbar. You can also use the arrow buttons to the right of the box.

The following buttons are useful to move records, items, and values around, reverse changes you have made, and for manipulating text in record, item, or value labels.

-  Cut
-  Undo (reverse changes)
-  Copy
-  Paste
-  Find

You can use the **Layout** button  to produce a graphic view of the records. An example is shown below.

Data Dictionary Item layout - [Popstan.ddw]

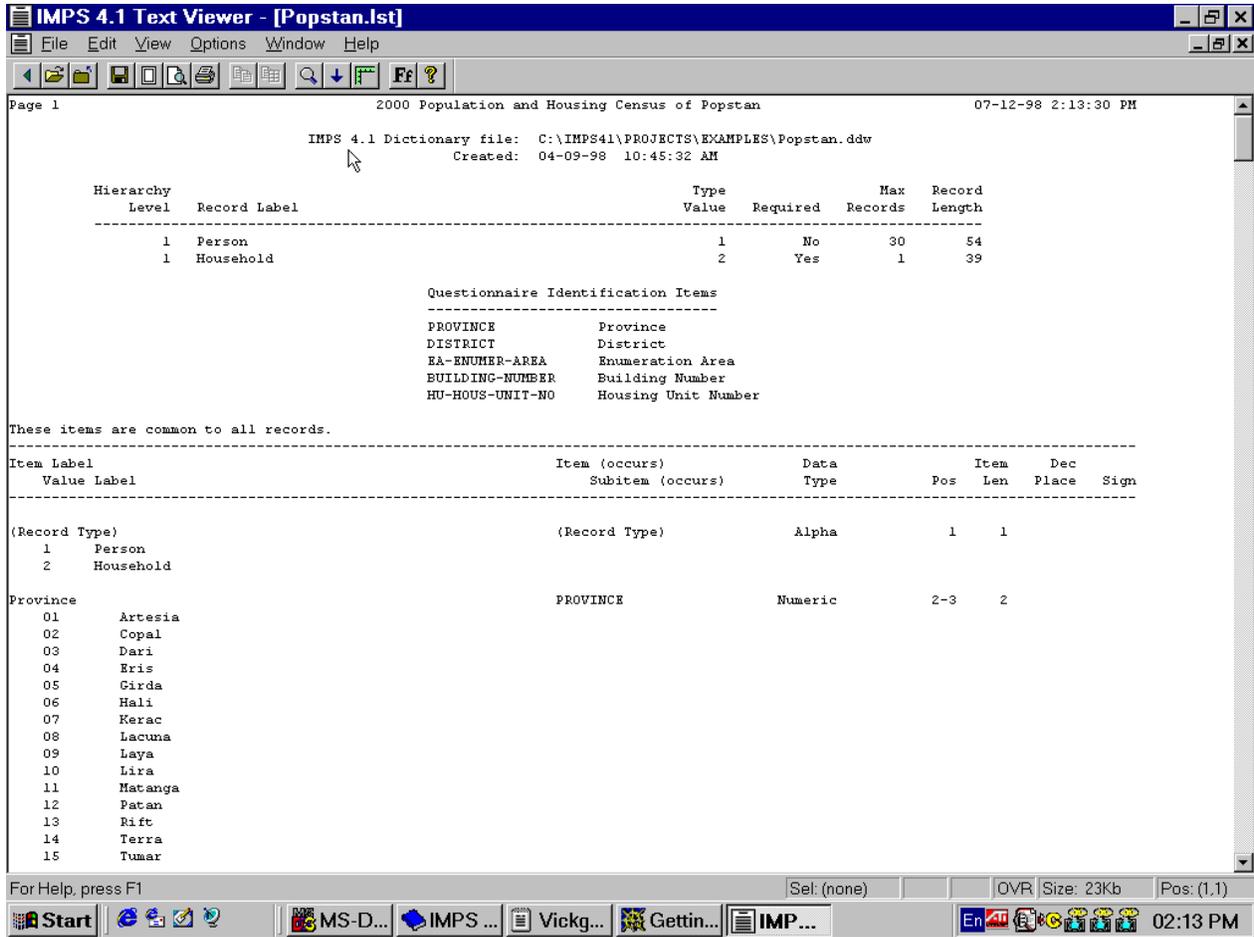
.....5...10...15...20...25...30...35...40...45...50...55...60...65...70...75...80...85...90...

Person 

Household 

Close Help Record Type Common Items Record Items

To produce a listing of the Data Dictionary, use the **Report** button . Clicking this will allow you to select either a summary listing (names of records and data items only) or a detailed report (summary plus all the value sets associated with the data items).



Page 1 2000 Population and Housing Census of Popstan 07-12-98 2:13:30 PM

IMPS 4.1 Dictionary file: C:\IMPS41\PROJECTS\EXAMPLES\Popstan.ddw
Created: 04-09-98 10:45:32 AM

Hierarchy Level	Record Label	Type Value	Required	Max Records	Record Length
1	Person	1	No	30	54
1	Household	2	Yes	1	39

Questionnaire Identification Items

PROVINCE	Province
DISTRICT	District
EA-ENUMER-AREA	Enumeration Area
BUILDING-NUMBER	Building Number
HU-HOUS-UNIT-NO	Housing Unit Number

These items are common to all records.

Item Label	Value Label	Item (occurs)	Subitem (occurs)	Data Type	Pos	Item Len	Dec Place	Sign
(Record Type)		(Record Type)		Alpha	1	1		
1	Person							
2	Household							
Province		PROVINCE		Numeric	2-3	2		
01	Artesia							
02	Copal							
03	Dari							
04	Eris							
05	Girda							
06	Hali							
07	Kerac							
08	Lacuna							
09	Laya							
10	Lira							
11	Matanga							
12	Patan							
13	Rift							
14	Terra							
15	Tumar							

For Help, press F1 Sel: (none) OVR Size: 23Kb Pos: (1,1)

Text Viewer

You can use the Text Viewer to look at the contents of any text file. The file can be up to 32,000 characters wide and indefinitely long. IMPS uses the Text Viewer to display the Data Dictionary listing (see previous page) and tabulation error reports. You also can use the Text Viewer to look at data files.

-  You can start the Text Viewer from the IMPS 4.1 Taskbar button or from the **Tools** menu option of the Data Dictionary or Cross Tabulation. You can also use it to examine a text file from the Windows Explorer. Right click on the name of a text file. Select **Send to** and then **TextView**. The Text Viewer can view multiple files at the same time. By using the **Window** menu option, you can place files side by side vertically or horizontally.
-  You can use the **Find** button to search for text within a file. The search begins at the top of the current screen. You can search both forward and backward. The search strings used previously are remembered.
-  You can print all of the file (or part of the file, if you have selected (highlighted) text), by pressing the **Print** button.
-  You can change the size of the print font by pressing the **Font** button.
-  You can change the margins and place headings and footings on the printed file by pressing the **Print Setup** button.
-  You can see what your printing will look like before you send it to the printer by pressing the **Print Preview** button.
-  You can use the **Copy** button to copy selected text from the viewer to other applications, such as text editors or word processors.
-  You can press the **Copy for Spreadsheet** button to copy table text to a spreadsheet. Select the rows and columns you want to copy, before pressing the **Copy for Spreadsheet** button. Values separated by two or more blanks will appear in different columns in the spreadsheet. Try copying text from the Data Dictionary report to a spreadsheet.

In the example below, the *Popstan.dat* file is being viewed.

```

.....5...10...15...20...25...30...35...40...45...50...55...60...65...70...75...80...85...90...95...100...105...110...115...120...125...130...135...140
110101001021024103010112030519741951200121119329200000
21010100102102410301027207071986079120011049
31010100102102410301037108051989049120 9
4201010010210241030112123021000522150003
5101010010870031171101111209195240110103209119195299999
6101010010870031171102223101195241110103206119195212121
710101001087003117110331220519732051010310812 999999
810101001087003117110432030319781551010310612 900000
910101001087003117110531161119791351010310512 999999
1010101001087003117110631050419821151200110312 9
111010100108700311711073209071984099120011039
121010100108700311711083228091986069120012009
131010100108700311711093131081988049120 9
141010100108700311711103119061990039120 9
151010100108700311711113109061993009120 9
1610101001087003117111252000019237022010120412 905020
17201010010870031171142666 000 670012
18201010011120281 212139 9000999990000
19101010020560041075101110912195537110101213119145299999
201010100205600410751022290419633012220121212 901011
211010100205600410751033227031993009101 9
22201010020560041075121121012000534240003
23101010020740201088201110507196627112001206116101399999
241010100207402010882022200019682411200120022 901010

```

You can press the **Ruler** button  to show the line and character position of the text. You can select text or data within the file to copy and paste into another application, save to another file or print. For example, you may want to copy several questionnaires from a large data file to create a smaller file for testing.

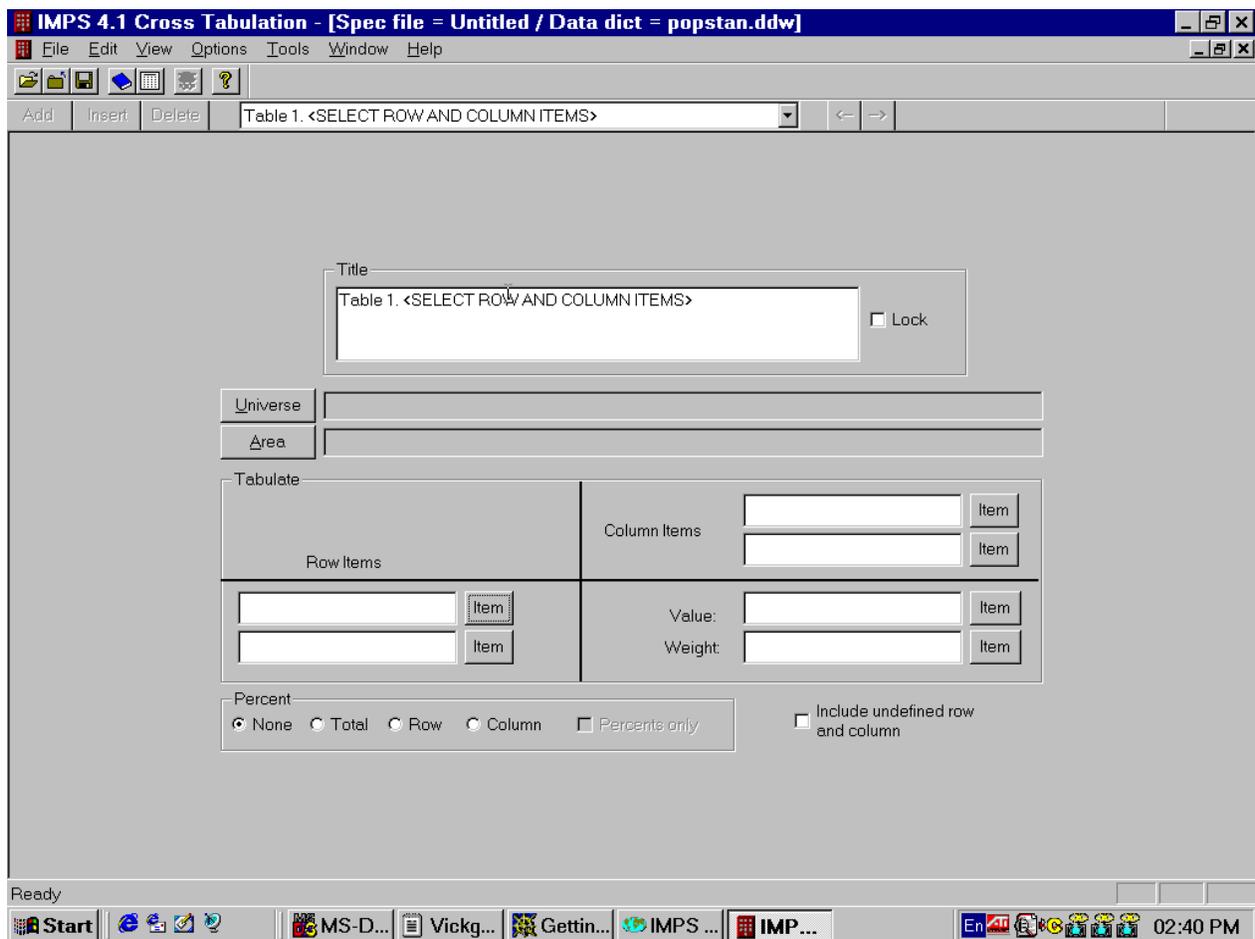
 You can use the **Goto** button to locate a particular line in the file. For example, when errors occur in tabulation, you are given the record number where the error occurred. Use the **Goto** button to locate the record in error.

Cross Tabulation

To perform cross tabulations, press the **Cross Tabulation** button  on the Data Dictionary toolbar or on the IMPS 4.1 taskbar. The screen (similar to that shown below) will appear. You can perform cross-tabulations on up to four data variables: two **Row Items** and two **Column Items**. You can show the tabulated results as totals, percents or both. You can tabulate a **Value**, such as income, and use a **Weight** in the tabulation. Specific records can be selected as a **Universe** for inclusion in the tabulation. In addition, tables can be produced for geographic **Areas**.

Press the **Item** buttons to select or change items. You can type the name of the item or click on an item to select it. Press **OK** to complete the selection or **Remove** to delete the selection. The list of items normally appears in alphabetic order. You can change this to the order that the item appear on the records.

The table title is generated and modified automatically. If you don't like the generated title, you can change it by changing the text in the title box, and then checking the lock box to the right.



Use the **Add**, **Insert**, and **Delete** buttons under the toolbar to add, insert, and delete tables.

Pressing the **Universe** button allows you to create a filter to select only certain records for tabulation. You can select one or more conditional expressions of item, relation, and value. An example of such an expression is:

sex = female and age >= 12

Pressing the **Area** button allows you to create multiple table panels by geographic area. To produce tables by area you must select at least one Area Id and you must have an area names file. You can create an area names file using the CENTS module of IMPS 3.1. You can also create one with a text editor using the *Popstan.anm* file as a model. Every tabulation in a run has the same area selection. If no row items are selected, the area names will be the table rows.

You can create a frequency distribution for any item by selecting it as the row item and not selecting any column items. This will create a table with two columns, frequency and cumulative frequency.

There is a check box to **Include undefined row and column**. Checking this box will create an extra row or column for each item you tabulate. The extra rows and columns give counts of the number of out-of-range values for each item. Choosing from the menu **Options/Dump Undefined** will cause each undefined value to be dumped in a log file, together with questionnaire and record identification.

If you want to change or view your Data Dictionary, you can press the  button.

Try to create a table. Select *Relationship = Head* as the Universe. Select *Province* and *District* as the Area Ids. Choose *Popstan.anm* as the area names file. Select *Sex* as the column item. Do not select a row item. The geographic areas will be the row of the table.

Press the **Run** tabulation button  to perform the tabulation. Use the *Popstan.dat* file as the input file.

Table Viewer

When a tabulation is completed the Table Viewer displays the results as shown below:

IMPS 4.1 Table Viewer - [Cross01.tbw (Popstan.dat)]			
File Edit View Options Window Help			
Title Table 1. Sex for Relationship = Head			
Table 1. Sex for Relationship = Head			
	Total	Male	Female
Popstan	4.456	3.470	986
Artesia	268	195	73
Dongo	26	17	9
Idfu	33	23	10
Jummu	21	16	5
Kars	4	2	2
Kuma	19	16	3
Lanti	28	21	7
Lima	39	26	13
Lindos	14	13	1
Mili	7	5	2
Paki	22	17	5
Salima	10	7	3
Shuma	36	26	10
Varda	9	6	3
Copal	483	384	99
Baja	35	23	12
Bassac	42	36	6
Chile	17	16	1

If the tabulation is not exactly what you wanted, use the back button  to return to respecify your cross-tabulation. If the tabulation is what you wanted, you can print it, save it to a file, or copy it to a word processor or spreadsheet.

The **Page Setup**  and **Print Preview** buttons  are available to change the margins, heading, and footing for printing and to preview the print image. You can also change the font size and style for the table by pressing the **Font**  button.

In Table Viewer you can select rows and columns to print, save, or copy. The rows or columns do not have to be adjacent. To make a selection, move the cursor to any table cell and press the left mouse button down. While holding down the left mouse button move the cursor over the other cells to be included, then release the button. The selected cells turn green. When the left mouse button is released, the stubs and column headings associated with these cells are also highlighted. To select additional cells, hold the **Ctrl** key down while you make your additional selection. To select the entire table, click the **Edit** and then **Select All** from the menu.

If the table you are viewing was produced using Area and an IMPS Map Viewer map is available with the same area codes as used in the tabulation, you can produce a thematic map of the tabulated data directly from the Table Viewer.

To create a thematic map, select a data cell from the table you are viewing, for example, a cell from the *Total* column, by clicking on it with LEFT mouse button. Then click the RIGHT mouse button and select **Map** or press the **Map Viewer** button  on the toolbar.

You will be asked for an IMPS map file. For this example, choose *Popstan.mpc*. Map Viewer will display a map showing the tabulated values of all the provinces in Popstan.

To add another variable to the map, switch back to the Table Viewer by selecting its button on the Windows taskbar (usually at the bottom of the screen). DO NOT exit the Map Viewer. Select a cell from another column, for example a cell from the *Female* column, and press the Map Viewer button. Notice that the variables available for mapping are *Total* and *Female*.

Map Viewer

Pressing the **Map Viewer** button  on the Table Viewer toolbar or the IMPS 4.1 taskbar provides an easy way to present tabulated data in a thematic map. In the previous section you invoked the Map Viewer twice to display two sets of tabulated values: the Total number of Household Heads, and the total number of *Female* Household Heads.

The second variable, (*Female*) should be currently displayed. Pass the mouse cursor over the map. Notice that the cursor changes to a magnifying glass. This means you can "drill down", or descend to a lower map level, by clicking the left mouse button. You will see the districts within the province you click on. Press **Esc** key to go back to the Popstan map. The map of Popstan shows the provinces in different colors. You can show all the districts in the country by clicking the drop-down list (above the country and province list) and selecting *District*. By clicking the right button while on the map, you can see the exact number of female household heads for a given district.

The hierarchical tree on the left side of the screen gives another way to move around among geographic units. The + in front of the names shows there is more geography available. Click on the + in front of a province name to show the districts in that province. Click on any province name itself to display the thematic map of that province. Click on any district name to outline in yellow the district in the province map. To close up the geographical listing, click on the - in front of the name.

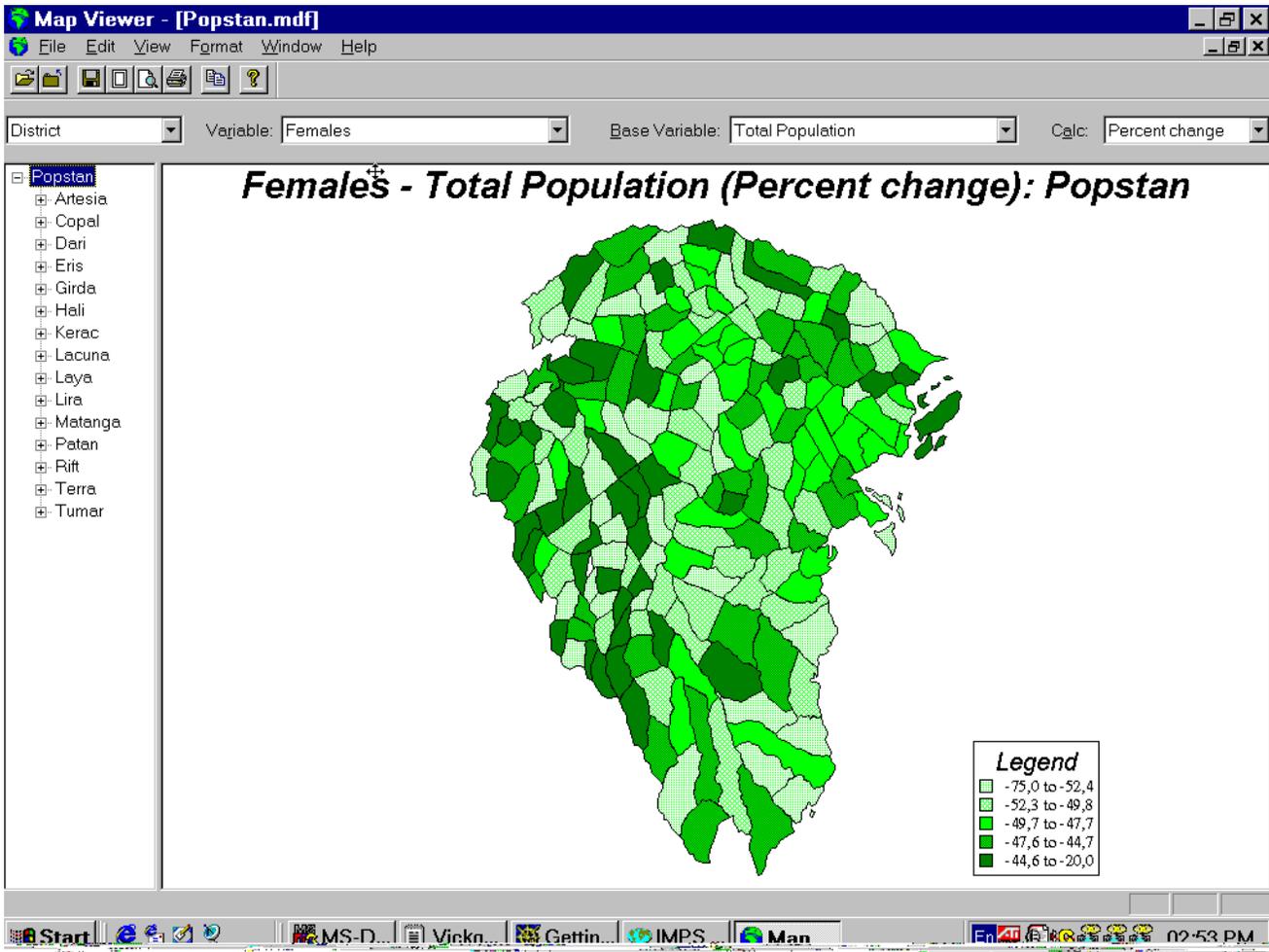
To change the number of intervals, the ranges of each interval, the colors which the map uses and the text in the legend box, click on the legend box with the right mouse button. To change the title text and/or font, click on the title with the right mouse button. The title can be more than one line; use **Ctrl+Enter** inside the box containing the title to make new lines. With a little practice, you will be able to produce high quality thematic maps with minimal effort.

You can change the variable which is displayed on the map. Click on the drop-down list labeled **Variable**. You can also compare two variables. Click on the drop-down list labeled **Base Variable** and select *Total*. This will display the *Percent change* defined as

$$\frac{[(\text{Variable} - \text{Base Variable}) / \text{Base Variable}] * 100\%}{}$$

Click on the **Calc** drop-down list to change the way the two variables are compared. The *Percent* statistic would seem more reasonable in this example: percent of households with female heads. If you select *Percent*, the map shown below should appear.

Use the **Print** button  to print your map, or the **Copy** button  to copy it to a word processing document.



To save the data variables you have brought into the Map Viewer, press the **Save** button and create a new map data file (.*mdf*). You can open this map data file directly from IMPS 4.1 by starting the Map Viewer and then selecting the .*mdf* file which you just created. (Note: When a map data file is opened only the first variable is mapped.)

The map data file (.*mdf*) contains the variables and their values for each geographic unit. You can make your own or change one you saved by using standard spreadsheet software. Data from previous censuses or surveys can be entered into the file. See **Help** for a description of the Map Data File and how to modify it.

The map data file is associated with a map file, which contains the map polygons, area codes and names for each geographic area. Usually two or three levels of geography are adequate for thematic maps. You need to create this file first, before generating or making your own map data files. The format of the map file is given in the Map Viewer **Help**. If you already have a digitized map file, either in ArcView or Atlas GIS format, we can assist you in converting it to our Map Viewer format. (Contact us for more information.)

Data Sort

Pressing the **Data Sort** button  on the IMPS 4.1 taskbar allows you to sort files up to two gigabytes. Since the questionnaire is the unit of processing for IMPS, sorting is performed on questionnaires, not records. (To sort the data file on records, you must create a Data Dictionary for the file which defines only one kind of record which occurs only once.)

Once you have selected a Data Dictionary, you are presented with a list of Questionnaire Ids to use as sort keys. Select **Questionnaire Ids** from the left-hand column. Click the > button to make these item keys. You can use the >> button make all the items keys. You can remove keys by selecting them and pressing the < button. The << button removes all the keys.

You can use the **Move Up** and **Move Down** buttons to move a particular key up or down the list of keys to obtain the required order (major to minor). Select the key to move, then press the button.

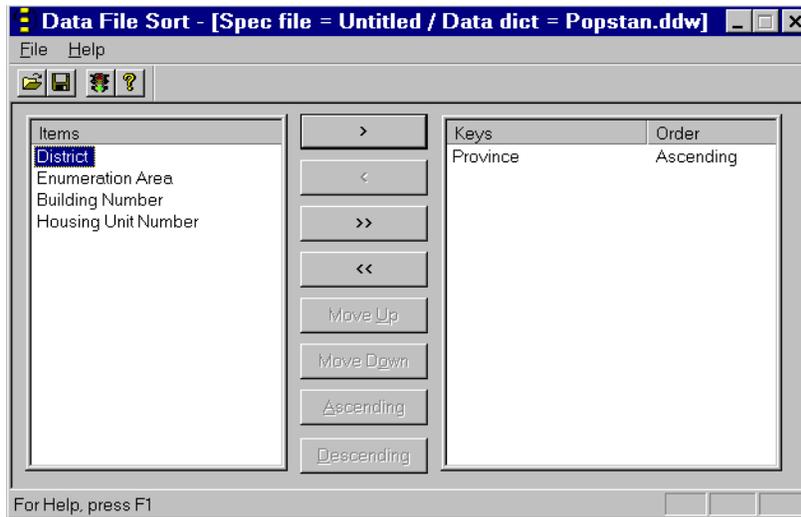
You can use the **Ascending** (small to large) and **Descending** (large to small) buttons to change the sort order for a key. Again select the key, then press the button.

Once you have select the keys, press the Run Sort button . You will be asked to enter:

- the name of the input data file
- the name of the sorted output data file
- the name of a folder where the temporary sort work file is written

It is important to remember that no matter what the data file size, there must be at least twice the data file size of free space (intermediate work file(s) + final sorted file) in order to complete the sort. This free space does not need to be on the same device as the file being sorted.

The sort specifications (keys and ascending/descending switches) can be saved in a sort specification file which will have the extension .*ssf*.



Some important notes regarding the Data Sort:

- If the data file has duplicate Ids (two questionnaires with the same Id values), the Data Sort will abort with an error message giving the duplicate Id values..
- The record type item is NOT available for sorting questionnaires.
- If the questionnaire has only one record type and only one record per questionnaire (maximum records = 1), all the data items on the record are available for sorting.
- Data Sort will make sure, before the sort, that enough disk space is available for the sort to complete successfully.

DOS IMPS 3.1

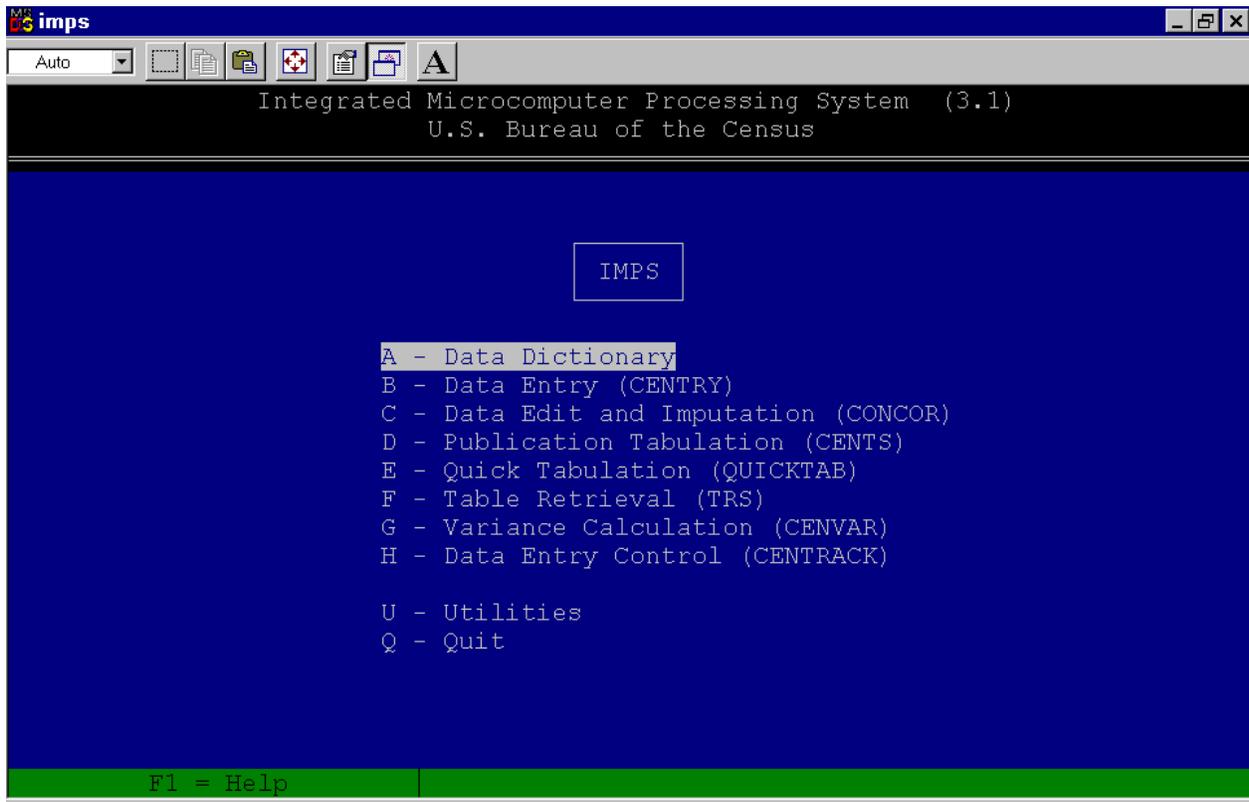
To use the modules from IMPS 3.1, press the **DOS IMPS** button on the IMPS 4.1 taskbar. The following dialog box will appear. Select the folder you want to be your default directory while using IMPS 3.1 modules. The example files for IMPS 3.1 are in the `..\imps31\bench` folder.



Once you have selected a default folder, you will enter the DOS IMPS 3.1 system. There is printed documentation for each of the IMPS 3.1 modules. This documentation is available in WordPerfect 5.1 format.

The CONCOR and CENTS modules of IMPS, use a COBOL compiler, which is contained on your installation diskettes. (Note: The Internet version does not contain this compiler.)

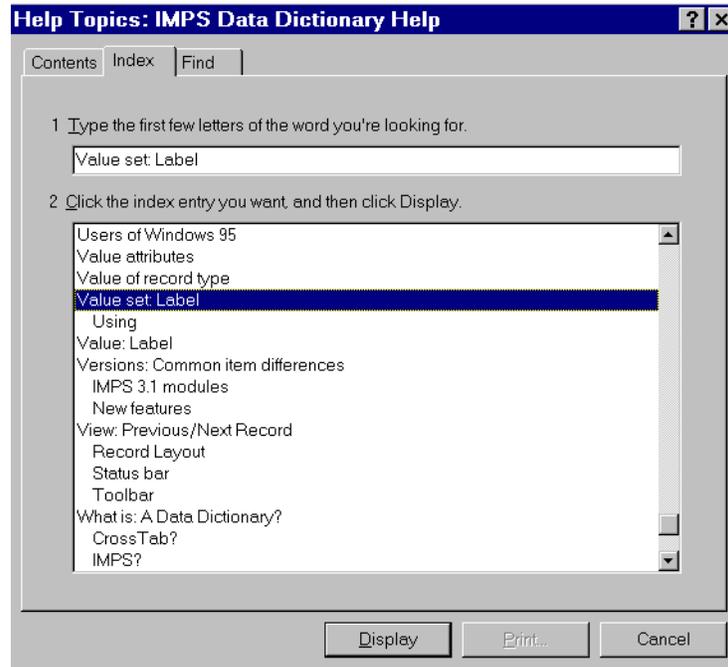
Most of the functions of the QUICKTAB module of DOS IMPS are provided in a much better way in the Windows Cross Tabulation module. However, for creating frequency distributions of all the items in data file, you will want to use the Frequency part of QUICKTAB.



The DOS version of IMPS uses a different Data Dictionary than the Windows version. In the DOS version the Data Dictionary file extension is `.dd`, while in the Windows version the extension is `.ddw`. You can save most, but **not all**, Windows Data Dictionaries in the DOS format. To save a Windows Data Dictionary in DOS format, use the **File/Save As** menu option and set the file extension to `.dd`. The DOS Data Dictionary is required by the CENTRY, CONCOR, CENTS, QUICKTAB and CENVAR modules of DOS IMPS.

Using Online Help

To obtain information on how to use IMPS 4.1 modules, press the **Help** button . The **Index** tab, shown below provides an easy way to search for information on a particular topic. Use box 1 to type in a word, or use box 2 to click on the index entry.



You can use the **Contents** tab to look through the helps by topics, like a book. The **Find** tab allows you to locate the use of any particular word in the help documentation. You can print any page of the help by pressing the **Print** button at the top of the help screen. You can also print groups of help pages from the **Contents** tab.

Input and Output in Other Languages

While IMPS menus and documentation are only in English, most of the information you supply can be entered and displayed in your own language. For example, Data Dictionary labels and notes can be entered in languages other than English. Data entry screens and tables can appear in other languages.

During installation, you are asked what language you want to use for your tables and maps. If you choose a language other than English, then small words like Table, Total, to, Legend, Percent, Ratio, and so on, which appear in CrossTab tables or Map Viewer maps will appear in the language chosen.

User Support

International Programs provides user support for IMPS without charge to national statistical offices and certain international organizations. It also provides, on a contract basis, training in the use of IMPS for census and survey processing. From time to time, it conducts IMPS workshops in Washington.