

Serie D-111
LC/DEM/G.47



**USER MANUAL
FOR THE
QUANTUM SYSTEM**

A system to exercise a step by step control over the receipt and key entry of survey questionnaires using a microcomputer

VERSION 1.00

Latin American Demographic Centre (CELADE)
Casilla 91 - Santiago - Chile

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A System to Exercise a Step by Step Control Over the Receipt
and Key Entry of Survey Questionnaires Using a Microcomputer

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QUANTUM SYSTEM

I - INTRODUCTION

The QUANTUM system was developed in CELADE, using dBASE III, to allow the user to maintain a Primary Control (Quantitative Control) over the receipt from the field and data entry of questionnaires of a survey, using expected questionnaire counts per area established in advance. It is totally menu-driven, user oriented, and the necessary dBASE III knowledge is kept to a minimum.

The system was designed to operate on files from demographic surveys, having one record for each household and as many records as there are persons. There can be other record types, but the system, at this moment, ignores them.

It works with up to four hierarchical levels of geography, logically named: Region, Subregion, District and Community. There is a fifth level, called ED (Enumeration District), that can be viewed as an operational level rather than geographical, and is used to store the totals controlled by the system (households and persons).

The system has two control phases: the Supervisor phase and the Questionnaire phase. The first one checks the totals (households and persons), for each ED, as entered by the Field Supervisor, against the expected totals entered when the Geographical file was created. The Questionnaire phase checks the real number of questionnaires encountered after data entry, against the Supervisor totals. The system also produces, at the beginning, labels to be attached to the questionnaires for identification purposes.

Initially the user creates the Names file, with the geographical names and codes in each hierarchical level, and the expected number of EDs (Enumeration Districts) in the lowest level. From this file, the system creates the Geographical file, generating as many records as expected EDs. The user then enters, for each expected ED, the expected counts (before the real survey) of households and persons.

The Supervisor control phase starts when the survey (or a part of it) has been completed in the field. It uses as control elements the Supervisor's summary sheets with the manually obtained counts for households and persons.

The final control phase is executed when the questionnaires have been recorded on disk, by comparing the real totals encountered when reading the questionnaires with the manual counts provided by the Supervisors.

At any time, the system can produce reports in order to verify the work being done.

II - USING QUANTUM

With the exception of one program written in BASIC, the Quantum system is totally executed in dBASE III. It is menu-driven, user-oriented, and requires little, if any, dBASE III knowledge, except for the Update file procedure, which uses the BROWSE command. In those cases, the [F1] key turns an on screen help on and off for the BROWSE main functions. Although it should not be necessary, for more details on BROWSE, please refer to the dBASE III documentation.

First of all, one has to enter dBASE, with the DBASE command in DOS. After the dBASE prompt (.) appears, enter "DO QUANTUM".

At this moment, a general menu will appear asking which one of the three parts the user wants to execute:

QUANTUM - PRIMARY CONTROL SYSTEM

- 1 - SET UP OF THE GEOGRAPHIC FILE
- 2 - CONTROL OF THE SUPERVISOR TOTALS
- 3 - CONTROL OF THE QUESTIONNAIRE TOTALS

- E - EXIT (TO GO BACK TO DBASE III)
- Q - QUIT (TO GO BACK TO DOS)

YOUR CHOICE

With the "E" option, you will exit the QUANTUM system, going to the dBASE prompt (.), and you can work with the system directly within dBASE, if you wish, but this is not recommended unless you have a very good dBASE knowledge. In order to get back to the QUANTUM system, enter "DO QUANTUM" again.

The "Q" option leaves dBASE and gets back to DOS. This option should be selected at the end of the session.

The system has three main steps, as shown in the menu, and they are executed at different times in the survey life cycle. The first one deals with the system's set up, creating both Name and Geographical files, when planning the survey. The second step is used when the enumeration has just finished, the supervisors have produced their summaries and the questionnaires have been sent to be coded and/or captured. The third and last step applies when the questionnaires have been data-entered and the user wants to check their quantities against the numbers at earlier stages.

2.1 - SET UP OF THE GEOGRAPHIC FILE

Using option "1" in the main menu, a second level menu will appear, showing the following selections:

QUANTUM PART 1 - SET UP OF THE GEOGRAPHIC FILE

- 1 - CREATION / UPDATE OF THE NAME FILE
- 2 - REPORT FROM THE NAME FILE
- 3 - CREATION OF THE GEOGRAPHIC FILE
- 4 - MODIFICATION OF THE GEOGRAPHIC FILE
- 5 - REPORTS FROM THE GEOGRAPHIC FILE
- 6 - PRODUCE PRINT LABELS

E - EXIT (TO GO BACK TO MAIN MENU)

YOUR CHOICE

2.1.1 - CREATION / UPDATE OF THE NAME FILE

The first option is used, as the title says, to create the Name file, containing all the geographical level names, and the expected number of Enumeration Districts (EDs) of the lowest levels. They serve as a basis to create the Geographical file's records, and do not need to be precise, but just an estimation. This creation is done with the BROWSE command.

For example,

REGION	SUBREGION	DISTRICT	COMMUNITY NAME-----	EDSEXPEC
1	0	0	0 FLORINDA	0
1	1	0	0 VILCHES	0
1	1	1	0 MAIN VILCHES	20
1	1	2	0 SUBURBS OF VILCHES	12
1	2	0	0 RAMADA	0
1	2	1	0 MAIN RAMADA	10
1	2	2	0 SUBURBS OF RAMADA	5

The first line contains the information for Region 1 (see the other Geographical levels with a zero value). The second line shows the first Subregion of the first Region. The only lines that have values in the field EDSEXPEC are the ones corresponding to the lowest Geographical level (District in this case, as we are not using the Community level). For more details, please see Appendix A - Report Examples.

2.1.2 - REPORT FROM THE NAME FILE

The second option is used interactively with option "1" in order to verify the Name file's creation. Any error detected when printing the report is corrected by selecting option "1" again, until the Name file is complete and errorless.

There are two secondary selections that can be made when using option "2" (or option "5"). The first one chooses the reports' destination, and the second one can select a portion of the file to be reported. The system will ask:

RESULTS TO SCREEN (S), PRINT (P) OR TO A FILE (F) ?

If "S" is selected, the report will be shown directly on screen, but will not be saved in any place. Selecting "P" will direct the report to the printer (just one copy).

The "F" option is used if the report is going to be printed more than once, or if you wish to save it for later utilization or documentation purposes. The system will ask for the filename to store the report, which will have the mandatory extension of ".LST":

FILE NAME WITHOUT EXTENSION

With the other secondary selection you can elect to report all the records or just a portion of them:

ALL RECORDS (A) OR JUST A PORTION (P) ?

With the "P" option, the following questions appear:

STARTING REGION ("RETURN" FOR THE FIRST)
STARTING SUBREGION ("RETURN" FOR THE FIRST)
FINAL REGION ("RETURN" FOR THE LAST)
FINAL SUBREGION ("RETURN" FOR THE LAST)

For each one of those you have to enter the number of the initial or final limits for the reports. Remember that Region and Subregion are the highest geographical levels.

2.1.3 - CREATION OF THE GEOGRAPHIC FILE

Option "3" should be used only once since it initializes the Geo file with as many records as there are expected EDs in the Name file, clearing the other fields. This selection is exercised when the Name file is OK. If it is used a second time, it will erase all information already stored in the Geographic file.

2.1.4 - MODIFICATION OF THE GEOGRAPHIC FILE

Option "4" is the next step, and is used back and forth with option "5" (Reports from the Geo file). The BROWSE command is used to enter the ED number for each record, and the expected number of households and persons for each ED, extracted from the preliminary counts (before the real survey).

If there is more ED records than necessary, use the [Ctrl]U (see BROWSE help with [F1] or refer to the dBASE manual) to mark them for deletion. In order to insert other ED records, go past the last record and the system will ask if there is any record to be inserted. Answer "Y" and enter the new ED fields. Keep doing this until all required EDs have been entered. These records can be entered in an arbitrary order, since dBASE will sequence them as needed.

2.1.5 - REPORTS FROM THE GEOGRAPHIC FILE

Option "5" will produce reports from the Geo file, with a menu like:

THIS PROCEDURE PRODUCES REPORTS FROM THE GEOGRAPHIC FILE

THERE ARE THREE TYPES OF REPORTS :

- 1 - DETAIL
- 2 - TOTALS
- 3 - DIFFERENCES

E - EXIT (TO GO BACK TO PREVIOUS MENU)

REPORT TYPE

The third option deals with differences between totals, and at this point in the system we have just one of them, the Preliminary results. Please refer to section 2.2 (Control of the Supervisor totals) and section 2.3 (Control of the Questionnaire totals) later in this chapter.

The first two options are used to report the detailed results or just totals (for Region and Subregion). As this menu is used to produce results for the three types of counts the Geo file has (Preliminary counts, Supervisor totals and Questionnaire totals), it asks which one of them will be reported:

PRELIMINARY (P), SUPERVISOR (S) OR QUESTIONNAIRE (Q)

Independently of the chosen option for the report type (1, 2 or 3), the system will ask also for the media to "print" the report, and if it will be complete or a portion of the Geo file (see an explanation of these selections in option "2" - Reports from the Name file, section 2.1.2 above).

2.1.6 - PRODUCE PRINT LABELS

The last option prints two types of 10x3.5 cm labels: for boxes and for questionnaires. It asks:

LABELS FOR BOXES (B) OR FOR QUESTIONNAIRES (Q)

In the first case it prints one label for every record in the Geo file, that is, one label for each ED. They are used to identify the boxes storing the questionnaires, and will contain the values for Region, Subregion, District, Community and ED. There is also a space on the labels to write manually the first and last questionnaires of each box.

The second label type is to identify the questionnaires themselves, and the system prints one label for each expected household in the Geo file. This label will contain the questionnaire identification (Region, Subregion, District, Community, and ED). There is also a space in the labels to write manually the questionnaire number.

In either case, the system asks

ALL RECORDS (A) OR JUST A PORTION (P) ?

With the "P" option, the following questions appear:

STARTING REGION ("RETURN" FOR THE FIRST)
 STARTING SUBREGION ("RETURN" FOR THE FIRST)
 FINAL REGION ("RETURN" FOR THE LAST)
 FINAL SUBREGION ("RETURN" FOR THE LAST)

The system also asks for a security factor, that is, a safety factor for printing additional labels for use if questionnaires or labels are mutilated or if some additional ones are needed.

SECURITY FACTOR (PERCENTAGE)

For example, if one wants a 30 percent security factor in the production of questionnaire labels (that is, if there are 100 households in an Enumeration district, the system will print 130 labels), enter "30" for the last question.

This finishes the first step of the QUANTUM system (Set up of the Geographical file). At this time the Geo file should be complete and errorless, before the enumeration starts.

2.2 - CONTROL OF THE SUPERVISOR TOTALS

The second step starts at the point when the enumeration is finished in the field, the Supervisors have made their control sheets, and the questionnaires are ready for codification and/or to be key edited (or other type of data capture).

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The Supervisor totals is a form that exists in almost all surveys, containing a manual count summarizing the number of households and persons in each ED. If everything went well, these numbers should be very close to the preliminary counts already in the Geo file. This second step of the QUANTUM system is used to input the Supervisor totals to the Geo file and compare them with the preliminary counts, producing a report showing the differences. It has the following menu:

QUANTUM PART 2 - CONTROL OF THE SUPERVISOR TOTALS

- 1 - CREATION / UPDATE OF THE SUPERVISOR TOTALS
- 2 - REPORTS FROM THE GEOGRAPHIC FILE

- E - EXIT (TO GO BACK TO MAIN MENU)

YOUR CHOICE

2.2.1 - CREATION / UPDATE OF THE SUPERVISOR TOTALS

Option "1" is used to enter the Supervisor totals (households and persons) for each Enumeration District (ED). The BROWSE command is the unique tool to do that, and each field (households or persons) is entered separately. The system asks

ENTER HOUSEHOLDS (H) OR PERSONS (P) ?

(The decision to enter the household totals or the persons totals separately was taken in order to use the dBASE FREEZE option of the BROWSE command, with the possibility of working in a columnar way, first with the household totals and then with the persons totals).

The system then asks for the starting point from which the user wants to begin to enter. This is performed by entering a value for each one of the following questions:

STARTING REGION
STARTING SUBREGION
STARTING DISTRICT
STARTING COMMUNITY
STARTING ED

After that the system enters in a BROWSE status, highlighting just the column the user chose to enter (households or persons). If, for any reason, there is no record for any particular ED, it means that the Preliminary counts had not detected this fault and did not provide values for it. The user has to go back to step 1 and select the appropriate option ("4" - Modification of the Geo file) to fix this error.

2.2.2 - REPORTS FROM THE GEOGRAPHIC FILE

Option "2" is the same one as option "5" of the first step (see explanation in section 2.1.5 above), as far as the first two options are concerned (Detail or Total report). If the third option (Differences) is selected, the system will print a report comparing two types of counts (Supervisor versus Preliminary or Questionnaire versus Supervisor). The selection is done when the system asks:

DIFFERENCES FOR SUP (S) OR QUEST (Q)

The "S" selects differences of Supervisor totals against the Preliminary counts. The "Q" selects differences of Questionnaire totals against Supervisor ones (this will be explained later in step 3).

The procedure to report the differences first compares the values from the Preliminary results with the Supervisor totals, and marks the comment fields with six types of information, depending upon the differences. They are:

- "blank " - the fields are identical.
- " < 1 " - the difference is less than one percent.
- " < 5 " - it is between one and five percent.
- " < 10 " - it is between five and ten percent.
- " < 20 " - it is between ten and twenty percent.
- " > 20 " - it is greater than twenty percent.
- " MISS " - one or both fields are zero.

The user should analyze the differences and takes the appropriate actions, which could be to accept them as normal results, or check the information to see if there were any errors when entering them.

This completes step 2 of the QUANTUM system.

2.3 - CONTROL OF THE QUESTIONNAIRE TOTALS

The third step is executed when there are questionnaires already recorded in a disk file, and the user wants to compare, for each ED, its totals (households and persons) against the Supervisor totals.

2.3.1 - CALCULATING QUESTIONNAIRE TOTALS

Before exercising this option, the user must execute a BASIC program in order to calculate the Questionnaire totals. An skeleton of this program (CALCTOT.BAS) is provided with the QUANTUM system. It reads the file containing the questionnaire records and writes another file with one

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record for each ED, containing the ED identification and household and persons totals.

There are about twenty program lines (the first ones) that the user has to change in order to adapt it to the file specification containing the questionnaires. They are:

```
1120 TYPELOC      = 1          ' record type location
1140 HOUSEREC$    = "1"        ' household record number
1160 PERSONREC$   = "2"        ' person record number
1165 ' one value for each control variable in the following 3 lines
1180 DATA 2,4,6,0,8           :REM key variables starting point
1200 DATA 2,2,2,0,3           :REM key variables length
1220 DATA 2,2,2,2,3           :REM output keys length
1230 ' for Region, Subregion, District, Community and ED, respect.
1260 ' program constants
1280 '
1300 TOTLEN(1)     = 4          ' household-total length
1320 TOTLEN(2)     = 4          ' persons-total length
1340 TOTLEN(3)     = 5          ' comment field length
1360 EXT$          = ".DAT"     ' input file extension
1380 SDF$          = ".SDF"     ' output file extension
1400 DRIVE$        = ""         ' default disk drive
1420 MESSAGE$      = " is greater than output - data may be lost"
```

Lines 1180, 1200 and 1220 contain, each, one value for each key variable (Region, Subregion, District, Community and ED). For example, the Region field starts at position 2, has two bytes and it is to be written also with 2 bytes (this is indicated by the first numbers of each line). On the other hand, ED, which is the fifth key field, it is to be controlled by the fifth numbers on those lines, 8, 3 and 3, respectively). The zeros at the fourth field of each line mean that this level of geography (Community) will not be used.

The program execution is done with the command BASICA CALCTOT. It will ask for the questionnaires' filename without extension (assumes .BAT), and will write an output file with the same name plus an extension ".SDF" .

After that the user has to enter again in dBASE the same way as was explained in step 1, and select option "3". The system will display the following menu:

QUANTUM PART 3 - CONTROL OF THE QUESTIONNAIRE TOTALS

- 1 - CREATION OF THE QUESTIONNAIRE TOTALS
- 2 - REPORTS FROM THE GEOGRAPHIC FILE

E - EXIT

YOUR CHOICE

2.3.2 - CREATION OF THE QUESTIONNAIRE TOTALS

Option "1" will ask for the filename containing the questionnaire totals (the file just created in step 2.3.1):

FILENAME OF QUEST TOTALS WITHOUT EXTENSION

It will also ask if the results are to be displayed on screen, printed or written into a file, and in the last case it will ask for this filename in the same way it has been done before for the reports (see section 2.1.2). The system will import the questionnaire totals to the Geographic file, and will produce a report in the chosen media with the records in the questionnaire totals that does not have correspondence in the Geo file.

2.3.3 - REPORTS FROM THE GEOGRAPHIC FILE

Option "2" is almost identical to the other options that deals with report printing, mainly the 2.2.2 section. The difference is that the totals to be compared now are the Supervisor totals against the Questionnaire ones.

III - FILE DESCRIPTION

3.1 - NAME file

3.1.1 - File definition

This file will have one record for each geographic level, from Region to Community, containing its name. For the higher levels records, the lower levels fields contain zeros. Within dBASE, the following are the filename and index files used for indexing.

Filename = NAMES.
Indexed in dBASE by INDNAMES.

3.1.2 - Fields

1. Region - Identification of the highest level (2 characters).
2. Subregion - Identification of the second level (2).
It should be zero when the record specifies a Region name, otherwise it contains the Subregion identification.
3. District - Identification of the third level (2).
It should be zero for the record names of Regions and Subregions, otherwise it contains the District id.
4. Community - Identification of the fourth level (2).
It should be zero for the record names of Regions, Subregions and Districts, otherwise it contains the Community id.
5. Name - Geographical name (30).
6. Edsexpec - Number of expected EDs (4).
It contains the number of expected EDs (Enumeration Districts) for each lower geography level (Community), and zero for the higher ones.

3.2 - GEOGRAPHICAL file

3.2.1 - File definition

This file will contain one record for each ED (Enumeration District) expected in the Name file.

Filename = GEOGR.
Indexed by INDGEO.

3.2.2 - Fields

1. Region - Region identification (2).
2. Subregion - Subregion identification (2).
3. District - District identification (2).
4. Community - Community identification (2).
5. Ednumber - ED identification (3).
6. Housexec - Expected households (4).
It is the expected number of households, for each ED, informed by the preliminary counts.
7. Persexpec - Same as above, for persons (4).
8. Housesuper - Number of households according to supervisor counts (4).
9. Perssuper - Same as above, for persons (4).
10. Houseques - Real number of households (4).
Number of households extracted directly from the questionnaire file, counting the household records.
11. Persques - Same as above, for persons (4).
12. Commenthou - Household flag (5).
Used to store a flag when comparing household totals.
13. Commentper - Person flag (5).
Same as above when comparing person totals.

3.2.3 - Remarks

1. The user has no control over the last two fields. They are flagged automatically by the system.
2. The first four fields (Region to Community) are created automatically from the Name file. The following three are created and/or updated by the user when informing the preliminary counts before the survey.
3. The fields 8 and 9 are also indicated by the user at the time the survey was just executed, and the Supervisor totals are available.
4. Fields 10 and 11 are automatically copied by the system from the real questionnaires, just after they were key entered.
5. For more explanations on how these fields work, see chapter II - Using QUANTUM.

Appendix A - Report Examples

The following reports are an example that were produced from a sample execution of the QUANTUM system over a fictitious file.

The first one is a detail list from the Names file, containing the names for each geographical level. Note that the Region names record (Region 1, for example, which has the name "FLORINDA"), has a zero in the lower levels fields (Subregion, etc.). Note also that only the lowest levels (the ones that have values other than zeros for the Community field) have expected number of Enumeration Districts.

The second page shows the two types of labels printed by the system: the labels for boxes and the labels for questionnaires.

The third page is a detail report from the Geographical file, with the Preliminary information (estimation counts before the real survey). Each ED has a line with the expected number of households and persons.

Then follows an example of a total report containing the Supervisor counts. It just shows the Regions and Subregions information.

After that there is a report produced upon creation of the Questionnaire totals. It shows the EDs that did not exist previously in the Geographic file (they were not informed to be expected nor at the time the Supervisor totals were they entered). It can be an error in the ED identification or, in fact, are real results that were not expected. In this case it was detected an ED number 121 that contained 7 questionnaires, and the Geographical file goes up to ED number 120 for this Region, Subregion and District.

The Differences report is exemplified with a comparison between the Questionnaire totals and the Supervisor totals. Note the two Comment columns at the far right: they show "graphically" the existing differences between two equivalent fields. For example, the fifth detail line shows a "< 10" in the Comment House column, meaning that the difference between the number of households informed by the Supervisor and the number of households counted in the Questionnaire file is greater than 5 percent, but less than 10 percent. The "MISS" means that the file we used did not have information for those EDs, that is, it was not key entered yet.

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NAMES FILE

DETAIL LIST

SUBREGION	DISTRICT	COMMUNITY	NAME	EDS EXPECTED
** REGION 1				
	0	0	0 FLORINDA	0
	1	0	0 VILCHES	0
	1	1	0 MAIN VILCHES	20
	1	2	0 SUBURBS OF VILCHES	12
	2	0	0 RAMADA	0
	2	1	0 MAIN RAMADA	10
	2	2	0 SUBURBS OF RAMADA	5
** REGION 2				
	0	0	0 PERDITA	0
	1	0	0 TUMACO	0
	1	1	0 MAIN TUMACO	5
	1	2	0 SUBURBS OF TUMACO	9
	2	0	0 CHACO	0
	2	1	0 MAIN CHACO	0
	2	2	0 SUBURBS OF CHACO	7

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LABEL FOR BOXES

REGION / SUBREGION - 2 1
DISTRICT - 1
COMMUNITY - 2
ED - 201

FROM - TO -

LABEL FOR BOXES

REGION / SUBREGION - 2 1
DISTRICT - 1
COMMUNITY - 2
ED - 202

FROM - TO -

LABEL FOR QUESTIONNAIRES

REGION / SUBREGION - 2 1
DISTRICT - 1
COMMUNITY - 2
ED - 201

QUESTIONNAIRE -

LABEL FOR QUESTIONNAIRES

REGION / SUBREGION - 2 1
DISTRICT - 1
COMMUNITY - 2
ED - 201

QUESTIONNAIRE -

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GEOGRAPHIC FILE

DETAIL REPORT FROM PRELIMINARY INFORMATION

	DISTRICT	COMM	ED	HOUSES	PERSONS
** REGION & SUBREGION 1 1					
* DISTRICT 1 MAIN VILCHES					
	1	0	101	10	40
	1	0	102	12	50
	1	0	103	9	40
	1	0	104	15	60
	1	0	105	20	100
	1	0	106	11	45
	1	0	107	9	38
	1	0	108	10	43
	1	0	109	10	44
	1	0	110	12	50
	1	0	111	14	60
	1	0	112	8	30
	1	0	113	15	70
	1	0	114	14	60
	1	0	115	19	90
	1	0	116	21	110
	1	0	117	22	120
	1	0	118	16	70
	1	0	119	30	150
	1	0	120	34	200
* Subsubtotal *				311	1470
* DISTRICT 2 SUBURBS OF VILCHES					
	2	0	201	40	160
	2	0	202	24	150
	2	0	203	33	180
	2	0	204	35	150
	2	0	205	45	210
	2	0	206	50	240
	2	0	207	25	100
	2	0	208	24	90
	2	0	209	23	90
	2	0	210	25	100
	2	0	211	20	90
	2	0	212	20	90
* Subsubtotal *				364	1650
** Subtotal **				675	3120
*** Total ***				675	3120

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GEOGRAPHIC FILE

TOTAL REPORT FORM SUPERVISOR INFORMATION

	ED	HOUSES	PERSONS
** REGION 1			
* SUBREGION 1 VILCHES			
* Subsubtotal *		682	3164
* SUBREGION 2 RAMADA			
* Subsubtotal *		0	0
** Subtotal **		682	3164
** REGION 2			
* SUBREGION 1 TUMACO			
* Subsubtotal *		0	0
* SUBREGION 2 CHACO			
* Subsubtotal *		0	0
** Subtotal **		0	0
*** Total ***		682	3164

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QUESTIONNAIRE FILE

RECORDS WITH NO CORRESPONDENCE IN GEOGRAPHIC FILE

	DST COMM	ED	HOUSES QUEST	PERSONS QUEST	COMMENT
** REGION 1					
* SUBREGION 1 VILCHES	1	0	121	7.	35 ***

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GEOGRAPHIC FILE

DIFFERENCES FROM QUESTIONNAIRE TOTALS VS SUPERVISOR

DST	COMM	ED	HOUSES SUPERV	PERSONS SUPERV	HOUSES QUEST	PERSONS QUEST	COMMENT HOUSE	COMMENT PERSON
** REGION 1								
* SUBREGION 1 VILCHES								
1	0	101	10	40	10	40		
1	0	102	12	50	12	48		< 5
1	0	103	9	41	9	41		
1	0	104	15	60	15	60		
1	0	105	19	90	20	100	< 10	< 20
1	0	106	11	45	11	45		
1	0	107	10	40	10	40		
1	0	108	10	43	10	43		
1	0	109	10	44	10	50		< 20
1	0	110	12	50	12	50		
1	0	111	24	50	24	118		> 20
1	0	112	8	60	8	60		
1	0	113	14	70	14	70		
1	0	114	14	70	14	70		
1	0	115	19	90	19	90		
1	0	116	21	110	20	100	< 5	< 10
1	0	117	22	120	22	125		< 5
1	0	118	16	70	16	70		
1	0	119	30	149	30	150		< 1
1	0	120	34	200	33	165	< 5	< 20
2	0	201	40	159	0	0	MISS	MISS
2	0	202	24	150	0	0	MISS	MISS
2	0	203	33	180	0	0	MISS	MISS
2	0	204	35	179	0	0	MISS	MISS
2	0	205	45	210	0	0	MISS	MISS
2	0	206	49	240	0	0	MISS	MISS
2	0	207	25	99	0	0	MISS	MISS
2	0	208	24	90	0	0	MISS	MISS
2	0	209	23	90	0	0	MISS	MISS
2	0	210	25	100	0	0	MISS	MISS
2	0	211	19	85	0	0	MISS	MISS
2	0	212	20	90	0	0	MISS	MISS
* Subsubtotal *			682	3164	319	1535		
** Subtotal **			682	3164	319	1535		
*** Total ***			682	3164	319	1535		

Appendix B - System Specifications and Limits

The QUANTUM system was developed to work with up to four levels of geography (logically named Region, Subregion, District and Community), and one operational level (EDs). These names are arbitrary and can be easily changed. Furthermore, if the survey has less than the four levels of control, the system still works, providing that one or more of them are logically eliminated (the way to do this is to not use it any time in the system). For example, suppose we have a survey with only three levels of geography. We can suppress the District level by not creating it in the Name file, and always having a zero in this field in the Geo file.

The other limitations are imposed by the fields' sizes of the variables in the Name and Geo files. For example, the Region is two bytes long, but it could be easily changed to three or four bytes, being careful to change not only the database itself, but the report formats and the BASIC program.

Another limitation is the label size, which can also be changed by modifying the label formats for the boxes and questionnaires.

These changes should be made by a person with a good knowledge of dBASE.

