12

TRIP REPORT

(FEBRUARY 21 TO MARCH 13, 1992)

AREA SAMPLING FRAME QUESTIONNAIRE DESIGN
&
PREPARATION OF EDITING MANUALS

AGRICULTURAL DATA COLLECTION COMPONENT
AGRICULTURAL SECTOR SUPPORT PROGRAM

Prepared by:

Terry P. O'Connor
Survey Statistician
USDA/NASS/WASHINGTON, D.C.

I. SCOPE OF WORK

Please see the Scope of Work shown in Appendix A for complete detail and description of the tasks assigned to this TDY. In brief, the tasks to be completed can be summarized as follows:

1) Review the January and the July Area Sampling Frame (ASF) Crop Estimated Area Survey (CEAS) questionnaires and recommend potential areas for improvement in questionnaire wording, layout and coding.

2) Develop a guide for manual editing of the January and July CEAS questionnaires by provincial Statistical Officers.

3) Review the wheat, cotton, rice, maize and sugarcane ASF Objective Yield (OY) questionnaires and recommend potential areas for improvement in questionnaire wording, layout and coding.

4) Develop a guide for manual editing of the OY questionnaires by provincial Statistical Officers.

II. THE JANUARY CEAS QUESTIONNAIRE

From the January 1991 CEAS to the January 1992 CEAS significant changes were made to the questionnaire. The current format is more efficient in the handling of farmers with a large number of fields, and is also more efficient for collecting data on fields containing up to five different crops or uses. One question was deleted from the total area holdings section (area inside & outside of the segment), and the improved layout of this section is easily followed. A new section detailing the numbers of livestock and poultry owned was added to the questionnaire.

I recommend that the January 1992 version of the CEAS be adopted for future use. I offer the following suggestions for consideration as improvements on the January 1992 CEAS.

III. SUGGESTIONS FOR THE JANUARY 1992 CEAS SEGMENT CONTROL FORMS

1) I recommend that the Segment Control Forms (SCF) be expanded to include a running total of the number of farmers in the segment, the number of fields, and the total segment acreage.

It is my understanding that while the ASF uses a replicated sample design which will allow for segment rotation as survey operations expand, the current segments in the sample will remain in the sample for multiple years. All segment data is collected through face-face interviews, and recontacting farmers to correct data collection errors or to clarify situations is difficult and expensive. To avoid situations in which farmers or field information are inadvertently missed during the interview, additional information on the history of the segment should be provided to the enumerator. As an example:

SEGMENT NUMBER 12011

YEAR	--ENUMERATOR-- NUMBER OF FARMERS	NUMBER OF FIELDS	-SUPERVISOR- SEGMENT ACREAGE COLLECTED (Kanal-Marlas) (or Acres-Gunta)	---- OFFICE USE ---- SEGMENT ACREAGE PLANIMETRED/ DIGITIZED	COLLECTED -- PLANIMTRD/ DIGITIZED
.					
.					
1989	7	22	57-0		
1990	7	22	56-5		
1991	8	25	58-0		
1992	8	25	57-5		
1993	_____	_____	_____	_____	_____

During data collection for the January 1993 CEAS, the enumerator of this segment would make the entries on the "1993" line for the NUMBER OF FARMERS and the NUMBER OF FIELDS. These would be written after completion all of the necessary interviews but before giving the segment to a supervisor.

2) I recommend that a column showing the Farmer Segment Acreage be added to the SCF. This column would be part of the table currently listing the farmer's name, number and field numbers.

After editing the Part II -- Statistics of the Segment section for a farmer, the supervisor would sum together all of the entries for Question 2-2 (Total Area of the Field) for that farmer, which yields the Farmer Segment Acreage.

By adding together the Farmer Segment Acreage for all farmers in the segment, the supervisor would derive the SEGMENT ACREAGE COLLECTED (in the correct provincial units of measurement). This number would then be posted to the designated spot in the above table. (See the proposed editing manual for a more complete description of this task.)

The potential benefits of this added information are that the enumerators could better plan their work by knowing in advance how large a segment is and the expected number of contacts to be made, and the enumerators could be sure to account for the total segment acreage before leaving the area.

Supervisors and office editors would be made aware when changes had occurred in the segment. Enumerators should comment on these changes in the Remarks Section on the last page of the questionnaire. Also, the NUMBER OF FARMERS is equivalent to the number of questionnaires for the segment, and would assist editors is determining whether all completed questionnaires are present.

A potential drawback to this added information is that an enumerator could attempt to create information for a segment or a farmer by knowing how many acres are in the segment. This risk will have to be weighed against the chance of an enumerator inadvertently recording too many or too few acres (in relation to the planimetered acreage).

Once the segment has been edited by the supervisor and sent to the provincial office, the office editor would enter the segment planimetered acreage onto the "1993" line, and divide the collected acreage by the planimetered acreage. If the two acreages are equal, or within allowable tolerances, the segment would continue along the editing and summarization process. If the relationship is outside of allowable tolerances, current practice would send the segment back to the enumerator for correction.

1) I recommend maintaining the current field numbering system on the aerial photos. While a sequential numbering system by farmer would seem to have benefits for tracking land usage across surveys and over the years, a unique farmer identification system would need to be developed first.

Currently the field numbers as listed on the aerial photos used by the enumerators are set up in a serpentine method as shown in the following example:

4	3	2	1
8	7	6	5
12	11	10	9
16	15	14	13

One farmer in the segment may control fields 1, 2, 5, 6 and 9.
A second farmer may control fields 10, 11, 13, 14 and 15.
A third farmer may control fields 3, 4 and 7.
A fourth farmer may control remaining fields 8, 12 and 16.

These field numbers would appear in the appropriate farmer's questionnaire in the Segment Statistics Section for detailing crop acreages.

Consideration was given to changing the numbering system on the aerial photos. One option was to re-number the fields on the photos sequentially by farmer, where (building upon the above example):

One farmer in the segment would control fields 1, 2, 3, 4 and 5.
The second farmer would control fields 6, 7, 8, 9 and 10.
The third farmer would control fields 11, 12 and 13.
The fourth farmer would control fields 14, 15 and 16.

First, this approach would require changes to be made to the master acreage list, which contains the planimetered field acreage for each field, matched to the current field numbering system. Second, it was felt that this system would confuse the enumerators when control of a field changed among farmers. For these reasons, this approach is rejected.

Another approach would maintain the current serpentine numbering system, but add a second code which specifies a particular farmer. For instance, from the original example:

Farmer 1 would control fields 1-1, 1-2, 1-5, 1-6 and 1-9.
Farmer 2 would control fields 2-10, 2-11, 2-13, 2-14 and 2-15.
.... et-cetera.

A drawback to this approach is that, while all questionnaires are numbered within a segment, a given farmer's questionnaire is likely to receive a different number each time the farmer is surveyed. Therefore, for this field numbering system to be adopted, each farmer would need to be assigned a unique identification number by the office, for use on all surveys for as long as the farmer controls land in the segment. Until such an identification method is deemed appropriate to be developed, this field numbering approach is rejected.

IV. SUGGESTIONS FOR THE JANUARY 1992 CEAS QUESTIONNAIRE

4) I recommend removing the decimal marks from the answer cells for Question 3-6, the number of cotton pickings. These marks may simply be printing errors, but the master questionnaire should be checked. Another printing error may be present in the lack of a printed number for Questions 3-9 and 3-13.

5) I recommend standardizing the writing colors for data collection and editing procedures.

* Enumerators should enter the data onto the questionnaires using standard LEAD pencils (as is current practice).

* Supervisors should use a RED pencil for any corrections or marks made upon the questionnaires (as is current practice).

* Office editors should use a BLUE pencil for any corrections or marks made upon the questionnaires prior to the data entry process.

* All changes made based upon the outcome of the computer edit should be written onto the questionnaire in GREEN pencil.

With this method, any changes to the questionnaires can be traced to their origins.

6) I recommend expanding Question 5-6, office use box, to allow a space for the name and code of the editor who reviews the questionnaire prior to data entry, as well as a space for the name and code of the editor who reviews the computer generated edit and may be making corrections to the questionnaires at that point.

To expand upon recommendation number 6, Questions 5-1 (number of questionnaires), 5-2 (respondent), 5-3 (completion date) and 5-4 (enumerator name and signature) should be written on each questionnaire of a segment. But if only one supervisor reviews each segment, and only one office editor reviews each segment prior to data entry, and only one office editor reviews each segment in response to the computer generated edit, then these three could write their names and codes one time each in designated cells on the segment control sheet, rather than writing this information on each questionnaire of the segment.

7) I recommend that enumerators be instructed, for Question 5-2, to write down (in proximity to the office use box) the name of the farmer's relative who provided the survey information when code 2 is checked.

8) I recommend adding an "intentions to plant" or a "presence of the crop" question for vegetables, specifically beets, onions and potatoes.

These vegetables are important to the diet of Pakistanis, but the information collected for these crops is limited to the area

planted within the segment. A farmer with vegetables planted only outside of the segment would not be known as a vegetable grower.

It may be of interest in the future to contact vegetable growers specifically. For example, if an objective yield or a prices survey was considered necessary for vegetables. To build a list of vegetable growers, a simple intentions question could be added to the questionnaire. For example:

* Do you normally plant vegetables on your land, whether inside or outside of the segment? YES (1) NO (2)

If more detail is desired, the following questions could be incorporated into the survey:

* Do you normally plant beets on your land, whether inside or outside the segment? YES (1) NO (2)
  Do you normally plant onions .....? YES (1) NO (2)
  Do you normally plant potatoes .....? YES (1) NO (2)
  [Continued for all items of interest]

A more specific form of this question with a time frame added would be:

* Do you intend to plant beets this month/season/year? YES (1) NO (2)
  [Continued for all items of interest]

As an option, acreage could be asked directly if necessary for any reason, such as future stratification of a vegetable growers list:

* What is the total area under cultivation inside and outside of the segment for vegetables? _____

Or,

* What is the total area under cultivation inside and outside of the segment for beets? _____
  [Continued for all items of interest]

Finally, similar intentions or acreage questions could be asked for fruit trees or nut trees if desired.

9) I recommend that consideration be given to replacing the format of YES = (1) and NO = (2) with YES = (1) and DON'T KNOW = (2) and NO = (3).

This recommendation relates back to recommendation number 8, such that when asking a farmer an intentions question, due to some

uncertainty, the farmer may not be able to confidently answer a question YES or NO. It may be preferable to have the farmer's reply recorded as DON'T KNOW, rather than risking an incorrect guess on the part of the farmer.

Also, when an enumerator is interviewing a relative of the farmer, the relative may currently be forced into a YES or NO answer, when in actuality the relative is unsure of what response should be made, and a response of DON'T KNOW may be more appropriate.

10) I recommend renaming the survey from the Crop Estimated Area Survey to a name which also reflects the collection of poultry and livestock numbers, or perhaps renaming to a generic title such as the January Agricultural Survey.

V. SUGGESTIONS FOR THE JULY 1992 CEAS QUESTIONNAIRES

11) I recommend that the current January CEAS and SCF questionnaire formats be adopted as the formats for the July 1992 CEAS survey. In addition, any of the above recommendations which are deemed worthy of adoption could be incorporated into the July 1992 questionnaires.

The formats of the January 1992 questionnaires are more practical and efficient than the formats of the July 1991 questionnaires. The system of writing in the crop codes after data collection for the crops found in the segment make this format practical to use in a number of situations.

VI. DEVELOPMENT OF THE MANUAL EDITING TEXT FOR CEAS QUESTIONNAIRES

12) I recommend that the Manual Editing Text developed during this TDY be reviewed by local officials and be considered for adoption in the current provinces involved in the ASF surveys. This text, or improved variations, can be used in future provinces as they come on line for these surveys.

For reference, please see the "Editing Manual for the Area Sampling Frame Crop Estimated Area Survey" by Terry P. O'Connor, March, 1992.

VII. SUGGESTIONS FOR THE OY SURVEY PROGRAMS

13) I recommend that the flow of OY questionnaire data from the enumerator to the ASF Office follow the same path as established for the January and July CEAS Surveys.

That is:
enumerators turn in completed work to their supervisors;
supervisors review and edit the completed work;
supervisors randomly select a predetermined number of fields to visit for quality control work;
supervisors turn in edited OY forms to the provincial office;
within the office completed work is
checked-in,
edited prior to the data entry step,
the data is entered into the computer file,
computer files are processed through the computer edit,
an office editor reviews the computer generated error messages and makes necessary updates,
and a final, error-free data tape is then turned over to ASF.

Currently, OY work flows directly from the enumerators to the ASF office. Communication problems make it difficult to resolve potential errors in an efficient manner. OY data quality can be better assured by moving the questionnaire review and editing functions closer to the point of data collection, and by adopting a process of quality control checks.

Quality control checks should include reviewing the initial interview given by the farmer, verifying the proper location and layout of the plot(s), reviewing the crop maturity codes, verifying plot counts when possible, and reviewing the post harvest plot location when possible.

14) I recommend that space be designated on all OY forms for signatures indicating completion of the various stages of processing.

This recommendation follows the pattern suggested for the CEAS surveys. Upon completing their assigned work on a questionnaire, each person would sign the form to indicate that a given stage of the processing has been completed. This will reduce confusion when several persons in an office are working with the forms simultaneously. For example:

supervisors sign to indicate review and edit completed;
office editors sign to indicate pre-data entry edit completed;
data entry personnel sign upon entering the data into a file;
the reviewer of the computer edit signs when required changes are posted to the questionnaire.

15) I recommend standardizing the writing colors for OY data collection and editing procedures.

* Enumerators should enter the data onto the questionnaires using standard LEAD pencils (as is current practice).

* Supervisors should use a RED pencil for any corrections or marks made upon the OY questionnaires.

* Office editors should use a BLUE pencil for any corrections or marks made upon the questionnaires prior to the data entry process.

* All changes made based upon the outcome of the computer edit should be written onto the questionnaire in GREEN pencil.

This method is consistent with the proposal for the CEAS surveys program, and will aid in standardizing the editing process. With this method, any changes to the questionnaires can be traced to their origin.

16) I recommend that OY labs be established in the province offices.

Province offices should establish OY labs, stocked with the necessary equipment to process the harvested samples and post harvest gleanings for each OY program in the province. In this way, each province office is responsible for processing their own work.

Processing all provincial OY samples through one central office creates an overload of work, and associated backlogs of unprocessed samples. In the event of a personnel shortage or an equipment failure at a central office, the processing of many samples could be delayed beyond the useful period. With several province offices processing samples, the effects of a temporary personnel shortage or an equipment failure would be less damaging to the overall survey.

VIII. SUGGESTIONS FOR THE OY SURVEY QUESTIONNAIRES

17) I recommend that the current 1992 Rabi Wheat OY (RWOY) Survey questionnaire formats be adopted as the basic formats for the other OY surveys: cotton, maize, rice, and sugarcane.

For 1991 and earlier OY surveys, one questionnaire version per crop was used for interviewing the farmer and to collect information for both field plots 1 and 2. The same form was used through all months of a given survey. This forced enumerators to ask all of the questions each month, even though a few questions were relevant only to certain months, and led to confusion in several aspects of the survey programs.

From February of 1991 to February of 1992 the RWOY questionnaire format was changed, and improved significantly. For 1992, two questionnaires were developed for plot 1 to replace the single questionnaire used earlier. One questionnaire covers the initial survey month of March, while the second covers the months of April, May and June. In this way, the repetition of unnecessary questio[illegible] was avoided.

In addition, a separate questionnaire was developed for plot 2, since data for this plot is collected only in the month of harvest. For both years, only one post-harvest gleanings form was used (for plot 2).

The RWOY forms in 1992 were also numbered for the first time: March plot 1 (FORM - WE1), April, May and June plot 1 (FORM - WE2), and plot 2 (FORM - WE3).

Present on the WE1 and WE2, and only asked on the final visit, are a new series of questions asking the farmer to estimate the expected yield, rate crop condition, evaluate weather effects on the crop, and indicate shortages in necessary materials. This is a worthwhile addition to the questionnaire and should provide a general description of conditions in the field.

The 1992 RWOY format is efficient to use and more practical for interviewing purposes when compared to the earlier format. Use of the new format should be expanded to the other OY programs, which are currently using the single version format. After a review of all of the OY program questionnaires, I offer the following suggestions for consideration as improvements on the March 1992 RWOY.

IX. SUGGESTIONS FOR THE MARCH 1992 RWOY QUESTIONNAIRES

18) I recommend asking whether irrigated water has been or will be applied to the field selected for OY field work.

There is a question asking about field irrigation on the January CEAS questionnaire, and wheat acreage planted in the segment is coded differently depending upon whether the field is to be irrigated. Asking on the OY survey whether the field has been or

will be irrigated will verify the original information or alert the office staff when the intention or ability to irrigate has changed.

This change could occur in either direction. That is, a farmer planning in January to irrigate a wheat field may not due to unexpected rainfall, water availability or equipment problems, while a farmer not originally planning to irrigate a field might now be irrigating, due to similar changes in circumstances.

Knowing whether a field has been irrigated compared to original intentions, and enumerator comments on this situation, may help to explain unexpectedly high or low yields in the selected field.

19) I recommend expanding Question 6B in Part III of the WE1 and WE2 questionnaires.

The existing question asks the farmer to rate the condition of the current crop. The question does not, however, give the farmer a frame of reference for making the comparison. The choices for a frame of reference would be A) compared to other wheat fields in the farmer's growing area, and B) compared to the farmer's wheat crop of the previous year (when applicable).

There is potential to expand this question to two parts, but in the minimum, select one to give the farmer a frame of reference:

1. What is the condition of this wheat field compared to other farmers' wheat fields in this area?

2. What is the condition of this wheat field compared to wheat you cultivated in last year's Rabi?

If the farmers are able to make thoughtful comparisons of this nature, the results could provide supporting information on changes when yields vary from expectations.

20) I recommend adding a Question to the WE1 questionnaire: What variety of wheat was seeded in this selected field?

As yields differ by variety, this would aid the editors in evaluating the yields produced in the selected fields. Over time, expected yield ranges by variety could be established from this survey.

This question, if adopted, would properly fit in as question 2. The existing Question 2 would become 2A, and existing Question 2A would become 2B.

21) I recommend adding to the OY questionnaire label, or otherwise conveying to the OY enumerator, the name of the person who provided the segment information on the CEAS.

For the CEAS there are two choices for the respondent allowed: the farmer who controls land in the segment, or a relative of this farmer.

When the respondent farmer and the enumerator are the same for both the CEAS and OY surveys, no identification problems are present. But if a relative provides the initial CEAS information and the farmer is approached for the OY survey, the farmer may wonder about who provided the information about his land. The original enumerator may or may not recall, but a different enumerator for the OY survey would be at a greater disadvantage.

Adding the CEAS respondent's name to the OY label should solve this situation.

22) I recommend maintaining the current numbering system for YES and NO responses on the WOY questionnaires.

Depending upon the situation, YES may be a 1 or 3, and NO may be a 2 or "blank - no entry made to the cell".

Earlier in this paper in Recommendation 9 for the CEAS, I had said,

> "I recommend that consideration be given to replacing the format of YES = (1) and NO = (2) with YES = (1) and DON'T KNOW = (2) and NO = (3)."

A consistency in coding should prevent errors such as improperly coding a cell, or leaving a cell blank which should properly have been coded.

Additionally, consistency in coding across surveys serves to reinforce the proper way to complete a task.

However, after discussion it was made clear that the current coding indicates not only a question, but the time period in which the question is asked. As only office editors will perform these coding functions, enough control should be present to minimize errors.

X. DEVELOPMENT OF THE MANUAL EDITING TEXT FOR WHEAT OY

23) I recommend that the OY Manual Editing Text developed during this TDY be reviewed by local officials and be considered for adoption in the current provinces involved in the ASF surveys. This text, or improved variations, can be used in future provinces as they come on line for these surveys.

For reference, please see the "Editing Manual for the Area Sampling Frame Wheat Objective Yield Survey" by Terry P. O'Connor, March, 1992.

APPENDIX A

SCOPE OF WORK
FOR
ASF QUESTIONNAIRE DESIGN
&
PREPARATION OF EDITING MANUAL

We, in the ADC project, are currently conducting two acreage surveys each year. One survey is conducted in January for collecting data on Rabi (early) crops. The major crop found at this time period is wheat. Objective yield plots are later placed in selected wheat fields found in the segments visited in January, and these plots are visited by enumerators several times during the growing season.

The second acreage survey is conducted in July to collect acreage on the Kharif (late) crops. The major crops found in this survey are cotton, rice, maize and sugarcane. Objective yield plots are later placed in selected cotton, rice, maize and sugarcane fields found in the segments visited in July and these cotton fields are visited several times during the growing season. However, the rice, maize and sugarcane plots are visited only at harvest time.

During the course of the above acreage and objective yield surveys, several different questionnaires are used by enumerators.

Pakistan is divided into four geographical areas called provinces (these are NWFP, Balochistan, Sindh and Punjab). We plan to conduct our first entire province ASF survey in Balochistan Province in July of this year.

Before this survey is conducted, this TDY will be expected to review and improve the design of all questionnaires currently being used by the Pakistan ASF Project in order to make their use more efficient and improve data quality. This may include preparation of a master acreage questionnaire and provincial acreage questionnaires since crops found in the segments will vary by province. Computer coding and wording of the questions should also be examined. Once these questionnaires are reviewed and improved, they will be used in Balochistan in July and in each of the other three provinces as they come on line in 1992 and 1993 (surveys will be done in all four provinces by January 1993).

After the questionnaires are reviewed and improved, this TDY will be expected to write an editing manual for use by Statistical Officers in each province as they receive acreage and objective

yield questionnaires from their enumerators for manual edit. This manual can be relatively brief but should be written so it can be used in each province as that province comes on line. The idea is to give the provincial people a tool for manual editing that will be helpful in improving and maintaining data quality and reduce the edit listing after the PC data entry -- similar to the manual editing procedures in the U.S. State offices during the ASF surveys.

In summary, this TDY will be expected to:

1) Review and improve all acreage and objective yield questionnaires currently being used in the Pakistan ASF project, including the computer coding, with the objective of making their use more efficient and improving data quality.

2) Prepare an editing manual to be used by provincial Statistical Officers when manually editing acreage and objective yield questionnaires completed by their enumerators before computer data entry.

Mr. Terry O'Connor of the National Agricultural Statistics Service in Washington, D.C., has been selected for this TDY, and if approved, will arrive Islamabad on February 21, 1992 for three weeks.

EDITING MANUAL FOR THE

AREA SAMPLING FRAME

WHEAT OBJECTIVE YIELD SURVEY

AGRICULTURAL DATA COLLECTION COMPONENT

AGRICULTURAL SECTOR SUPPORT PROGRAM

Prepared by:

Terry P. O'Connor
Survey Statistician
USDA/NASS/WASHINGTON, D.C.

March, 1992

TABLE OF CONTENTS

AN OVERVIEW OF WHEAT OBJECTIVE YIELD SURVEY PROCEDURES

Prior to beginning data collection activities for the Wheat Objective Yield (WOY) Survey in March, all enumerators and supervisors expected to work on the survey in a Province should be brought together for a training workshop. At this workshop, Statistical Officers will provide the training necessary for the enumerators and supervisors to properly complete their assigned duties of the survey.

Sufficient materials will be distributed at this workshop to enable each enumerator to complete their assignment, such as written instructions, aerial photos, topographic maps, survey questionnaires, Objective Yield (OY) field equipment, and other survey items.

Before leaving the workshop each enumerator should be knowledgeable of the survey questions and their intent, and be able to lay out survey and post-harvest plots and make the proper counts. Enumerators should be familiar with the general location of the segments they are to visit, and should know the exact date each is to begin conducting the interviews and fieldwork. Enumerators should know the monthly dates by which all work must be completed and returned, and understand the process for turning in their work.

Supervisors should receive adequate training at the workshop to complete their assigned duties, particularly the collection, editing and quality control of completed work. While verbal instructions to supervisors may occasionally be needed due to last minute adjustments, standard procedure should be to provide written instructions so that all supervisors will be operating in precisely the same manner.

Enumerators should fill out the questionnaires using a standard LEAD pencil. Supervisors should edit the questionnaires using a RED pencil. Prior to the data entry process, office editors should manually review all entries and coding on the questionnaires for accuracy, and make any corrections to the questionnaires with a BLUE pencil. When reviewing the computer generated edit, office editors should make any corrections to the questionnaire with a GREEN pencil. In this manner, corrections to the questionnaire can be traced to their origins.

A check-in process for completed work should be established at each Provincial office. This is to ensure that the questionnaires for all selected fields sent out for OY work are returned to the office within the proper time period. Within the office, a process should be established to guide the completed questionnaires through the separate actions of check-in, manual editing, data entry, reviewing the computer edit and necessary questionnaires, and filing for future reference. A process for handling harvested material

through the actions of drying, weighing, making counts and other lab functions should also be established.

When processing the data, office editors must review all messages generated by the computer edit to correct data errors not discovered during the manual review.

To better understand the entire survey process, it is beneficial for each supervisor and office editor to go to a minimum of one selected field, conduct a minimum of one interview per survey (either on their own or in the presence of the enumerator assigned to the field), and participate in making the plot counts for one month. When accompanying an enumerator to a selected field, this also provides the supervisor or office editor the opportunity to observe whether the enumerator is correctly fulfilling their data collection duties.

CHECKING IN QUESTIONNAIRES -- SUPERVISORS

Supervisors should write with a RED pencil for all questionnaire editing and coding functions.

Supervisors should have a list naming each of their enumerators, and detailing by segment number the selected fields assigned to each enumerator. On the listing sheet there should be a column for each month fieldwork is possible: March, April, May and June.

As the enumerators turn in completed work each month to the supervisor, the supervisor should make a check-mark against the segment and field numbers in the proper monthly column on the listing. This will aid in determining when all expected work has been completed each month, and for the total survey period.

When the "FINAL" questionnaire is received for a selected field, write "FINAL" in the monthly column for the field number on the check-in listing. No questionnaires will be expected in the next month(s) for these fields.

Upon receiving completed work from an enumerator, the supervisor should:

1. Check that the segment and selected field numbers on the questionnaires match the numbers on the enumerator assignment sheet.

2. Check that a "FINAL" report has not been submitted in an earlier month for the field.

3. Verify that all harvested material is properly packed and labelled according to the workshop instructions.

EDITING THE MARCH/FINAL (WE1) QUESTIONNAIRE -- SUPERVISORS

Now it is time to review and edit the individual selected field questionnaires. In general, review each questionnaire section for completeness and accuracy, in accordance with the written and verbal instructions received at the survey training workshop. If a potential error is discovered, the supervisor should contact the enumerator for additional information. Such discussions will prevent the same errors from recurring throughout the survey period.

EXTREME VALUES WHICH ARE VALID FOR A GIVEN FARMER SHOULD NOT BE CHANGED, BUT SHOULD BE EXPLAINED BY THE ENUMERATOR IN THE REMARKS SECTION.

Supervisors are instructed to highlight with a red check mark all cells of the questionnaire which contain numeric values for data entry.

* Verify that LAND AREA MEASUREMENTS are recorded in the proper format for the units of measurement used: Kanal-Marlas for Punjab, and Acres-Gunta for Sindh Province..

Question 1
Review any changes made to the label sticker, particularly on the Farmer's Name, Father's Name, Cast or Address.

New Question 2 [IF ADOPTED FROM THE SUGGESTIONS PAPER]
Review the variety of wheat sown, considering common practice in your area.

Current Question 2
Review the date of wheat sowing, considering common practice in your area.

Current Question 2A
The area sown to wheat for harvest as grain (cell 200) should not be greater than the area sown to wheat shown on the label. Discuss discrepancies with the enumerator.

If the area in cell 200 is blank or zero, the enumerator is instructed to skip to Question 6E (date of interview) and

explain the situation in the Remarks Section. WHEN CELL 200 EQUALS ZERO, THERE SHOULD BE NO ENTRIES FOR QUESTIONS 3 THROUGH 6D.

Question 3

Review the date of wheat harvest, considering common practice in your area.

Question 4

(Enumerator lays out the plot.) Cell 404 will be coded by the office editor.

Questions 4A and 4B

Questions 4A and 4B are related.

If the answer to Question 4A (wheat sown in lines) is YES, then line measurements must be present in Question 4B (distance between lines).

If the answer to Question 4A is NO, then no entries should be present for Question 4B.

Question 4B

When entries are required, review the distance measurements given in cells 400, 402 and 403, considering common practice in your area. Review unusual entries with the enumerator.

Question 4C

An entry is required for Question 4C (stages of maturity of wheat plants) whether the field is planted in lines or broadcast planted.

Review the maturity checked considering what you have observed in other fields, along with what is being reported on other questionnaires in the area.

Question 5

Lines 5A (number of plants), 5B (Number in late boot) and 5C (number of emerged heads) should have entries each month, unless explained by the enumerator in the Remarks Section.

Line 5D (number of detached heads) will contain entries only for the final visit.

Verify that the entries in columns 1, 2 and 3 (row counts) per line sum to the total written in column 4.

Questions 5E and 5F

These questions will contain entries, and harvested material will be sent to the OY lab, for each survey month except the final visit. Verify that entries are present, or the absence

of entries is explained in the Remarks Section, until you are editing the "FINAL" questionnaire.

Comparing the numeric entries for Question 5E (up to the first five heads in the clip unit) and Question 5Fi (number of remaining heads in the clip unit) and Question 5Fii (number of late boots) to the actual count of harvested materials being forwarded will be made at the lab by office personnel.

Questions 6A through 6D

Questions 6A (expected yield), 6B (crop condition), 6C (weather effects) and 6D (material shortages) are asked only on the "FINAL" visit.

Supervisors should not make changes to answers in this section, but should review that the questions have received entries only during the final visit.

The suggested question on selected field irrigation [FROM THE SUGGESTIONS PAPER]

If adopted, this question could be added to the questionnaire at this point as the new Question 6E. Then enumerators would only need to ask about irrigation to the selected field one time during the OY survey period. Supervisor editing would be the same as for Questions 6A through 6D.

Current Question 6E

Review that the enumerator has dated and signed the questionnaire.

Review the Remarks Section for explanations of unusual circumstances concerning entries in this questionnaire or the selected farmer's field.

[IF ADOPTED FROM THE SUGGESTIONS PAPER]

Sign and date when the supervisor edit is completed.

EDITING THE APRIL/MAY/FINAL (WE2) QUESTIONNAIRES -- SUPERVISORS

In general, review each questionnaire section for completeness and accuracy, in accordance with the written and verbal instructions received at the survey training workshop. If a potential error is discovered, the supervisor should contact the enumerator for additional information. Such discussions will prevent the same errors from recurring throughout the survey period.

EXTREME VALUES WHICH ARE VALID FOR A GIVEN FARMER SHOULD NOT BE CHANGED, BUT SHOULD BE EXPLAINED BY THE ENUMERATOR IN THE REMARKS SECTION.

Supervisors are instructed to highlight with a red check mark all cells of the questionnaire which contain numeric values for data entry.

Questions 3A and 3B

Review that the enumerator has verified Question 3A (the current expected harvest date on the selected field) with the farmer.

If the expected harvest date is unchanged, Question 3A will be YES, and Question 3B will be blank.

If the expected harvest date is changed, Question 3A will be NO, and Question 3B will contain the new expected date of harvest on the selected field.

Question 4

(Enumerator lays out the plot.) Cell 404 will be coded by the office editor.

Questions 4A and 4B

Questions 4A and 4B are related.

If the answer to Question 4A (wheat sown in lines) is YES, then line measurements must be present in Question 4B (distance between lines).

If the answer to Question 4A is NO, then no entries should be present for Question 4B.

Question 4B

When entries are required, review the distance measurements given in cells 400, 402 and 403, considering common practice in your area. Review unusual entries with the enumerator.

Question 4C

An entry is required for Question 4C (stages of maturity of wheat plants) whether the field is planted in lines or broadcast planted.

Review the maturity checked considering what you have observed in other fields, along with what is being reported on other questionnaires in the area.

Question 5

Lines 5A (number of plants), 5B (Number in late boot) and 5C (number of emerged heads) should have entries each month, unless explained by the enumerator in the Remarks Section.

Line 5D (number of detached heads) will contain entries only for the final visit.

Verify that the entries in columns 1, 2 and 3 (row counts) per line sum to the total written in column 4.

Questions 5E and 5F

These questions will contain entries, and harvested material will be sent to the OY lab, for each survey month except the final visit. Verify that entries are present, or the absence of entries is explained in the Remarks Section, until you are editing the "FINAL" questionnaire.

Comparing the numeric entries for Question 5E (up to the first five heads in the clip unit) and Question 5Fi (number of remaining heads in the clip unit) and Question 5Fii (number of late boots) to the actual count of harvested materials being forwarded will be made at the lab by office personnel.

Questions 6A through 6D

Questions 6A (expected yield), 6B (crop condition), 6C (weather effects) and 6D (material shortages) are asked only on the "FINAL" visit.

Supervisors should not make changes to answers in this section, but should review that the questions have received entries only during the final visit.

The suggested question on selected field irrigation [FROM THE SUGGESTIONS PAPER]

If adopted, this question could be added to the questionnaire at this point as the new Question 6E. Then enumerators would only need to ask about irrigation to the selected field one time during the OY survey period. Supervisor editing would be the same as for Questions 6A through 6D.

Current Question 6E

Review that the enumerator has dated and signed the questionnaire.

Review the Remarks Section for explanations of unusual circumstances concerning entries in this questionnaire or the selected farmer's field.

[IF ADOPTED FROM THE SUGGESTIONS PAPER]

Sign and date when the supervisor edit is completed.

EDITING THE PLOT 2/FINAL (WE3) QUESTIONNAIRE -- SUPERVISORS

In general, review each questionnaire section for completeness and accuracy, in accordance with the written and verbal instructions received at the survey training workshop. If a potential error is discovered, the supervisor should contact the enumerator for additional information. Such discussions will prevent the same errors from recurring throughout the survey period.

EXTREME VALUES WHICH ARE VALID FOR A GIVEN FARMER SHOULD NOT BE CHANGED, BUT SHOULD BE EXPLAINED BY THE ENUMERATOR IN THE REMARKS SECTION.

Supervisors are instructed to highlight with a red check mark all cells of the questionnaire which contain numeric values for data entry.

Question 4

(Enumerator lays out the plot.) Cell 404 will be coded by the office editor.

Questions 4A and 4B

Questions 4A and 4B are related.

If the answer to Question 4A (wheat sown in lines) is YES, then line measurements must be present in Question 4B (distance between lines).

If the answer to Question 4A is NO, then no entries should be present for Question 4B.

Question 4B

When entries are required, review the distance measurements given in cells 400, 402 and 403, considering common practice in your area. Review unusual entries with the enumerator.

Question 5

Lines 5A (number of plants), 5B (Number in late boot) and 5C (number of emerged heads) should have entries each month, unless explained by the enumerator in the Remarks Section.

Line 5D (number of detached heads) will contain entries only for the final visit.

Verify that the entries in columns 1, 2 and 3 (row counts) per line sum to the total written in column 4.

Question 6E

Review that the enumerator has dated and signed the questionnaire.

Review the Remarks Section for explanations of unusual circumstances concerning entries in this questionnaire or the selected farmer's field.

[IF ADOPTED FROM THE SUGGESTIONS PAPER]

Sign and date when the supervisor edit is completed.

ADDITIONAL INSTRUCTIONS -- SUPERVISORS

NOTE when a questionnaire represents one of the fields randomly selected for QUALITY CONTROL work. If YES, some information may need to be copied to the quality control form.

Edited questionnaires should be returned to the Statistical Office according to the schedule agreed upon at the training workshop.

It may be beneficial for the supervisor to make edit checks in the presence of the enumerator, when possible, for the first few questionnaires turned in as completed. This will allow the supervisor to identify problem areas for the enumerator early in the data collection period so that problems do not repeat throughout the survey period.

AN OVERVIEW OF OFFICE PROCEDURES

A check-in process for edited WOY questionnaires and harvested materials received from supervisors should be established at each Provincial office. This process will be used to guide the questionnaires through the separate actions of check-in, lab work, manual editing, data entry, review of the computer edit and necessary questionnaires, and filing for future reference.

A series of holding boxes, files or cabinet drawers may be used. Each holding box should be clearly marked identifying which step of the process the questionnaires contained within are at. This process is used to organize the questionnaires and minimize confusion when multiple office personnel are working on the project.

Office guidelines should be established for resolving discrepancies discovered during the editing process. **This is important so that all editors resolve discrepancies according to the same procedures.** Options for resolving discrepancies may include:

1. Recontacting the supervisor and/or the enumerator.

2. Consulting the Crop Estimated Area Survey (CEAS) questionnaires.

3. Replacing "Totals" with a sum derived from adding together category breakdowns.

4. Statistical officer estimation for some unknown values.

6. Other established office procedures.

CHECKING IN QUESTIONNAIRES -- OFFICE EDITORS

Office editors should write with a BLUE pencil for all questionnaire editing and coding functions.

Office editors should maintain a list by supervisor naming each of their enumerators, and detailing by segment number the selected WOY fields assigned to each enumerator. On the listing sheet there should be a column for each month fieldwork is possible: March, April, May and June.

As the supervisors turn in completed work each month to the office, the office editors should make a check-mark against the segment and field numbers in the proper monthly column on the listing. This will aid in determining when all expected work has been completed each month, and for the total survey period. One day an automated computer check-in system may be developed to speed this step and offer daily updates on the completion of work by supervisor and enumerator.

When the "FINAL" questionnaire is received for a selected field, write "FINAL" in the monthly column by the field number on the check-in listing. No questionnaires will be expected in the next month(s) for these fields.

Upon receiving completed work from a supervisor, the office editor should:

1. Check that the segment and selected field numbers on the questionnaires match the numbers on the enumerator assignment sheet.

2. Check that a "FINAL" report has not been submitted in an earlier month for the field.

3. Verify that all harvested material is properly packed and labelled according to the workshop instructions.

Each office OY lab will have a separate check-in and processing procedure for the harvested materials sent in from the field. Office and lab personnel should follow the procedures established at each office for separating the harvested material from the accompanying questionnaires. It may be necessary for some lab counts to be made to verify entries written by the enumerators for Questions 5A through 5F (plot counts and clippings).

EDITING THE MARCH/FINAL (WE1) QUESTIONNAIRE -- OFFICE EDITORS

Now it is time to review and edit the individual selected field questionnaires. In general, review each questionnaire section for completeness and accuracy, in accordance with the written and verbal instructions given at the survey training workshop. If a potential error is discovered, the office editor should contact the supervisor or enumerator for additional information. Such discussions will prevent the same errors from recurring throughout the survey period.

EXTREME VALUES WHICH ARE VALID FOR A GIVEN FARMER SHOULD NOT BE CHANGED, BUT SHOULD BE EXPLAINED BY THE ENUMERATOR IN THE REMARKS SECTION.

Verify that LAND AREA MEASUREMENTS are recorded in the proper format for the units of measurement used: Kanal-Marlas for Punjab, and Acres-Gunta for Sindh Province.

Cell 100

The enumerator will have circled either MARCH or FINAL at the beginning of the questionnaire to indicate whether the initial or final counts are present.

For cell 100, enter a code of 1 for March,
enter a code of 4 for Final.

Question 1

Review any changes made to the label sticker, particularly on the Farmer's Name, Father's Name, Cast or Address.

New Question 2 [IF ADOPTED FROM THE SUGGESTIONS PAPER]

Review the variety of wheat sown, considering common practice in your province.

For cell xxx, enter the variety code.

Current Question 2

Review the date of wheat sowing, considering common practice in your province.

For cell 202, enter the Julian Date code for the sowing date.

Current Question 2A

The area sown to wheat for harvest as grain (cell 200) should not be greater than the area sown to wheat shown on the label. Discuss discrepancies with the supervisor.

If the area in cell 200 is blank or zero, the enumerator is instructed to skip to Question 6E (date of interview), then explain the situation in the Remarks Section. WHEN CELL 200 EQUALS ZERO, THERE SHOULD BE NO ENTRIES FOR QUESTIONS 3 THROUGH 6D.

Question 3

Review the date of wheat harvest, considering common practice in your province.

For cell 300, enter the Julian date for the harvest date.

Question 4

(Enumerator lays out plot 1.)

For cell 404, enter a code of 1 when the enumerator is able to lay out the plot on the initial visit.

When the enumerator is not able to lay out the plot, cell 404 will be left blank. Review the Remarks Section for an explanation.

Questions 4A and 4B

Questions 4A and 4B are related.

If the answer to Question 4A (wheat sown in lines) is YES, then line measurements must be present in Question 4B (distance between lines).

If the answer to Question 4A is NO, then no entries should be present for Question 4B.

For cell 406, enter a code of 1 for YES,
enter a code of 2 for NO.

Question 4B

When entries are required, review the distance measurements given in cells 400, 402 and 403, considering common practice in your province. Review unusual entries with the supervisor.

Question 4C

An entry is required for Question 4C (stages of maturity of wheat plants) whether the field is planted in lines or broadcast planted.

Review the maturity checked considering what you have observed in wheat fields, along with what is being reported on other questionnaires in the province.

For cell 408, enter a maturity code of 1 through 7, corresponding to the enumerator's check-mark.

Question 5

Lines 5A (number of plants), 5B (Number in late boot) and 5C (number of emerged heads) should have entries each month, unless explained by the enumerator in the Remarks Section.

Line 5D (number of detached heads) will contain entries only for the final visit.

Verify that the entries in columns 1, 2 and 3 (row counts) per line sum to the total written in column 4.

Questions 5E and 5F

These questions will contain entries, and harvested material will be sent to the OY lab, for each survey month except the final visit. Verify that entries are present, or the absence of entries is explained in the Remarks Section, until you are editing the "FINAL" questionnaire.

Comparing the numeric entries for Question 5E (up to the first five heads in the clip unit) and Question 5Fi (number of remaining heads in the clip unit) and Question 5Fii (number of late boots) to the actual count of harvested materials being forwarded may best be done by the lab personnel. Each office will have to determine when to separate harvested material from the accompanying questionnaires.

Questions 6A through 6D

Questions 6A (expected yield), 6B (crop condition), 6C (weather effects) and 6D (material shortages) are asked only on the "FINAL" visit.

Office editors should not make changes to answers in this section, but should review that the questions have received entries only during the final visit.

The suggested question on selected field irrigation [FROM THE SUGGESTIONS PAPER]

If adopted, this question could be added to the questionnaire at this point as the new Question 6E. Then enumerators would only need to ask about irrigation to the selected field one time during the OY survey period. Office editing would be the same as for Questions 6A through 6D.

Current Question 6E

For cell 600, enter the Julian Date for the interview date.

Review that the enumerator has dated and signed the questionnaire.

Review the Remarks Section for explanations of unusual circumstances concerning entries in this questionnaire or the selected farmer's field.

[IF ADOPTED FROM THE SUGGESTIONS PAPER]

Review that the supervisor has dated and signed the questionnaire.

Sign and date when the office edit is completed.

EDITING THE APRIL/MAY/FINAL (WE2) QUESTIONNAIRES -- OFFICE EDITORS

In general, review each questionnaire section for completeness and accuracy, in accordance with the written and verbal instructions given at the survey training workshop. If a potential error is discovered, the office editor should contact the supervisor or enumerator for additional information. Such discussions will prevent the same errors from recurring throughout the survey period.

EXTREME VALUES WHICH ARE VALID FOR A GIVEN FARMER SHOULD NOT BE CHANGED, BUT SHOULD BE EXPLAINED BY THE ENUMERATOR IN THE REMARKS SECTION.

Cell 100

The enumerator will have circled either APRIL, MAY or FINAL at the beginning of the questionnaire to indicate whether the second, third or final counts are present.

For cell 100, enter a code of 2 for April,
enter a code of 3 for May,
enter a code of 4 for June or Final.

Questions 3A and 3B

Review that the enumerator has verified Question 3A (the current expected harvest date on the selected field) with the farmer.

If the expected harvest date is unchanged, Question 3A will be YES, and Question 3B will be blank.

If the expected harvest date is changed, Question 3A will be NO, and Question 3B will contain the new expected date of harvest on the selected field.

For cell 304, enter the Julian date for the harvest date.

Question 4

(Enumerator uses the existing plot, or lays out a new plot.)

For cell 404, enter a code of 3 when the enumerator is able to use the existing plot.

Enter a code of 2 when the enumerator is not able to use the existing plot, and must lay out a new plot. Review the Remarks Section for an explanation.

Questions 4A and 4B

Questions 4A and 4B are related.

If the answer to Question 4A (wheat sown in lines) is YES, then line measurements must be present in Question 4B (distance between lines).

If the answer to Question 4A is NO, then no entries should be present for Question 4B.

For cell 406, enter a code of 1 for YES,
enter a code of 2 for NO.

Question 4B

When entries are required, review the distance measurements given in cells 400, 402 and 403, considering common practice in your province. Review unusual entries with the supervisor.

Question 4C

An entry is required for Question 4C (stages of maturity of wheat plants) whether the field is planted in lines or broadcast planted.

3V

Review the maturity checked considering what you have observed in wheat fields, along with what is being reported on other questionnaires in the province.

For cell 408, enter a maturity code of 1 through 7, corresponding to the enumerator's check-mark.

Question 5

Lines 5A (number of plants), 5B (Number in late boot) and 5C (number of emerged heads) should have entries each month, unless explained by the enumerator in the Remarks Section.

Line 5D (number of detached heads) will contain entries only for the final visit.

Verify that the entries in columns 1, 2 and 3 (row counts) per line sum to the total written in column 4.

Questions 5E and 5F

These questions will contain entries, and harvested material will be sent to the OY lab, for each survey month except the final visit. Verify that entries are present, or the absence of entries is explained in the Remarks Section, until you are editing the "FINAL" questionnaire.

Comparing the numeric entries for Question 5E (up to the first five heads in the clip unit) and Question 5Fi (number of remaining heads in the clip unit) and Question 5Fii (number of late boots) to the actual count of harvested materials being forwarded may best be done by the lab personnel. Each office will have to determine when to separate harvested material from the accompanying questionnaires.

Questions 6A through 6D

Questions 6A (expected yield), 6B (crop condition), 6C (weather effects) and 6D (material shortages) are asked only on the "FINAL" visit.

Office editors should not make changes to answers in this section, but should review that the questions have received entries only during the final visit.

The suggested question on selected field irrigation [FROM THE SUGGESTIONS PAPER]

If adopted, this question could be added to the questionnaire at this point as the new Question 6E. Then enumerators would only need to ask about irrigation to the selected field one time during the OY survey period. Office editing would be the same as for Questions 6A through 6D.

Current Question 6E

For cell 600, enter the Julian Date for the interview date.

Review that the enumerator has dated and signed the questionnaire.

Review the Remarks Section for explanations of unusual circumstances concerning entries in this questionnaire or the selected farmer's field.

[IF ADOPTED FROM THE SUGGESTIONS PAPER]

Review that the supervisor has dated and signed the questionnaire.

Sign and date when the office edit is completed.

EDITING THE PLOT 2/FINAL (WE3) QUESTIONNAIRE -- OFFICE EDITORS

In general, review each questionnaire section for completeness and accuracy, in accordance with the written and verbal instructions given at the survey training workshop. If a potential error is discovered, the office editor should contact the supervisor or enumerator for additional information. Such discussions will prevent the same errors from recurring throughout the survey period.

EXTREME VALUES WHICH ARE VALID FOR A GIVEN FARMER SHOULD NOT BE CHANGED, BUT SHOULD BE EXPLAINED BY THE ENUMERATOR IN THE REMARKS SECTION.

Question 4

(Enumerator lays out plot 2.)

For cell 404, enter a code of 1 when the enumerator is able to lay out the plot.

When the enumerator is not able to lay out the plot, cell 404 will be left blank. Review the Remarks Section for an explanation.

Questions 4A and 4B

Questions 4A and 4B are related.

If the answer to Question 4A (wheat sown in lines) is YES, then line measurements must be present in Question 4B (distance between lines).

If the answer to Question 4A is NO, then no entries should be present for Question 4B.

For cell 406, enter a code of 1 for YES,
enter a code of 2 for NO.

Question 4B

When entries are required, review the distance measurements given in cells 400, 402 and 403, considering common practice in your province. Review unusual entries with the supervisor.

Question 5

Lines 5A (number of plants), 5B (Number in late boot) and 5C (number of emerged heads) should have entries each month, unless explained by the enumerator in the Remarks Section.

Line 5D (number of detached heads) will contain entries only for the final visit.

Verify that the entries in columns 1, 2 and 3 (row counts) per line sum to the total written in column 4.

Question 6E

For cell 600, enter the Julian Date for the interview date.

Review that the enumerator has dated and signed the questionnaire.

Review the Remarks Section for explanations of unusual circumstances concerning entries in this questionnaire or the selected farmer's field.

[IF ADOPTED FROM THE SUGGESTIONS PAPER]

Review that the supervisor has dated and signed the questionnaire.

..ign and date when the office edit is completed.

ADDITIONAL INSTRUCTIONS -- OFFICE EDITORS

NOTE when a questionnaire represents one of the fields randomly selected for QUALITY CONTROL work. If YES, be certain to review the quality control form when received.

Edited questionnaires should be placed in the holding box for data entry, or in the place designated within the Statistical Office.

PROCEDURES RELATING TO THE COMPUTER EDIT

After the manual edit has been completed in the office, the data from the WOY questionnaires will be entered into a computer file.

The office person entering the data from the segment questionnaires to the computer file should sign their name and write "entered" in the space provided [IF ADOPTED FROM THE SURVEY SUGGESTIONS PAPER] as each questionnaire is finished.

Once the file has been processed through the computer edit, an error listing will be generated.

Questionnaires which show up on this error listing should be stacked together so that an office editor can review the computer messages against the data on the questionnaires. **IT IS IMPORTANT THAT ALL ERROR MESSAGES BE REVIEWED FOR EACH COMPUTER GENERATED EDIT.**

In some cases, the error messages will highlight situations which are unusual, but are correct for that farmer. No changes are necessary in these cases.

In other cases, errors will be detected which will require that a change be posted to the computer file and to the questionnaire. Changes to the data at this point should be based upon the office guidelines mentioned in the Overview of Office Procedures Section above.

Changes to the questionnaire after the computer edit should be written in GREEN pencil.

[IF ADOPTED FROM THE SURVEY SUGGESTIONS PAPER]
The office editor who reviews the computer edit messages and posts changes to the questionnaires at this point should sign their name and write "checked" in the space provided in Question 5-6 [or on the SCF].

After being reviewed with the computer messages, the WOY questionnaires should be filed in an accessible location for future reference.

EDITING MANUAL FOR THE

AREA SAMPLING FRAME

CROP ESTIMATED AREA SURVEY

AGRICULTURAL DATA COLLECTION COMPONENT

AGRICULTURAL SECTOR SUPPORT PROGRAM

Prepared by:

Terry P. O'Connor
Survey Statistician
USDA/NASS/WASHINGTON, D.C.

March, 1992

TABLE OF CONTENTS

AN OVERVIEW OF SURVEY PROCEDURES

Prior to beginning data collection activities for the Crop Estimated Area Survey (CEAS) in both January and July, all enumerators and supervisors expected to work on the survey in a Province should be brought together for a training workshop. At this workshop, Statistical Officers will provide the training necessary for the enumerators and supervisors to properly complete their assigned duties of the survey.

Sufficient materials will be distributed at this workshop to enable each enumerator to complete their assignment, such as written instructions, aerial photos, topographic maps, Segment Control Forms, Survey Questionnaires, and other survey items.

Before leaving the workshop each enumerator should be knowledgeable of the survey questions and their intent, understand the process for completing their work and turning in completed work, and be familiar with the general location of the segments they are to visit. Enumerators should also know the exact date each is to begin conducting the interviews, and the date by which all work must be completed and returned.

Supervisors should receive adequate training at the workshop to complete their assigned duties, particularly the collection and editing of completed work. While verbal instructions to supervisors may occasionally be needed due to last minute adjustments, standard procedure should be to provide written instructions so that all supervisors will be operating in precisely the same manner.

Enumerators should fill out the questionnaires using a standard LEAD pencil. Supervisors should edit the questionnaires using a RED pencil. Prior to the data entry process, office editors should manually review all entries and coding on the questionnaires for accuracy, and make any corrections to the questionnaires with a BLUE pencil. When reviewing the computer generated edit, office editors should make any corrections to the questionnaire with a GREEN pencil. In this manner, corrections to the questionnaire can be traced to their origins.

A check-in process for completed segments should be established at each Provincial office. This is to ensure that all segments sent out into the field to be enumerated are returned to the office within the proper time period. Within the office, a process should be established to guide the completed segments through the separate actions of check-in, manual editing, data entry, reviewing the computer edit and necessary questionnaires, and filing for future reference.

Office editors must review all messages generated by the computer edit to correct data errors not discovered during the manual review.

To better understand the entire survey process, it is beneficial for each supervisor and office editor to go to a minimum of one segment and conduct a minimum of one interview per survey, either on their own or in the presence of the enumerator assigned to the segment. When accompanying an enumerator to a segment, this also provides the supervisor or office editor the opportunity to observe whether the enumerator is correctly fulfilling their data collection duties.

CHECKING IN SEGMENTS -- SUPERVISORS

Supervisors should write with a RED pencil for all questionnaire editing and coding functions.

Supervisors should have a list naming each of their enumerators, and detailing the segment numbers assigned to each enumerator. As the enumerators turn in completed segments to the supervisor, the supervisor should make a check-mark against the segment numbers on the listing. This will aid in determining when all expected work has been completed.

Upon receiving a completed segment from an enumerator, the supervisor should:

1. Check that the segment numbers on the Segment Control Forms (SCF) match the segment numbers on the associated Crop Estimated Area Survey (CEAS) questionnaires.

2. Verify that the number of segment questionnaires returned matches the number of farmers listed on the SCFs.

3. Compare the number of fields inside the segment on the aerial photo with the field numbers listed on the SCFs.

4. Compare the field numbers listed by farmer on SCF A with the field numbers listed within each farmer's questionnaire.

EDITING THE SEGMENTS -- SUPERVISORS

Now it is time to review, edit and code the individual farmer

40

questionnaires for the segment. In general, review each questionnaire section for completeness and accuracy, in accordance with the written and verbal instructions received at the survey training workshop.

Supervisors are instructed to highlight with a red check mark all cells of the questionnaire which contain numeric values for data entry.

Part I -- Identification

1. Review that the enumerator has provided an entry for each of the questions 1-1 through 1-10. If the Farmer's Name, Cast, Mailing Address or Father's Name has been omitted, the enumerator should be contacted to provide this information. If Province, District, Tehsil, Village or Segment Number are missing, the supervisor may contact the enumerator or simply copy the information from another questionnaire in the segment, whichever is considered appropriate.

   If the Farmer's Number is missing, it may be copied from the SCF.

Part II -- Statistics of the Segment

In general, review Questions 2-1 to 2-14 for each field. Be sure to notice when a field with more than five crops has been continued onto a second column.

1. Beginning with the first field number listed, review the LAND USES AND CROPS written in for Questions 2-3, 2-5, 2-7, 2-9, 2-11 and 2-13 for reasonableness within this Province. Consult with the enumerator when entries are not made for these questions, or when unusual or unexpected land uses are written in (unless these are explained in the Remarks Section).

2. From the list provided by the Statistical Office, enter the crop codes into the area of the parenthesis for each crop written in.

3. Review the LAND AREA MEASUREMENTS written in for Questions 2-2, 2-4, 2-6, 2-8, 2-10, 2-12 and 2-14. Verify that numbers are written to the correct number of decimal places for the

unit of measure, used (Kanal-Marlas or Acres-Gunta).

4. Sum the land areas written in for Questions 2-4, 2-6, 2-8, 2-10, 2-12 and 2-14. Compare this summed total to the Question 2-2 (Total Area of the Field) number written in. **The summed total and the written in number should be identical.** Very minor discrepancies should be handled as directed at the workshop by the Statistical Office. Consult with the enumerator to clarify other discrepancies.

5. Continue this process for each field number listed in Part II.

[IF ADOPTED FROM THE SURVEY SUGGESTIONS PAPER]

6. Once the Question 2-2 (Total Area of the Field) number is determined to be correct for all of the fields listed for an individual farmer, sum all of the numbers for Question 2-2 to provide a Farmer Segment Acreage value for the farmer. Write this value to the designated place on the SCF.

   After you have edited the Part II -- Statistics of the Segment section for each farmer, and written the Farmer Segment Acreage values to the designated place on the SCF, sum all of the Farmer Segment Acreage values on the SCF to determine the SEGMENT ACREAGE COLLECTED.

   Comparing the current summed SEGMENT ACREAGE COLLECTED to the values from previous years shown on the SCF will aid in determining whether complete coverage of the segment has occurred. Consult with the enumerator when discrepancies exist.

Part III -- Total Area Inside and Outside the Segment

1. Review the LAND AREA MEASUREMENTS written in for Questions 3-1, 3-2, 3-3, 3-5, 3-8, 3-10, 3-11 and 3-13. Verify that numbers are written to the correct number of decimal places for the unit of measure used (Kanal-Marlas or Acres-Gunta).

2. Review the PRODUCTION VALUES written in for Questions 3-4, 3-7, 3-9 and 3-12. Verify that numbers are written to the correct number of decimal places for the unit of measure used.

3. When present, responses to Question 3-6 (Number of Cotton Pickings) will be a whole number.

Within Part III, a response to certain questions requires that a response to related questions be present. These will now be identified.

4. Questions 3-3 (Rice Planted Area) and 3-4 (Rice Production) are related.

   An entry in cell 301 requires an entry in cell 311.
   An entry in cell 302 requires an entry in cell 312.
   An entry in cell 303 requires an entry in cell 313.

   Both related cells should contain a positive entry, or both should be blank. A production value of zero is possible under extreme circumstances, and should have been explained by the enumerator in the Remarks Section.

5. Questions 3-5 (Cotton Planted Area) and 3-6 (Number of Cotton Pickings) and 3-7 (Cotton Production) are related.

   An entry in cell 501 requires an entry in cells 591 and 511.
   An entry in cell 502 requires an entry in cells 592 and 512.

   All three related cells should contain a positive entry, or all three should be blank. A production value of zero is possible under extreme circumstances, and should have been explained by the enumerator in the Remarks Section.

6. Questions 3-8 (Maize Planted Area) and 3-9 (Maize Production) are related.

   An entry in cell 601 requires an entry in cell 611.
   An entry in cell 602 requires an entry in cell 612.

   Both related cells should contain a positive entry, or both should be blank. A production value of zero is possible under extreme circumstances, and should have been explained by the enumerator in the Remarks Section.

7. Questions 3-11 (Sugarcane Area Planted by Usage) and 3-12 (Sugarcane Production by Usage) are related.

   An entry in cell 706 requires an entry in cell 716.
   An entry in cell 707 requires an entry in cell 717.

   Both related cells should contain a positive entry, or both should be blank. A production value of zero is possible under extreme circumstances, and should have been explained by the enumerator in the Remarks Section.

8. Questions 3-1 (Total Area Planted; Present Rabi) and 3-13 (Area Planted in the Present Survey) are related.

   The value in cell 100
   should be greater than
   the sum of cells 801 + 802 + 803 + 804.

   If the value in cell 100 is less than the summed value from cells 801 + 802 + 803 + 804, edit the summed value into cell 100.

Part IV -- Livestock and Poultry Enumeration

The review of this section can be stated briefly.

1. If Question 4-1 is checked YES, then there should be a positive entry in one or more of the cells for Questions 4-2, 4-3 or 4-4.

   If Question 4-1 is checked NO, then there should be no entries in any of the cells for Questions 4-2, 4-3 or 4-4.

   If Question 4-1 is checked NO, but there is one or more positive entries in any of the cells for Questions 4-2, 4-3 or 4-4, then edit 4-1 to be YES.

Part V -- Survey Control

1. Review the Remarks Section to note any unusual circumstances which the enumerator has described concerning the farmer's agricultural holdings.

2. Review whether more than one questionnaire for the farmer is indicated in Question 5-1. Be certain to locate the additional questionnaires when indicated.

3. Check that in Question 5-2 the enumerator has indicated by whom the information was provided. [IF ADOPTED FROM THE SURVEY SUGGESTIONS PAPER] If a relative of the farmer provided the information, the enumerator should have written that relative's name here.

4. The questionnaire completion date, the enumerator's name and code should all be present.

5. When the questionnaire review is completed, the supervisor will sign the questionnaire in the space provided in Question

5-5.

6. NOTE whether this questionnaire contains one or more of the fields randomly selected for QUALITY CONTROL work.

7. Continue on with the editing of other questionnaires in this segment.

8. Edited segments should be returned to the Statistical Office according to the schedule agreed upon at the training workshop.

Conclusion

It may be beneficial for the supervisor to make these checks in the presence of the enumerator, when possible, for the first segment or the first few segments turned in as completed. This will allow the supervisor to identify problem areas for the enumerator early in the data collection period so that problems do not repeat throughout the survey period.

AN OVERVIEW OF OFFICE PROCEDURES

A check-in process for edited segments received from supervisors should be established at each Provincial office. This process will be used to guide the segments through the separate actions of check-in, manual editing, data entry, review of the computer edit and necessary questionnaires, and filing for future reference. A series of holding boxes, files or cabinet drawers may be used. Each holding box should be clearly marked identifying which step of the process the questionnaires contained within are at. This process is used to organize the segments and minimize confusion when multiple office personnel are working with the segments.

Office editors should have a master list naming each of their supervisors, and showing the crew of enumerators reporting to each supervisor, detailing the segment numbers assigned to each enumerator. As the supervisors turn in edited segments to the office, the office editor should make a check-mark against the segment numbers on the master list. This will aid in determining when all expected work has been completed.

Office editors follow the same procedures as the supervisors for checking in completed work -- with the exception that one day a computerized segment check-in procedure may speed the system within

the office and allow for daily progress reports by supervisor and enumerator.

When available to office editors, segment questionnaires from previous years' surveys can be valuable reference materials for clarifying problem situations in the current survey.

CHECKING IN SEGMENTS -- OFFICE EDITORS

Office editors should write with a BLUE pencil for all questionnaire editing and coding functions done prior to the data entry step.

Upon receiving an edited segment from a supervisor, the office editor should:

1. Check that the segment numbers on the Segment Control Forms (SCF) match the segment numbers on the associated Crop Estimated Area Survey (CEAS) questionnaires.

2. Verify that the number of segment questionnaires returned matches the number of farmers listed on the SCFs.

3. Compare the number of fields inside the segment on the aerial photo with the field numbers listed on the SCFs.

4. Compare the field numbers listed by farmer on SCF A with the field numbers listed within each farmer's questionnaire.

[IF ADOPTED FROM THE SURVEY SUGGESTIONS PAPER]

5. Review the SEGMENT ACREAGE COLLECTED on the SCF as determined by the supervisor from summing together the Farmer Segment Acreage for all farmers in the segment. Notice how this value compares to the SEGMENT ACREAGE COLLECTED for prior survey years.

6. In the designated place on the SCF, write in the SEGMENT ACREAGE PLANIMETERED/DIGITIZED (this number is available from the xxxxxxxxxxxxxxxxx).

   Divide the SEGMENT ACREAGE COLLECTED number by the SEGMENT ACREAGE PLANIMETERED/DIGITIZED number, and write in the percentage calculated at the designated spot on the SCF.

   A percentage calculated which is outside of the one percent allowable tolerance (less than .990, or greater than 1.010)

indicates a potential problem with the SEGMENT ACREAGE COLLECTED.

7 Continue through the normal editing process with this segment to see if the potential problem with the SEGMENT ACREAGE COLLECTED becomes evident. If the problem does not become evident, consult the previous year's segment questionnaires to aid in determining with which farmer(s) the problem may exist. Finally, consult with the supervisor and/or the enumerator to clarify the situation.

EDITING THE SEGMENTS -- OFFICE EDITORS

Now it is time to edit and review the coding of the individual farmer questionnaires for the segment. In general, review each questionnaire section for completeness and accuracy, in accordance with the written and verbal instructions given at the survey training workshop.

Highlight with a blue check mark any cells of the questionnaire containing numeric values for data entry which were overlooked and went un-checked during the supervisory edit.

Part I -- Identification

1. Review that the enumerator has provided an entry for each of the questions 1-1 through 1-10. If the Farmer's Name, Cast, Mailing Address or Father's Name has been omitted, the enumerator should be contacted to provide this information. If Province, District, Tehsil, Village or Segment Number are missing, the office editor may: A) contact the supervisor, or B) consult the previous year's segment questionnaire for that farmer, or C) simply copy the information from another questionnaire in the segment, whichever is considered most appropriate.

   If the Farmer's Number is missing, it may be copied from the SCF.

Part II -- Statistics of the Segment

In general, review Questions 2-1 to 2-14 for each field. Be sure

to notice when a field with more than five crops has been continued onto a second column.

1. Beginning with the first field number listed, review the LAND USES AND CROPS written in for Questions 2-3, 2-5, 2-7, 2-9, 2-11 and 2-13 for reasonableness within this Province. Consult with the supervisor when entries are not made for these questions, or when unusual or unexpected land uses are written in (unless these are explained in the Remarks Section).

2. Review the crop coding done by the supervisor in the area of the parenthesis for each crop the enumerator has written in.

3. Review the LAND AREA MEASUREMENTS written in for Questions 2-2, 2-4, 2-6, 2-8, 2-10, 2-12 and 2-14. Verify that numbers are written to the correct number of decimal places for the unit of measure used (Kanal-Marlas or Acres-Gunta).

4. Sum the land areas written in for Questions 2-4, 2-6, 2-8, 2-10, 2-12 and 2-14. Compare this summed total to the Question 2-2 (Total Area) number written in. **The summed total and the written in number should be identical.** Very minor discrepancies should be handled according to the procedures of the Statistical Office. Consult with the enumerator to clarify other discrepancies.

5. Continue this process for each field number listed in Part II.

[IF ADOPTED FROM THE SURVEY SUGGESTIONS PAPER]

6. Once the Question 2-2 (Total Area) number is determined to be correct for all of the fields listed for an individual farmer, sum all of the numbers for Question 2-2 to provide a Farmer Segment Acreage value for the farmer. Compare this number to the number written in on the SCF by the Supervisor.

   After you have edited the Part II -- Statistics of the Segment Section for each farmer, and checked the Farmer Segment Acreage values written to the designated place on the SCF, sum the Farmer Segment Acreage values on the SCF to determine the SEGMENT ACREAGE COLLECTED. Compare this number to the number written in on the SCF by the Supervisor.

   If the office editor and the supervisor have arrived at different totals for the SEGMENT ACREAGE COLLECTED, and by re-checking it is determined that the office editor's total is correct, divide the new SEGMENT ACREAGE COLLECTED number by the SEGMENT ACREAGE PLANIMETERED/DIGITIZED number, and write in the new percentage calculated at the designated spot on the SCF.

   A percentage calculated which is outside of the one percent

46

allowable tolerance (less than .990, or greater than 1.010) indicates a potential problem with the SEGMENT ACREAGE COLLECTED.

7. If a problem is evident, consult the previous year's segment questionnaires to aid in determining with which farmer(s) the problem may exist. Finally, consult with the supervisor and/or the enumerator to clarify the situation.

Part III -- Total Area Inside and Outside the Segment

1. Review the LAND AREA MEASUREMENTS written in for Questions 3-1, 3-2, 3-3, 3-5, 3-8, 3-10, 3-11 and 3-13. Verify that numbers are written to the correct number of decimal places for the unit of measure used (Kanal-Marlas or Acres-Gunta).

2. Review the PRODUCTION VALUES written in for Questions 3-4, 3-7, 3-9 and 3-12. Verify that numbers are written to the correct number of decimal places for the unit of measure used.

3. When present, responses to Question 3-6 (Number of Cotton Pickings) will be a whole number.

Within Part III, a response to certain questions requires that a response to related questions be present. These will now be identified.

4. Questions 3-3 (Rice Planted Area) and 3-4 (Rice Production) are related.

   An entry in cell 301 requires an entry in cell 311.
   An entry in cell 302 requires an entry in cell 312.
   An entry in cell 303 requires an entry in cell 313.

   Both related cells should contain a positive entry, or both should be blank. A production value of zero is possible under extreme circumstances, and should have been explained by the enumerator in the Remarks Section.

5. Questions 3-5 (Cotton Planted Area) and 3-6 (Number of Cotton Pickings) and 3-7 (Cotton Production) are related.

   An entry in cell 501 requires an entry in cells 591 and 511.
   An entry in cell 502 requires an entry in cells 592 and 512.

   All three related cells should contain a positive entry, or all three should be blank. A production value of zero is

possible under extreme circumstances, and should have been explained by the enumerator in the Remarks Section.

6. Questions 3-8 (Maize Planted Area) and 3-9 (Maize Production) are related.

   An entry in cell 601 requires an entry in cell 611.
   An entry in cell 602 requires an entry in cell 612.

   Both related cells should contain a positive entry, or both should be blank. A production value of zero is possible under extreme circumstances, and should have been explained by the enumerator in the Remarks Section.

7. Questions 3-11 (Sugarcane Area Planted by Usage) and 3-12 (Sugarcane Production by Usage) are related.

   An entry in cell 706 requires an entry in cell 716.
   An entry in cell 707 requires an entry in cell 717.

   Both related cells should contain a positive entry, or both should be blank. A production value of zero is possible under extreme circumstances, and should have been explained by the enumerator in the Remarks Section.

8. Questions 3-1 (Total Area Planted; Present Rabi) and 3-13 (Area Planted in the Present Survey) are related.

   The value in cell 100
   should be greater than
   the sum of cells 801 + 802 + 803 + 804.

   If the value in cell 100 is less than the summed value from cells 801 + 802 + 803 + 804, edit the summed value into cell 100.

[IF ADOPTED FROM THE SURVEY SUGGESTIONS PAPER]

9. Question 3-1 (Total Area Planted; Present Rabi) and the Farmer Segment Acreage value (on the SCF) are related.

   The value in cell 100
   should be greater than, or in the minimum, equal to
   the Farmer Segment Acreage.

Part IV -- Livestock and Poultry Enumeration

The review of this section can be stated briefly.

50

1. If Question 4-1 is checked YES, then there should be a positive entry in one or more of the cells for Questions 4-2, 4-3 or 4-4.

   If Question 4-1 is checked NO, then there should be no entries in any of the cells for Questions 4-2, 4-3 or 4-4.

   If Question 4-1 is checked NO, but there is one or more positive entries in any of the cells for Questions 4-2, 4-3 or 4-4, then edit 4-1 to be YES.

Part V -- Survey Control

1. Review the Remarks Section to note any unusual circumstances which the enumerator has described concerning the farmer's agricultural holdings.

2. Review whether more than one questionnaire for the farmer is indicated in Question 5-1. Be certain to locate the additional questionnaires when indicated.

3. Check that in Question 5-2 the enumerator has indicated by whom the information was provided. [IF ADOPTED FROM THE SURVEY SUGGESTIONS PAPER] If a relative of the farmer provided the information, the enumerator should have written that relative's name here.

4. The questionnaire completion date, the enumerator's name and code should all be present.

5. The supervisor should have signed the questionnaire in the space provided in Question 5-5.

6. The office editor who edits the segments prior to the data entry step should sign their name and write "edited" in the space provided in Question 5-6 [or on the SCF IF ADOPTED FROM THE SURVEY SUGGESTIONS PAPER].

7. NOTE whether this questionnaire contains one or more of the fields randomly selected for QUALITY CONTROL work. If so, locate the quality control forms for review.

8. Continue on with the editing of other questionnaires in this segment.

9. Edited segments should be placed in the holding box for data entry, or in the place designated within the Statistical Office.

10. Select another segment and continue the editing process.

Conclusion

Office guidelines should be established for resolving discrepancies discovered during the editing process. **This is important so that all editors resolve discrepancies according to the same procedures.** Options for resolving discrepancies may include:

1. Recontacting the supervisor and/or the enumerator.
2. Consulting the previous year's segment questionnaires.
3. Replacing "Totals" with a sum derived from adding together category breakdowns.
4. Comparing production values with expected yields times the area planted.
5. Statistical officer estimation for some unknown values.
6. Other established office procedures.

PROCEDURES RELATING TO THE COMPUTER EDIT

After the manual edit has been completed in the office, the data from the segment questionnaires will be entered into a computer file.

1. The office person entering the data from the segment questionnaires to the computer file should sign their name and write "entered" in the space provided in Question 5-6 [or on the SCF, IF ADOPTED FROM THE SURVEY SUGGESTIONS PAPER] as each segment is finished.

Once the file has been processed through the computer edit, an error listing will be generated.

Questionnaires which show up on this error listing should be stacked together so that an office editor can review the computer messages against the data on the questionnaires. **IT IS IMPORTANT THAT ALL ERROR MESSAGES BE REVIEWED FOR EACH COMPUTER GENERATED EDIT.**

In some cases, the error messages will highlight situations which are unusual, but are correct for that farmer. No changes are necessary in these cases.

In other cases, errors will be detected which will require that a change be posted to the computer file and to the questionnaire. Changes to the data at this point should be based upon the office guidelines mentioned in the Conclusion section just above.

Changes to the questionnaire after the computer edit should be written in GREEN pencil.

[IF ADOPTED FROM THE SURVEY SUGGESTIONS PAPER]

2. The office editor who reviews the computer edit messages and posts changes to the questionnaires at this point should sign their name and write "checked" in the space provided in Question 5-6 [or on the SCF].

After being reviewed with the computer messages, the segment questionnaires should be filed in an accessible location for future reference.