



July 18, 1991

TRIP REPORT
HARARE, ZIMBABWE
June 6-July 2, 1991

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TRIP PURPOSE

At the request of Statistics Sweden, Patricia Anderson traveled to Harare, Zimbabwe to provide technical assistance on evaluation and quality control to improve the results of the 1992 Population and Housing Census.

The detailed report in Attachment II was reviewed by Mr. Jambwa of the Central Statistical Office (CSO), Mr. Parirenyatwa, Mr. Sidindi, and Mr. Mapingire, of the Central Census Office (CCO) and Mr. Andersson, the long-term census advisor from Statistics Sweden.

Trip Details

All of the work was carried out at the CCO. The counterparts were Mr. Parirenyatwa, Mr. Sidindi, and Mr. Mapingire. Anderson contacted various personnel (see Attachment I) with regard to activities already being implemented and/or planned for the census so that the quality control and evaluation procedures would strengthen and develop the existing plans further.

Anderson reviewed a number of materials including the field mapping manual, the census questionnaire, the enumerator's manual, and other proposed census plans as well as recent papers on demographic analysis. Anderson provided comments verbally or in writing as deemed appropriate.

When Anderson arrived, the only procedural manual drafted for the field enumeration was the enumerator's manual. Anderson assessed the staffing patterns and made the recommendation to have an additional supervisor between the supervisor and the district census officer because the ratio of district census officers to supervisors was 1:63. Anderson drafted procedural manuals for the supervisor, senior supervisor and district census officer. These procedural manuals contained the quality assurance procedures needed to ensure a high quality census.

Anderson documented methods for evaluating the census and pilot. A post-enumeration survey (PES) was not recommended. Since there are only seven full-time staff working on the census at headquarters, it would not be possible for the staff to prepare for the census and a Post Enumeration Survey (PES). Instead of doing a PES, it was recommended to use the PES funds to improve the overall quality of the census. This could be done by comparing the population enumerated in an enumeration area (EA) with the number of

persons in the households when originally listed (an average of 8 months earlier by the fieldmappers). If the number of persons enumerated in the census is two or more percent below the population estimated by the fieldmapper, the EA would be checked for missed households. This would reduce the omissions in the census. If the number of persons enumerated is more than five percent greater, then the boundaries of the EA would be checked for boundary errors and made-up questionnaires. This would eliminate some of the duplications and erroneous inclusions in the census. This method is not the same as a PES but should be more feasible given the staff constraints. It can not be used to check the content of the census, but has an advantage over a PES because it would improve the data at the village level. The sample for the PES would usually be designed only to check the coverage at the province or, at most, the district level. Otherwise, the cost of the PES would be too high. It is very important to improve the data at the EA level because many of the villages are one or two EA's and the data will be published at the village level.

In addition, the use of indirect techniques was recommended for estimating fertility and mortality. With this information, comparisons of this census could be made with the results of the 1982 census and the 1987 Demographic Survey. The CSO is planning to take the survey in January 1993. After the EA's are sampled in this survey, there will be a listing in each EA. This will provide a check on the population totals at the national and province level. Also, estimates of age misreporting, and underenumeration can be determined at the province level using the results of the indirect techniques, and the surveys, and the previous census.

The data on children who are attending school and the highest grade completed can be compared with statistical data on enrollment from the Ministry of Education.

Summary and Other Recommendations

The Central Census Staff is very small and it will be very difficult for them to accomplish all the work they still have to do to prepare for the census. None of the procedural manuals are final and they have just barely started on the mapping operations. They also have not started working on the logistical system to get the supplies and enumeration materials to and from the field. It will be difficult for them to complete the census preparations in time for census day.

The Census Questionnaire Content:Results of Users Inquiry report demonstrated that very few contacts used the data. The most important consideration when planning a census or a survey is how data will be used and by whom. The CSO needs to develop the awareness of the private sector to the availability of the data and educate them in how it can be used for their purposes. This is best done through a well-planned data dissemination program.

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Attachment II

Terms of Reference

The details of the purpose and objectives of this mission are provided in the Terms of Reference in Appendix 8. Briefly this was a short-term mission on evaluation and quality control to improve the results of the 1992 Population and Housing Census of Zimbabwe.

The mission was carried out by Miss Patricia Anderson, Statistician, International Statistical Programs Center, U.S. Bureau of the Census, June 6-July 2, 1991.

The counterparts were Mr. Parirenyatwa, Mr. Sidindi, and Mr. Mapingire.

Organization of the Report

The main body of this report is brief, with details presented in each of the Appendices.

Contacts/Meetings

All of the work was carried out at the Central Census Office. Various personnel had been contacted with regard to activities already being implemented and/or planned for the census so that the quality control and evaluation procedures will strengthen and develop the existing plans further.

The report was reviewed by Mr. Jambwa, Mr. Parirenyatwa, Mr. Sidindi, Mr. Mapingire, and Mr. Andersson.

Evaluation of the Census

A detailed discussion of the alternatives for evaluating the census are discussed in Appendix 7. A post-enumeration survey (PES) is used to measure the omissions, the duplications, and the erroneous inclusions. It can be designed to check both the content and coverage of the census. However, a PES takes a lot of planning and requires a separate staff to develop the materials in order to guarantee there is no contamination in the sampled enumeration areas (EAs) for better results. A PES is not recommended in Zimbabwe because of the limited staff; only seven full-time personnel at headquarters are working on planning and implementing the mapping and enumeration procedures. A PES also is very costly.

Instead of doing a PES, it is recommended to use the funds to improve the overall quality of the census. This can be done by comparing the population enumerated in an EA with the number of persons in the households when originally listed (an average of 8 months earlier by the fieldmappers). If the number of persons enumerated is less than -two percent of the population listed by the fieldmapper, the EA will be checked for missed households. This will reduce the omissions in the census. If the number of persons enumerated is more than five percent greater then the boundaries of the EA will be checked for boundary errors and made-up questionnaires. This will eliminate some of the duplications and erroneous inclusions in the census. This method

is not the same as a PES but should be less costly. It can not be used to check the content of the census. This method has an advantage over a PES because it will improve the data at the village level. The sample for the PES would usually be designed only to check the coverage at the province or at most the district level. Otherwise, the cost of the PES would be too high. It is very important to improve the data at the EA level because many of the villages are one or two EAs and the data will be published at the village level.

In addition, the use of indirect techniques is recommended for estimating fertility and mortality. Then comparisons of this census can be made with the results of the 1982 census and the 1987 Demographic Survey. The Central Statistical Office is planning to take a survey in January 1993. After the EAs are sampled in this survey, there will be a listing in each EA. This will provide a check on the population totals at the national and province level. Also, estimates of age misreporting, and underenumeration can be determined at the province level using the results of the indirect techniques, and the surveys, and the previous census.

The data on children who are attending school and the highest grade completed can be compared with statistical data on enrollment from the Ministry of Education.

Evaluation of Quality Assurance During the Pilot

One of the major purposes of the pilot census is to train the Province Census Offices (PCOs) on how to take the census. It is planned to select two small areas in each province. With this kind of design, it will not be possible to test the duties of the District Census Office (DCO) or the senior supervisor during the pilot. There will be supervisors so their duties can be checked during the census.

If the evaluation is going to be of benefit, the enumerators and supervisors must be recruited for the pilot the same as they would be for the census and have the same backgrounds as the enumerators and supervisors that will be working on the census. If they have higher education levels, are experienced statistical officers or enumerator staff, or are given the incentive that they will be rehired during the census, this evaluation will not work. Those type of employees will not be the same as the persons recruited as enumerators or supervisors for the census. This is not to say that persons who do a good job during the pilot can not be offered jobs to work on the census. The job must be offered after the pilot is over so there will not be contamination to the evaluation of the pilot as a result of the offer.

A detailed discussion of the alternative ways for evaluating the field quality assurance during the pilot is provided in Appendix 6. The two methods described in detail for evaluating the supervisor's duties are using control groups, and using the results of the completed Supervisor's Quality Control Form along with a review of questionnaires. The second alternative was chosen because it was thought that the first method would be too complicated, too much additional work for the staff, and would cost too much. Using this

method rather than control groups of supervisors with various responsibilities will help the PCO become familiar with the duties of the supervisor.

To test the duties of the DCO and senior supervisor, it is recommended that the PCO assume most of the duties of the DCO and the Senior Supervisor during the pilot. That way some of the quality assurance procedures can be evaluated during the pilot. It also will help the PCO to better learn the details of the census. However, this is not a true test of these positions because the same type of person (census knowledge and experience with censuses and surveys) is not performing the duties during the pilot. Also, the staff ratios are not the same as for the census.

The design of the pilot probably will not allow the questions on orphanhood or mortality during the last year to be tested because of the small areas included from each province. This data is usually not reliable when collected on a census. Also, the variance for this data could be quite large for small areas.

Valuable information about the proposed procedures can be learned from the pilot. The procedures were designed to be tight and it may be that the amount of work required from the supervisor may be too great. This will have to be watched closely during the pilot. If it is too much work, careful thought will have to be given as to which procedures to eliminate or decrease.

Procedures Drafted

The duties of the DCO, Senior Supervisor, and Supervisor during the preparatory and enumeration phases of the census were drafted and are covered in detail in Appendix 3, 4, and 5, respectively. These duties contain quality assurance because the procedures are directed at improving the quality of the census by improving the level of functioning by each type of employee when they first start working.

a. The major duties of the DCO are:

- (1) To gain the cooperation of the public to be enumerated in the census through meetings with each Ward Development Committee, each Village Development Committee, the heads of schools, the clergy, and any other important organizations in their districts. To distribute census promotional materials to these organizations. To prepare the way for enumerators by providing lists of contacts that will gain them cooperation in their EA.
- (2) To find out where the homeless or squatters live so these persons will be included in the census.
- (3) To visit the collective households to explain the enumeration procedures, determine the type of collective household, determine if household staff place will enumerate the persons there on census night, and name of the contact person for the enumerator.

- (4) To recruit and locate training sites for the senior supervisors, supervisors, and enumerators.
 - (5) To train the senior supervisors.
 - (6) To supervise the enumeration within his/her district.
 - (7) To solve any problems or emergencies that may arise during the census.
 - (8) To be sure the enumeration is as accurate as possible within each EA and have the EA checked if the total population enumerated is not within a certain range of the total population found by the fieldmappers during their listing operation.
- b. The major duties of the senior supervisors are:
- (1) To distribute posters to local merchants to display so the public will be aware of the upcoming census. (Posters should be displayed about 1 month prior to the census.)
 - (2) To assist with the recruiting and location of training sites, if necessary.
 - (3) To train the supervisors.
 - (4) To visit each supervisor during enumeration to be sure he/she is performing his/her duties properly, answer any questions, and to deliver additional supplies.
 - (5) To collect the completed work from the supervisor and make sure it is acceptable.
- c. The major duties of the supervisor are:
- (1) To train the enumerators.
 - (2) To visit each enumerator at least three times during the enumeration and evaluate their work by observing them enumerating, reviewing questionnaires, reinterviewing households, and comparing the households enumerated with an independent list of households prepared by fieldmappers to be sure no households are missed.
 - (3) To collect the completed work and review the questionnaire booklets for acceptability. Check with the DCO if the total population is out of the acceptable range. Be sure the EA is recanvassed for missing households if the total population is too small. If the total population is too large the households on the boundaries of the EA will be revisited to determine if the enumerator crossed over the EA boundary during enumeration or made up the information on the questionnaires.

Materials Reviewed

The following materials were reviewed:

a. The Census Field Mapping Manual

In addition to the other forms already developed, a form for listing all collective households in each EA needs to be developed and used during the listing operation by the fieldmappers. This form should contain the geographic identification at all levels down to the EA; the name, address, or physical location; name of the manager; an estimate of the number of persons at the collective household; the person to contact during enumeration; and a notes space for each collective household in an EA. The first four items (geographic location through the estimate of the persons at the collective household) should be completed by the fieldmapper.

The DCO will use these lists of forms to contact each collective household prior to enumeration and make arrangements for enumerating the place. He/she will change the name of the manager if the same manager is no longer there, complete the name of the person to be contacted; and indicate whether this is a self-enumerating place or a place that must be contacted on census night.

The form will then be passed through the senior supervisor to the supervisor. If it is a self-enumerating place, the staff member will be asked to attend the regular enumerating training. If this is not possible, the supervisor will administer the oath of office to the staff member of the place who will be enumerating the persons residing there on census night and train the staff member on how to do the enumeration the day before census night.

The form for the EA will be given to the enumerator assigned to enumerate the EA. The enumerator will be responsible for enumerating any collective households that are not self-enumerating.

b. The Enumerator's Manual

Extensive comments were provided on the enumerator's manual. These comments were not documented other than handwritten in the margins.

The most important points are:

1. Enumerators should not use the fieldmapper's list of households. This would predispose the enumerator to list only the same households and not to look for other housing units that may have been missed. It was recommended that the listing by the fieldmapper be used by the supervisor as a quality assurance check on the enumerator's work to be sure the enumerator did not miss any households.

2. Enumerators should be trained to indicate the location of each household enumerated on the map (map spot each household) so if the enumeration is checked by someone else, it will be easier for that person to find the households.
3. Questionnaires used for training or evaluation purposes, must be labeled in big letters that they were training, etc. so they will not accidentally be included in the data entry and ultimately in the tabulations.

c. The Draft of the Census Questionnaire

These comments are included in detail in Appendix 2. Most of the comments were discussed directly with Mr. Masingire and he agreed with the most important ones.

d. Papers on the Proposed Census Plans

The only comment with regard to these papers was to change the staffing pattern by including senior supervisors. The original staffing pattern was to have:

10 Provincial Census Officers (PCO)

1 for each province and 1 each for Bulawayo and Harare

80 District Census Officers (DCO)

1 for each district and some additional officers for urban areas.
Ratio of 1 PCO to 8 DCOs

5,000 Supervisors

Approximate number. Ratio of 1 DCO to 63 Supervisors

25,000 Enumerators

Approximate number (1 for each EA structured at about 500 population to be enumerated, approximately 100 households). Ratio of 1 Supervisor to every 5 or 6 Enumerators.

The ratios of DCOs to supervisors was far too high, so it was recommended that senior supervisors be appointed to work under the DCOs and do any field checking required during the enumeration. The DCO should remain in the district office to answer questions and take care of emergencies during enumeration. The ratio of senior supervisors to supervisors should be about 1 to 8. In the rural areas which are sparsely populated, the ratio of senior supervisors to supervisors perhaps should be as low as 1:6, but in urban areas where it is easier to get around the ratio could be 1:9. This gives a ratio of about 1 DCO to 7 to 10 senior supervisors.

Other Recommendations

It is important to promote the use of statistical data in Zimbabwe. The Census Questionnaire Content: Results of Users Inquiry report demonstrated

that very few contacts responded that they used the data. The most important consideration when planning a census or a survey is how data will be used and by whom. The Central Statistical Office needs to develop the awareness of the private sector to the availability of the data and educate them in how it can be used for their purposes. This is best done through a well planned data dissemination program. The data users in turn will lend support to the strengthening of the statistical program in the country.

To: Mr. Mapingire

From: Miss Anderson

Problems with the Draft Questionnaire

1. Identification

One of the categories in the sector section, 0-Special Category EA, is used to identify an entire EA that is a large collective household(s). However, the sector code does not indicate the type of collective household(s). Persons residing in collective households should be kept track of by the type of collective household and the data reported by age in one of the tabulations. In order to know how many persons are residing in various types of collective households, the types of collective households should be classified as:

- A Prisons
- B Hospitals
- C Hotels/Residential Clubs/Hostels/Boarding Houses/etc.
- D Orphanages
- E Universities and colleges
- F Homeless
- G Refugees
- etc.

Then, in the space for household number form, you could enter the code for the type of living quarters with a "1" for the first collective household of that type encountered in the EA and the letter and a "2" for the second collective household of that type. For instance, if there were two prison buildings on the prison grounds, the questionnaires for the prisoners in the first building would have a household number of "A1" and the questionnaires for the prisoners in the second building would have a household number of "A2".

In an EA that contains small collective households, there also is no place to identify the living quarters as a collective household instead of a housing unit. This same procedure could be used, that is, "C1" would be entered in the household number for the first hotel in the EA and if a second hotel was in the EA, the household number would be "C2". In some cases, you might want to know how many forms are for the same living quarters and may want to change the space for Form of to record this. Then if two forms were used at one living quarters, the first form would have Form 1 of 2 and the second form would be Form 2 of 2. This is especially needed for collective households and will be useful in large households.

2. Precodes on Questionnaire

Questions 2, 3, 8, 10, 11, 12, 13, 14, and 15 could have the precodes entered on the questionnaire. This is an advantage even though the rest of the questions will not be precoded because the enumerator can just circle the correct code and you do not have to worry about being able to read his writing.

3. Question 1 - "Who spent Monday night (17 August) here?"

Write the names of all adults, children, and babies. Include visitors and persons temporarily absent (on night duty, travel etc. not counted elsewhere) returning on Tuesday 18. List all persons starting with the head of the household.

Frequently in a census old persons and infants who are less than 1 year old are underenumerated. The data can be improved if, in this question, the following statement is included to instruct the enumerator to inquire further about these two groups once he/she has listed all of the persons in the household:

After you have completed the listing, ask: "Are there any old persons or babies that you forgot to tell me about?"

4. Question 4 - "How old is (name)?"

If you want to get the age in completed years you should change the question to read "How old was (name) as of their last birthday?"

5. Question 7 - "Where was (name) living last census year?"

If the migration is going to remain for the 10-year period, then you should reword the question to be "Where was (name) living in August 1982?" Many people might not remember or know when the last census was taken and some people could have lived in more than one place in 1982.

This question will only get one migration at one point in time. If migration within the country has increased over time this question will not show it. You may want to change the question to a 2-part question-- "When did you come to this district?" and "What district or country did you live in before you came here?". This would complicate the programming for the tabulations.

6. Questions 11 and 12 - "Is (name)'s father (mother) alive?"

The enumerator's manual has a third option of 9 for not known. This code should be on the questionnaire so the enumerator would not have to look it up. Also the enumerator's manual states to ask this only of persons under 75 years of age, whereas the questionnaire states this is for all persons.

7. Question 13 - "Has (name) ever attended school?"

The skip pattern for "never attended" is not indicated.

8. Question 14 - "What is (name)'s highest level of academic education?"

This should be changed to "What is (name)'s highest level of education completed?"

9. Question 15 - "What was (name)'s main activity during the last 12 months?"

This question should be changed to read "During the last 12 months was (name)'s main activity [read list]:

- 1 Paid employee
- 2 Self employed
- 3 Unpaid family worker
- 4 Member of cooperative
- 5 Unemployed looking for work
- 6 Unemployed not looking for work
- 7 Student
- 8 Homemaker
- 9 Retired/sick/too old to work

If all the categories are read as part of the question, then the respondents are aware of the possibilities. Otherwise, a woman who is an unpaid family worker might just think of herself as a homemaker when she is really helping with the farming.

Also notice that unemployed is broken down into two categories. This conforms with the UN definition of labour force. Only if you are unemployed and looking for work can you be considered as part of the labour force. If you want to be able to make international comparisons you should make this distinction on your questionnaire.

10. Question 15 - "What was (name)'s main occupation during the last 12 months?"

There are no code boxes on the questionnaire for the coder to enter the code. How many digits are you going to use to code this item?

11. Question 17 - "Has (name) given any live birth?"

If "No", go to next person. If "Yes": How many children born alive to (name) are..."

There is no provision to record the answer for the question - "Has (name) given any live birth?" under this number. There should be a space to record the answer for each woman 12 to 49 years. Otherwise, if the answers to the number of children born to the woman are left blank, you

can not tell if the enumerator skipped these questions or the questions were not filled because the answer was no.

12. Question 23 - "What is the household's main source of water for drinking and cooking?"

If the answer to this question is "1 Piped water inside the house" or "2 Piped water outside on premises," then the enumerator should skip to 25, but the skip is not indicated on the questionnaire.

13. General comment

Whenever you are indicating codes for the categories on the questionnaire, the code should come first and then the category. This makes it easier for the data entry keyer because then he only has to look in one place to see which code is circled by the enumerator. On this questionnaire it would speed up the data entry time a great deal especially for the housing questions. Putting the code before the category for the population questions would probably facilitate the enumerators's work as well. See illustration below:

1 Piped water inside house	Piped water inside house=1
2 Piped water outside on premises	Piped water outside on premises=2
3 Communal tap	Communal tap=3
4 Well or borehole-protected	Well or borehole-protected=4
5 Well-unprotected	Well-unprotected=5
6 River/Stream/Dam	River/Stream/Dam=6
7 Other	Other=7

14. Questions 20 and 21

Both of these questions have an "other" category and in the enumerator's manual the instructions say to specify. However, specify is not on the questionnaire and there is no place on the questionnaire to write an answer.

15. Questions 11, 12, and 27

These are questions designed to get measures of mortality based on orphanhood and reported deaths in the last year. The data from these questions are usually unreliable. The information gathered from these questions should be analyzed to determine if it is reliable. The decision to ask these questions during the census should be based on the results of the analysis.

16. Question 24 - "If not on premises: How far is this water source?"

Instead of answering this question only "if not on premises," it would be better to always answer this question for categories 3 through 7 in question 23 and change the answers to this question to:

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- 1 On the premises
- 2 Not on the premises, but less than 500 m
- 3 Not on the premises, between 500 m and 1 km
- 4 Not on the premises and more than 1 km

This way the question will always be answered for categories 3 through 7 and you can be sure the enumerator skipped it if it is not answered.

17. Signatures

There should be a place for the enumerator to enter his/her signature at the bottom of each questionnaire so that if the questionnaire booklet is assigned to another enumerator to finish, you can tell which enumerator completed the questionnaire. Also, there should be a place for the supervisor to sign or initial the form indicating that he accepted the form. If the supervisor is not going to review every form, then you may want him to indicate whether he accepted the form or reviewed the form or maybe he only signs the form if he reviews it. In any case, you should provide a place for his signature.

18. Address or description of location of dwelling unit

Consideration should be given to include this on the questionnaire. The Household Listing Form used by the fieldmappers was revised to include the physical address; if the supervisor is to make a comparison of the enumerators completed questionnaires against the listing, it will be helpful to have the address on the questionnaire, especially in cases where the dwelling unit is no longer occupied by the same household head.

Duties of the Supervisor

A. Before Enumeration

1. Attend the training for the supervisors.
2. Help to recruit enumerators if the Province Census Officer (PCO), District Census Officer (DCO) or senior supervisor has not already recruited all of the enumerators for your area.
3. Familiarize yourself with the supervisor's area assigned to you. You will supervise the enumerators in this area.
4. Locate a training site to train enumerators, if the DCO or senior supervisor has not already found one.
5. Determine which collective households must be enumerated on census night and which one will be the most difficult to enumerate. Determine how many enumerators you will need to enumerate the persons staying there based on the estimate of the number of persons at the place and the type of place. If this is a dangerous area, take a team of enumerators. If possible go and see the manager of the place before census night.
6. If there are any self-enumerating places where the staff member can attend enumerator training, go to the place and inform the manager so the staff member will know when and where the training will be.
7. Study the Guide for Training Enumerators in preparation for the enumerators's training.
8. Prepare each enumerator's materials before the training session.
 - a. Questionnaire booklets

There are four questionnaire booklets for each enumerator. Be sure the identification section is filled out correctly on the front of each questionnaire booklet. Make certain that the EA number on the EA map matches the EA number on the cover of the questionnaire booklets.
 - b. Enumerator's EA map
 - c. List of contacts to make before starting to enumerate.
 - d. List of collective households in the EA.
 - e. Other materials as described in the enumerator's manual.

9. Train the enumerators.
10. Correct the enumerator's tests and use the result to determine which enumerators will get assignments.
11. First, hand out the assignments and enumeration materials to the enumerators who have no collective households to enumerate or visit on census night. Remember, you may want an enumerator to help in another EA if he/she has no collective quarters in his/her EA. Enumerators who have no assignment on census night can be dismissed and then the rest of the enumerators can be trained on the procedures to enumerate collective households on census night.

It will also be necessary for you to train the enumerators on how to enumerate collective households that do not have to be enumerated on census night. This includes all enumerators that are working in special EAs as well.
12. Distribute the enumeration materials to your enumerators. Record each enumerator's name on the Supervisor's Quality Control Form for the correct EA if this has not already been done.
13. Have the enumerator check his/her supplies before they leave. If an enumerator is missing some supplies, note which supplies are missing and give them some from your extra supplies.
14. Discuss each enumerator's EA area with him/her.
 - a. Discuss the EA boundaries with the enumerator.
 - b. Show the enumerator where to start enumerating.
 - c. Give the enumerator the list of collective households in his/her EA that he/she is to enumerate or visit or pass out questionnaires for the persons residing there to fill out on census night.
 - d. Provide the enumerator with the list of local authorities he/she should talk to before starting to enumerate in his/her EA.
 - e. Answer any questions the enumerator may have regarding the census.
 - f. Schedule your first meeting with the enumerator by telling him/her whether you expect to meet with him/her on the first or second day and whether it will be in the morning or the afternoon. Be sure to tell the enumerator whether he/she can begin enumeration before the meeting.
15. Call the senior supervisor to discuss the training, tell him/her of any missing supplies, and arrange for him/her to meet with you.

B. During Enumeration

1. (A paragraph needs to be put here on how to enumerate the various types of collective households during the census.)
2. On the day before census night, if there are any self-enumerating places where the staff member(s) could not come to the enumerator training, go there and administer the oath of office to the staff member(s) that will enumerate the persons residing in the collective household(s). Teach the staff member(s) how to enumerate the persons that spent census night at the collective household(s).
3. If there are any collective households in your area that must be enumerated on census night, go to the one which will be the most difficult to enumerate. You must give support to your enumerators that will be working there and be available to take care of any problems that might arise. If you have already talked to the manager, go to the manager's office and introduce yourself again (there may be a different manager on duty at night).

If you are enumerating the homeless, or some transient groups of people who are staying out in the open, use a team of enumerators. Approach the persons to be enumerated and ask if there is a person who is the leader of the group. Talk to this person about the census. Tell him/her it is important to collect some information about the characteristics of these people, the data collected is confidential, and no person who is not working on the census can see the information you are collecting. Tell the leader that it will only take a short while to ask each person the questions. Enumerate the persons as quickly as possible and leave the area all together.

4. Take along the following additional supplies in case your enumerators will need them:
 - a. 2 questionnaire booklets
 - b. 100 adhesive labels
 - c. 20 callback cards
 - d. 10 pens
5. Accompany each enumerator at the beginning of the enumeration (during the first day or two) and observe the enumerator enumerating at least 2 households. After each interview, explain to the enumerator any mistakes he\she has made during the interview. Observe more interviews if the enumerator makes more than 5 mistakes or repeats the same mistakes. If after observing 4 interviews, it appears the enumerator will not be able to do the work correctly, ask the enumerator to stop working. Contact the

DCO the fastest way possible and discuss the situation with him/her. If the DCO agrees, release the enumerator. If the DCO disagrees, tell the enumerator to continue working but that you will be checking his/her work very carefully. (You may want to change this paragraph if you establish a means of communication between the supervisor and the senior supervisor.)

Start by observing the enumerator whose performance during class was the poorest and who got the worst score on the test. Enumerators who did well both in class and on the test will be allowed to start interviewing households without you accompanying them. The rest of the enumerators must be accompanied for their first interviews.

6. When observing an enumerator interviewing a household, position yourself behind the enumerator and slightly to one side so you can see what the enumerator is recording on the questionnaire. Enter a tick mark on the Supervisor's Quality Control Form for each mistake the enumerator makes in the following categories:
 - a. Did the enumerator complete the identification section correctly?
 - b. Did the enumerator determine the number of households in the housing unit?
 - c. Did the enumerator record the names of each person in the household and any visitors that spent census night at the household as well as record their relationship and sex correctly?
 - d. Did the enumerator ask questions 5 through 16 as appropriate for all persons aged 10 and over and correctly record the answers?

Note: There are two possible skips - Question 14 is skipped if the answer to Question 13 is the person never attended school and Question 16 is skipped if the answer to Question 15 is "Student," "Homemaker," or "Retired/sick/too old to work."

- e. Did the enumerator ask questions 17 of all females 12 and over and ask questions 17 through 19 when appropriate and correctly record the answers?
- f. Did the enumerator ask questions 5 through 14 as appropriate for all persons aged 5 to 9 and correctly record the answers?

Note: Question 7 is skipped for all persons under 10. Question 8 is not asked for children of the head but is filled in the same as for the head.

- g. Did the enumerator ask question 5 through 12 as appropriate for all persons under age 5 and correctly record the answers?
- h. Did the enumerator ask questions 20 through 27 and correctly record the answers?

Note: Question 24 is skipped if the answer to Question 23 is "piped water inside the house" or "piped water outside on premises."

- i. After the interview did the enumerator total the number of persons in the household and record them on the form correctly, and enter the date of the enumeration?

Note: If the numbers of persons who spent census night with the household were large enough to require more than one form to record the data, the totals should be entered only on the page where the last person was enumerated.

- j. Did the enumerator ask the questions as worded?
- k. Did the enumerator number the dwelling unit and place the sticker out of the reach of children?

Record the totals of your observations on the Supervisor's Quality Control Form. There is one form for each enumerator.

After observing the enumerator interviewing a household or reviewing a questionnaire completed by the enumerator, initial the questionnaire in the space provided at the bottom.

- 7. While travelling to find the next enumerator, if this enumerator was allowed to begin working, check to be sure the enumerator has placed a sticker on each of the housing units and that no housing units have been skipped unless a call-back card was left at the housing unit.
- 8. If an enumerator has begun interviewing before your first meeting with him/her, review at least the first 5 questionnaires completed by the enumerator or if the enumerator has completed less than 5, review all of the questionnaires the enumerator has completed so far. If any errors are found on the questionnaires, discuss the errors with the enumerator and tell the enumerator to return to the household and get the correct information. For the first review only, if more than 15 errors are found on the questionnaires reviewed, accompany the enumerator to the households where the most mistakes were made and be sure they are corrected.

Observe each enumerator interviewing 2 households even if the enumerator was allowed to begin enumerating before your first

meeting with him/her. Follow the same procedures as listed in B6 above.

9. To review a questionnaire for a household, enter a tick mark on the supervisor's Quality Control Form for each mistake the enumerator makes in the following categories (remember, an enumerator will have to use more than one form for households where more than 10 persons spent the night):
- a. Was the identification section completed?
 - b. Were questions 2 through 16 completed appropriately for all persons age 10 and over?
 - c. Was question 17 asked of all females 12 through 49 and questions 17 through 19 completed appropriately?
 - d. Were questions 2 through 14 except for question 7 completed for all persons 5 to 9 years old?
 - e. Were questions 2 through 12 except for question 7 completed for all persons under 5?
 - f. Were questions 20 through 27 filled appropriately?
 - g. Were the totals for the number of persons in the household correct and entered only on the last questionnaire form for the household?
 - h. Did the enumerator sign and date the form?

Be sure to initial each questionnaire you review. Record the totals on the Supervisor's Quality Control Form for this enumerator and mark whether the enumerator passed or failed the review.

Whenever you review questionnaires after the first visit, if the enumerator makes more than 5 mistakes on one questionnaire or an average of more than 3 mistakes on a questionnaires, review 5 additional questionnaires to see if the enumerator is making an average of more than 3 errors on them as well. If his error rate is high, you should review all of his/her questionnaires to identify the errors. If the mistakes can not be corrected without going back to the households, before deciding that an enumerator should be released you should think about whether there are other enumerators available. If there are no other enumerators available, and you think you will be able to get this enumerator to return to the households to get the missing information and he/she will perform the enumeration correctly in the future, then keep the enumerator working but check with him/her frequently and thoroughly check his/her work the next time you meet.



If you do not think this enumerator will be able to do the work correctly, ask the enumerator to stop working. Call the DCO and discuss the situation with him/her. If the DCO agrees, release the enumerator and appoint another to complete the work. If the DCO disagrees, tell the enumerator to continue working but that you will be checking his work very carefully. Be sure to be thorough in your checking the next time you meet with him.

If the error rate is high, but most of the mistakes were in completing the identification, calculating the total numbers of persons in the household, or dating the questionnaire, speak to the enumerator about this and have him/her make the corrections.

10. You are responsible for making sure the enumeration is continuing on schedule. An enumerator is expected to complete about 20 questionnaires a day. If by your second meeting the enumerator has not completed at least an average of 16 questionnaires per day, discuss the situation with him/her. Emphasize the importance of keeping on schedule, but remember it is also important to have accurate and complete information. See what you can do to help the enumerator stay on schedule.

Remember, it is also your duty to keep morale high whenever your enumerators are doing a good job, you should praise them for their good work.

Always be sure to ask the enumerator if he/she has any questions or any problems that he/she would like to discuss. Inquire about the number of callbacks he/she has to do and if he/she is having difficulty finding people at home. If so, remind him/her to try to go back at different times of the day or that it may be easier to find people at home in the evenings.

Ask the enumerator if he/she has had any households who refused to be enumerated. It is your responsibility to try to convert these households. You must visit these households to gain their cooperation and enumerate them if possible. See section B19.

11. The second time you meet with each enumerator, select 2 households to be reinterviewed, then compare the name of the head of the next nine household numbers and the address and/or location of each of these households from the enumerators questionnaires with the fieldmapper's list.

Reinterview the first household. If you need to check for households missed by the enumerator or make a list of the households between the two households to be reinterviewed, do this as you travel to the next housing unit to be reinterviewed. Reinterview the second household. Then compare your completed questionnaire for the households you reinterviewed with the questionnaires completed by the enumerator for the same households. Record the results of the reinterview and the

comparison of the listings on the Supervisor's Quality Control Form. Next, review the questionnaires completed for 3 households.

The procedures for doing these activities are described further in sections B12, B13, and B14.

12. Select the households to be reinterviewed by subtracting the number of households the enumerator completed at the time you last met with him/her from the number of the last households interviewed by the enumerator at this meeting. This gives you the number of households the enumerator has interviewed since your last meeting. Then, subtract 10 from the number of household questionnaires the enumerator has completed since your last meeting. This number will be called x . Then using the random number table in Appendix A (be sure to put one sheet of random numbers in an Appendix A for the supervisor to use) cross out the numbers until you encounter a number less than or equal to x other than 0's. The first household to be reinterviewed will be the random number selected plus the number of households the enumerator had completed at the time of the first visit. The second household to be reinterviewed is 10 plus the number of the first household to be reinterviewed. If either of these households are on the enumerator's callback list, then interview the next lower household number that the enumerator has interviewed unless this is a household which you already reinterviewed or reviewed the questionnaire or observed the interview. If this is the case, reinterview the next higher household number.

For example, if the enumerator had completed interviewing 12 households at the time of your last meeting and at the time of this meeting the enumerator has completed interviewing 26 households, you would take $26 - 12 = 14$. Then by subtracting 10 from 14, you get the value of x . So, $x = 14 - 10 = 4$. In this case, the first random number less than 4 and not 0 that was listed in the table of random numbers would be the one you used. Assume the line below is a line from a table of random numbers. Remember to cross out any numbers you encounter that you cannot use and the number you use so that you will not use those numbers again.

~~8~~ ~~6~~ ~~8~~ ~~5~~ 3 1 9 4 2 7 4 9 5 7 3 1 8 0 6 4 1 0 5 4

In this case you would line through the numbers 0, 6, 8, 5, and 3. You would use the number 3 as your random start number. You would then add 3 to 12 (the number of the households enumerated at the time of your last meeting) which gives you 15. You would reinterview households number 15 and 25. You would compare the enumerator's households listed as numbers 16 through 24 with the fieldmapper's listing of households.

The reason for using the table of random numbers is so the enumerator will not be able to know which households you will be checking.

(Using random numbers is not easy but the supervisor should be able to do this if you have 3 or 4 examples in the supervisor training. It is very important that the enumerator has no way of knowing which households will be reinterviewed or which households will be compared with the fieldmapper's list or which households will be reviewed. Any other method might allow one enumerator to tell another enumerator what questionnaires are going to be used as quality checks on their work.)

Before going to these households copy the identification section, the name of the head of the household, the address and/or any description of the location from the enumerator's questionnaire for these households to a blank questionnaire with "Reinterview households" written on it in big letters at the top. ("Reinterview households" must be entered on the questionnaire so the data entered on this questionnaire will not be used during the processing for the census. This questionnaire is only for quality control purposes. Also, this questionnaire must be kept and turned into the DCO for proper disposal. Once you interview the household, the information on it is confidential.) Look at the enumerator's map to see where these households are located relative to where you are now. Also determine the path of travel to take between the households if you have to see if the enumerator missed any households or have to make a list of the households between the households you are reinterviewing.

Reinterview the households. Then, compare your answers with the enumerator's. Be sure you are comparing the right households. If the enumerator has made up the answers to the questionnaires for either of the households, tell the enumerator to stop working. Report this immediately to your DCO. All of the households enumerated by that enumerator except for the ones you observed will have to be rechecked to determine if he/she made up the answers for those households as well. Your DCO will tell you how to proceed.

If there are minor discrepancies between the questionnaires, discuss the discrepancies with the enumerator and be sure the corrections are recorded on the enumerators questionnaire for that household. Explain to him/her that he should be more careful. Record the results of your comparison of the reinterviews on the Supervisor's Quality Control Form for this enumerator.

13. To compare the enumerator's households interviewed with the fieldmapper's list, take the household number of the first household you are to match. Go to the same serial number on the fieldmapper's list. Examine the fieldmapper's listing for households near that serial number that have the same name for the

head of the household and the same address or physical location. If you can not find the first household on the fieldmapper's list try to find the household you are going to reinterview. If you are unable to find either of these two households on the fieldmapper's lists look for the second and third households you are to match. (Remember, there may be more than one household at the same housing unit and more than one housing unit at the same address-for example servant's quarters and a small guest house on the same grounds as the main house.)

Once you have determined the first serial number on the fieldmapper's listing that you are to match with the households the enumerator has enumerated, mark the first household on the fieldmapper's list you are using for the comparison with an x. Then, compare the name of the head of the household and the address of that household for the next 9 enumerated households with the next 9 listings on the fieldmapper's list. (Remember to check the Enumerator's Callback List to be certain that if he/she did not enumerate the household it was because no one was home and he/she plans to return to enumerate the household.) Circle any households on the fieldmapper's list that were not enumerated by the enumerator. Then, as you travel between the households you are reinterviewing you can check to see if the circled household(s) are still there and the enumerator missed them.

If you are unable to determine the location of the listings on the fieldmapper's list, list the names of the heads of all the households and the address of each household as you travel between the households you are to reinterview. Then compare this list with the households the enumerator interviewed.

Record the results of your comparison on the Supervisor's Quality Control Form for this enumerator.

If the enumerator failed to list 1 household, speak to him/her about this and warn him/her that he/she must be more careful and that his listings will be compared again. Tell the enumerator to return to the missing household to get the information.

If the enumerator failed to list more than one household, all of the households enumerated to date must be compared with the list from the fieldmapper. If other households have been missed, the entire area the enumerator has covered must be rechecked. A new enumerator or an enumerator who has already completed his/her EA should be assigned to recheck for missed households and complete the enumeration of the EA.

14. Also at the second meeting, review the questionnaires for 3 households that were completed since your last meeting with the enumerator. The household number of the first questionnaire to be reviewed will be the number of the first household to be reinterviewed plus 3, plus 6 for the second questionnaire to be

reviewed, and plus 9 for the last questionnaire to be reviewed. Thus, in the previous example, the first household number to be reinterviewed was 15, so the household numbers to be reviewed are 18 ($15+3 = 18$), 21 ($15 + 6 = 21$), and 24 ($15 + 9 = 24$). Record the results of your review on the Supervisor's Quality Control Form for this enumerator.

15. At the third and subsequent meetings with all enumerators, review 10 questionnaires completed by the enumerator since your last meeting. Follow the instructions for the review as given in B9.
16. At the third meeting with enumerators who had missed some households when their questionnaires were compared with the listing from the fieldmapper (if possible), use the method described previously to again compare the listings. If the enumerator fails to pass a second time, release him/her and give the assignment to another enumerator to complete it. Be sure to compare the fieldmapper's listing with all the household questionnaires the enumerator has completed since your last visit.

Tell the replacement enumerator of any households that were missed and be sure he/she enumerates them.

17. When an enumerator completes a book of questionnaires, he/she will turn in the book to you. In the enumerator's presence, review an additional 5 questionnaires for completeness. Select these questionnaires by first determining the highest household number of the last questionnaire you reviewed or reinterviewed. Subtract this number from the highest household number in the book. This gives the number of households for which questionnaires were completed that you have not reviewed. Divide this number by 5 which will give you a number y . Starting with the last numbered household you reviewed plus y , review every y th questionnaire.

Continuing with the example given above, the last questionnaire you reviewed or reinterviewed was for household number 25. If the enumerator has enumerated through household number 47 in this book then take $47 - 25 = 22$. 22 divided by 5 is 4. So you will review every 4th questionnaire. That is, you will review the questionnaires for households numbered 29 (household number 25 was the last household you reviewed or reinterviewed so, $25 + 4 = 29$), 33 ($29 + 4 = 33$), 37 ($33 + 4 = 37$), 41 ($37 + 4 = 41$), and 45 ($41 + 4 = 45$).

If the enumerator is doing his/her job properly be sure to praise him/her for the good work and tell him/her to keep up the good work. If the enumerator has made less than 15 errors in total and less than 5 errors on any questionnaire, show him/her the errors and tell him/her to be more careful and not repeat these errors.

If the enumerator has made more than 5 errors on any questionnaire or more than 15 errors in total, review another 5 questionnaires

that you have not already reviewed. If he/she has made a lot of errors on these questionnaires as well, ask the enumerator to stop work and call your DCO to see if the enumerator should be released. It will be necessary to review all of the questionnaires that were completed since your last meeting and determine which households must be reinterviewed. If the DCO agrees, give this EA to another enumerator to complete the work. Be sure the enumerator knows which households must be reinterviewed to get the missing information. If the DCO will not let you release this enumerator, be sure he/she goes back and gets the missing information.

The enumerator should have added the totals from all households in the questionnaire booklet together and entered the totals on the cover.

18. If you have determined the questionnaires in a completed enumerator's questionnaire booklet are acceptable, sign for the booklet on the Enumerator's Callback Form. As soon as you have time, review the totals on the questionnaires to be sure that the totals are entered only on the last form used for a household. That is, if 3 forms were used to enumerate 1 household, the totals should be entered only on the 3rd (last form) for that household; if 2 questionnaire forms were used for the household, the totals should be entered only on the 2nd form. Next, recheck the totals on the cover of the questionnaire booklet. If you get a different answer, check the totals again until you come up with the same answer twice. Then, enter the correct totals on the cover of the booklet and on the Supervisor's Preliminary EA Totals Form.

When you have entered the totals for the last questionnaire booklet for the EA on the Supervisor's Preliminary EA Totals Form, calculate the totals for all booklets and enter the totals on the Supervisor's Preliminary EA Totals Form. Subtract the total number of persons listed by the fieldmapper from the total of all persons enumerated in the EA. Divide the result by the number of persons enumerated. If this number is less than -2 percent or greater than 5 percent, report the situation to the DCO. He/she will decide if the EA should be recanvassed. If the DCO decides the EA should be recanvassed, he/she will provide you with instructions on how to do the recanvassing.

An example of when the number of persons enumerated is more than 5 percent is: Suppose the total number of persons enumerated in the EA is 531 and the total number of persons listed by the fieldmapper is 501. The calculation for the subtraction is:

$$\begin{array}{r}
 531 \quad (\text{Number of persons enumerated}) \\
 -501 \quad (\text{Number of persons listed by fieldmapper}) \\
 \hline
 30 \quad (\text{Result})
 \end{array}$$

Then you divide the result by the number of persons enumerated:

$$\frac{\text{(Result)}}{\text{(Number of Persons Enumerated)}} = \frac{30}{531} = .056 = 5.6\%$$

An example of when the number of persons enumerated is less than -2 is: Suppose the total number of persons enumerated in the EA is 498 and the total number of persons listed by the fieldmapper is 511. The calculation for the subtraction is:

$$\begin{array}{r} 498 \text{ (Number of persons enumerated)} \\ -511 \text{ (Number of persons listed by fieldmapper)} \\ \hline -13 \text{ (Result)} \end{array}$$

Then divide the result by the number of persons enumerated:

$$\frac{\text{(Result)}}{\text{(Number of Persons Enumerated)}} = \frac{-13}{498} = -.028 = -2.8\%$$

19. If an enumerator informs you of a household that refuses to be enumerated, determine where that household is located and obtain the household number from the enumerator. Fill in the identification information on a questionnaire.

Go to the household and ask for the head of the household. If the head is not at home, speak to a responsible person that could provide the census with information. Properly introduce yourself as the supervisor in charge of the census in this area and show your identification. Tell them it is your responsibility to be sure that all households in the area are enumerated and you would like their cooperation in helping you to do your job. Discuss the situation with him/her. The following information may help you to gain their cooperation:

- a. The Census and Statistics Act (Chapter 79, 1971) provides for the conducting of a census. It accords access to any premises, compound or house for the purpose of enumerating persons.
- b. Census information is confidential.
- c. Only authorized persons are allowed to see the completed forms. Authorized persons can be prosecuted if they discuss or otherwise disclose any information collected during the census about any individual or household.
- d. Data will only be available to persons not working directly on the census in published form. The published data is in tabular format where no information about an individual or household can be identified.

- e. The published data are used by the government for social and economic planning purposes as well as monitoring and evaluating governmental development programs.
- f. The published data also are used by private companies to determine where to build stores, factories or other types of business. It is also used by charitable organizations to determine where their assistance may be needed.

If the person you are talking to is still hesitant, ask them if you can just ask the questions and if they find the questions are offensive you will stop. Begin interviewing them.

(A paragraph must be put here to say what to do if the supervisor is unable to gain the cooperation of the household. Previously this paragraph read, if you are unable to gain their cooperation, go to the neighbor's house and obtain as much information as you can. In the comments section, enter household refused to cooperate. Be sure to sign and date the form.)

Give the copy of the completed questionnaire to the enumerator and tell him/her that he/she must copy the information to the next blank questionnaire in their booklet. You should sign the copied questionnaire once the enumerator has copied it and be sure any comments are on the copied form. Also, be sure the questionnaire you completed has a big "X" across it and "deleted" written on it so it will not be used in the tabulations. Take the deleted questionnaire with you. Give it to the DCO, all questionnaires which contain census information must be properly destroyed so no one will be able to piece them back together and see the information.

- 20. When you accept the last questionnaire booklet from the enumerator be sure you get the following materials as well:
 - a. Enumerator's EA map. Enter a check mark next to the EA number on your "Preliminary EA Totals Form."
 - b. Callback record form completed by the enumerator.
 - c. List of contacts for the enumerator.
 - d. List of collective households in the EA.
- 21. (Paragraph on solutions to infrequent but known problems that the enumerators may encounter).

Form

Supervisor's Preliminary E A Total

Population Census August 1992



Republic of Zimbabwe

- 1. Province Name.....[] 2. District Name.....[()]
- 3. Ward.....[]
- 4. DCO's Name.....
- 5. Senior Supervisor's Name.....
- 6. Supervisor's Name.....

7. E A Number	A.	B.	C.	D.	E.	F.
8. Booklet 1						
9. Booklet 2						
10. Booklet 3						
11. Booklet 4						
12. Totals						
13. Field Mappers List						
14. Result of Subtraction						
15. Result of division						

Duties of the Senior Supervisor

A. Before Enumeration

1. Attend the training for the senior supervisor.
2. After your training, the District Census Officer (DCO) will give you the following:
 - (a) A list of all special EAs in your area and a list of the collective households located in each EA. There should be a separate list of collective households for each EA. Be certain not to lose these lists because they contain census information which is confidential. You also must give these lists to the supervisor to give to his/her enumerator.
 - (b) A list of important persons the enumerator must meet with before he/she starts to enumerate the households in his/her EA. You also must give these lists to the supervisor to give to his/her enumerator.
 - (c) The fieldmapper's list of the households located in each EA. You must give this list to the supervisor to use as a check on the enumerators work.
 - (d) The Supervisor's Preliminary Totals Form. There is one form for each supervisor which is used to record the number of persons enumerated in each questionnaire booklet for each EA and as a quality check on the enumerator's work.
 - (e) Supervisor's Quality Control Forms. There is one form for each EA. The supervisor uses this form to record the results of his/her check on the enumerator's work.
 - (f) Senior Supervisor's Quality Control Form. There is one form for each supervisor you are supervising. Use this form to record the results of your evaluation of the supervisor's work.
 - (g) Summary Area Totals. There is one form to be used by you to record by EA the total population for each completed questionnaire booklet you accept.
3. Familiarize yourself with the area for which you are responsible for enumeration.
4. Recruit a supervisor for each supervisor area in your area if the Province Census Officer (PCO) or DCO has not already done this. The DCO will tell you how to do this if the supervisors have not

already been recruited. (Or you can include a paragraph here about how to do this stating how long the supervisor's job will last and how and when the supervisor will be paid, what expenses are allowed (any lodging, per diem if he stays overnight more than one night, telephone calls, etc.) and what kind of transportation will be furnished, if any. If transportation will not be furnished, how the supervisor will be reimbursed for transportation expenses.)

5. Recruit an enumerator for each EA in your area, if the DCO has not already done this. The DCO will tell you how to do this if the enumerators have not already been recruited. (Or you can include a paragraph here so they will know how to do this, include how much, when and how an enumerator will be paid.)
6. Locate a training site for you to train the supervisors if your DCO has not already done this. If the DCO has not already located a training site for you to train the supervisors, the DCO will tell you how to locate a training site. (Or you can include a paragraph here on how to find a place to train the supervisors, what kind of facility is needed, that tables and chairs are needed for the trainees, light conditions, a place which is easily accessible by public transportation, will it be necessary to have living accommodations nearby for those supervisors who can not go home every night, etc. Also, how to make arrangements for the site, can they pay for it or must it be free.)
7. Locate training sites for the supervisors to use to train their enumerators if the DCO has not already done this. If the DCO has not already located a training site for the supervisors to train the enumerators, he/she will tell you how to locate the training site.
8. As you are familiarizing yourself with your area, recruiting additional census workers, or looking for training space, go to some of the local merchants in each village, discuss the census briefly with them and ask them if they will put a poster on display in their window about the upcoming census. Do not put the posters up too early. It is better to make sure they are displayed during the last month and a half before the census.
9. Obtain the materials for training the supervisors from the DCO.
10. Prepare for the supervisor's training by studying the Guide for Training Supervisors. You are responsible for training the supervisors who work in your area. Also, read the supervisor's manual and the enumerator's manual. You must know what each of them are supposed to do in order to effectively supervise the enumeration in your area. In addition, read the Guide for Training Enumerators once so you will know what is contained in the guide and how the supervisor is expected to train the enumerators. Remember, whenever the supervisor does not know what

to do or how to resolve a problem, he/she will ask you during training or when you meet them while they are doing their work.

11. Train the supervisors.
12. Correct the tests given to the supervisors at the end of their training. This will help you identify which are the weakest supervisors. You will want to observe their training sessions and put them at the top of the list when you are determining the order in which you are going to meet with each of the supervisors to observe him/her working during the enumeration. You may even want to review the important points of the supervisor's job with those who got the lowest scores on the test.
13. Discuss with each supervisor the area for which he/she is responsible during the enumeration. Show him/her the boundaries of his/her area and the boundaries of each EA on the map. If there are any special category EAs that are located in the supervisor's area, point these out to the him/her.
14. Give the supervisor the list of collective households in each EA. There should be a separate list for each EA. Be sure the supervisor knows which collective households must be visited by enumerators on census night and the EAs in which they are located. The supervisor must explain this to each of his/her enumerators when he/she gives them this list.
15. Inform the supervisor of the training site where he/she will train his/her enumerators. If an appropriate site has not been located, you must tell him/her how to find a site.
16. Provide the supervisor with the list of the names of the enumerators and the EA in which each of his/her enumerators will be working. If there is only one enumerator to be trained for each EA, complete the information on the top of the Supervisor's Quality Control for each EA. If an enumerator has not been recruited for each EA, tell the supervisor which are the EAs where an enumerator has not been recruited and how he/she should proceed to recruit enumerators.
17. Give each supervisor a copy of the fieldmapper's list of the households for each EA in which he/she will supervise the enumerators. Tell him/her that under no circumstances can he/she let the enumerator have this list. This list is to be used only by the supervisor as a check on the quality of the enumerator's thoroughness in locating all households.
18. Give each supervisor a copy of the Supervisor' Preliminary EA Totals form for his/her area. Be sure you have entered your name and the supervisor's name in the place provided at the top. The total persons found by the fieldmapper in each EA should be entered on this form. Tell the supervisor that he/she must not

let the enumerators have this form. This form is a check on the total number of persons enumerated in each EA.

19. Give the supervisor the list of contacts the enumerator must make before the enumerator begins enumerating in the EA.
20. Distribute the Guide for Training Enumerators to the supervisors at the end of the training session. Make arrangements to meet with each supervisor to give him/her the training and enumeration materials he/she will need for his/her enumerators.
21. Obtain the enumeration and any training materials for the enumerator's training from the DCO.
22. Deliver the enumeration materials and any training materials other than the Guide for Training Enumerators (which you have already given to the supervisor) to the supervisor's home or training site, whichever is most convenient for the supervisor. However, if the materials are delivered to the training site, you must be sure the materials are put in a secure area where they can not be stolen.

When you deliver these materials ask the supervisor if he/she has any questions about the training or his/her job during enumeration. If possible, answer the questions by finding the information in either the supervisor's manual, the enumerator's manual, or the Guide for Training Enumerators. This will encourage the supervisor to use his/her reference materials. Do not guess at the answer if you do not know it. Tell the supervisor you will ask the DCO and get back to him as soon as you know the answer. Be sure to find the correct answer.

23. Ask the supervisor to call you when the training is finished to let you know if there were any problems. Give each supervisor a different time to call so that the phone will not be busy when he/she calls. If it is not possible for the supervisors to call, arrange to have them meet you at a designated place on the Saturday after they finish training their enumerators.
24. If there are any collective households in your area that must be enumerated on census night, determine which one will be the most difficult to enumerate. You must plan to go to that location on census night to give support to the supervisor and enumerators that will be working there and be available to take care of any problems that might arise.
25. Observe some of the supervisors who performed the worst during their training or got the lowest scores on the test as they train their enumerators. Try to observe at least three of them instead of staying with one throughout the entire training. Never interrupt them during the training but speak to them during breaks, at lunchtime, or after the class is dismissed for the day

about how they could improve their training or misinformation they may have told one of their enumerators in answer to a question.

26. When the supervisor calls after he/she finishes training, discuss any problems he/she encountered during training. Ask if he/she needs any additional materials. Find out the order in which the supervisor will be meeting his/her enumerators. Arrange a time when you can meet him/her when he/she is meeting with his/her enumerators. You must observe the supervisors performing their duties or you can not tell if they are doing them correctly. It is your job to travel to meet with the supervisors or he/she will not be able to supervise the enumerators.

If you are going to accompany this supervisor and a group of enumerators on census night be sure to tell him/her where you will meet him/her on census night as well as make arrangements for meeting the supervisor later.

27. If any of the supervisors need more materials, organize the supplies that you will need when you meet with them. Take along some additional supplies because you will be travelling directly from meeting with one supervisor to meeting with another supervisor. Another supervisor may run out of enumeration materials before you meet with him/her. Take extra copies of the following:

<u>Description</u>	<u>Quantity</u>
1. Enumerator's Manual	6
2. Supervisor's Manual	4
3. Questionnaire Booklets	30
4. Supervisor's Quality Control Form	20
7. Self-Adhesive Labels	1500
8. Call back cards	250
9. Clipboards	5
10. Carrying Bag	5
11. Black/Blue pens	200

B. Duties During Enumeration

1. (Place a paragraph here about the administrative duties the senior supervisor has during the census. Is he/she responsible for

paying the enumerators or supervisors? Does he/she have to keep any records on or submit accident reports?)

2. Meet the supervisor and his group of enumerators at the designated time and place on census night. Go to the location where enumeration is to take place. If this is a place where you have already talked to the manager, go to the manager's office and introduce yourself again (there may be a different manager on duty at night).

If you are enumerating the homeless, or some transient groups of people who are staying out in the open, ask if there is a person who is the leader of the group. Talk to this person about the census. Tell him it is important to collect some information about the characteristics of these people and the data are confidential and no person who is not working on the census can see the information you are collecting. Tell the leader that it will only take a short while to ask each person the questions. Enumerate the persons as quickly as possible and leave the area all together.

3. Meet with each of your supervisors at the designated time. Give the supervisor any materials he/she has requested as well as replace any materials that he/she has already had to provide to enumerators. In addition give each supervisor an additional 2 questionnaire booklets, 100 adhesive labels, 20 callback cards, and 10 pens.

Ask the supervisor if he/she has any problems or questions. Answer the questions if you can, if there is a difficult question for which you do not know the answer and the supervisor needs the answer immediately, you and the supervisor can go and call the DCO together. That way you will be able to tell other supervisors what to do under those circumstances.

Ask to see the Supervisor's Quality Control forms. Look at the forms to see if he/she has started filling out a form for each enumerator he/she has met with so far. This will help you to determine if the supervisor understands how to determine the quality of the work each enumerator is doing. Check this form to determine if the supervisor has been completing every part at each meeting with the enumerator and keeping track of the enumerator's progress to be sure the enumerator is on schedule. Record the number of enumerators that were behind schedule (an average of less than 16 households enumerated per day) the last time the supervisor met with them. If there are 3 or more enumerators averaging 16 or less questionnaires, speak to the supervisor about this when you talk to him/her about the results of your observations. You should also inform the DCO, about this. The DCO may want to talk to this supervisor about the situation if the supervisor calls him/her.

Observe the supervisor meeting with his/her enumerators. Use a blank copy of the Supervisor's Quality Control Form to tally your observations of the supervisor's work. Enter your name and the supervisor's name on the appropriate line. After using the Supervisor's Quality Control Form to record your observations and compare your results with the supervisor's, record the results of your observations on the Senior Supervisor's Quality Control Form.

You will probably only be able to observe each supervisor once during enumeration. The next time you meet with him/her you will be picking up the completed work.

- a. If you are observing the supervisor during his/her first meeting with the enumerator:
 - (1) Observe the supervisor observing the enumerator interviewing a household. After the enumerator has introduced himself/herself, introduce yourself at the household, show them your identification, and tell them that it is part of your job and that of the supervisor to be sure the enumeration is done properly.
 - (2) If this is not the first enumerator the supervisor has observed, select 2 questionnaires the supervisor reviewed and review these questionnaires for completeness.
 - (3) Determine if the supervisor completed the Supervisor's Quality Control Form for this enumerator correctly according to the results of your observing an interview and the results of your review of 2 questionnaires.
- b. If you are observing the supervisor during his/her second meeting with the enumerator:
 - (1) Determine if the supervisor has selected the households to be reinterviewed at random. If he has not, teach him/her how to do this.

If this is not the first enumerator for which the supervisor has met with the second time, check to see if the supervisor selected the same households to reinterview for every enumerator he/she has already met with the second time.
 - (2) Observe the supervisor reinterviewing one household, if he/she has not already completed all of the reinterviews for this enumerator.

- (3) After the supervisor has compared the households enumerated by the enumerator with the fieldmapper's list, ask him/her if he/she was able to compare the lists. If he/she says yes, ask for the materials and compare the lists. Determine if the comparison was made properly, that is, that you get the same result as the supervisor. If you do not explain how to make the comparison properly and tell him/her that this is very important because we must make sure that every household is enumerated in the census. Otherwise, we will undercount the population.

If the supervisor has to check any discrepancies between the households enumerated by the enumerator and those listed by the fieldmapper and has not done this, accompany him/her as he/she does this. Determine if he/she searched every road or path where someone lived or could live to be sure that no households were missed between the two households he/she was to reinterview.

- (4) Review 2 of the questionnaires the supervisor reviewed for completeness. Record any differences between the results of your review and the supervisor's. If the supervisor has not reviewed any questionnaires for his second meeting with the enumerator, review some of the questionnaires the supervisor reviewed during his/her first meeting with the enumerator.
- c. If this is the supervisor's third or fourth meeting with the enumerator, review 2 questionnaires from each meeting the supervisor had with the enumerator. Record the differences between the results of your review and the supervisor's review on the Senior Supervisor's Quality Control Form. Also check to see if the supervisor reinterviewed different household numbers for each enumerator.
 - d. No matter what meeting you are observing the supervisor supervising his/her enumerator, do the following:
 - (a) Determine if the supervisor checked to make sure the enumerator is completing his/her work on schedule.
 - (b) Determine if the supervisor asked to look at the enumerator's callback record to be sure the enumerator is completing the callbacks.
 - (c) Look through the questionnaire booklet to be sure that the enumerator is only entering the population totals on the last questionnaire if more than one questionnaire had to be used at a household.

- (d) If the enumerator is handing in a completed questionnaire booklet, determine if the supervisor is selecting the questionnaires to be reviewed at random. If he/she is not, teach him/her how to do this. Tell him/her it is important to check the enumerator's work throughout the questionnaire booklet and the reason the questionnaires are being reviewed at random is so the enumerator won't be able to tell which questionnaires are being reviewed.

Review 2 questionnaires after the supervisor reviews them. Record any differences on your Senior Supervisor's Quality Control Form. Also review one questionnaire the supervisor did not review. Tell the supervisor about the results of this review.

Determine the total number of errors the supervisor made and enter this in the space provided on the Senior Supervisor's Quality Control Form. After the enumerator is gone, discuss the results of your observations and reviews with the supervisor. If the supervisor is doing a good job, congratulate him/her. Tell him/her to keep up the good work.

If the supervisor is making some mistakes, but his/her work is still acceptable, tell him/her that he/she is doing a pretty good job overall but they have made a few mistakes that you would like to discuss with them. Discuss the errors with them and ask them to be more careful in doing these parts of their job in the future. After you have discussed the errors, try to find some way to complement them on the things they have been doing right so they will be in good spirits when you leave them. You want them to be motivated to do a good job and anxious to get the census enumeration completed.

If the supervisor is not doing a good job, inquire who their best enumerators are and try to determine this from the Supervisor's Quality Control Form. Ask the supervisor to stop working. Call the DCO immediately and discuss the situation with him/her.

Record the results of your discussion with the DCO on the bottom of the form.

4. When a supervisor has determined that all of the EAs are complete for his/her area, he/she will call the DCO. The DCO will tell you to collect the materials.
5. For each EA check the supervisor's work as follows:
 - a. Review 5 questionnaires in the last questionnaire booklet for the EA. These should be 5 questionnaires that were not reviewed by the supervisor. If you find an average of more than 8 errors per questionnaire, check another

5 questionnaires in all of the other questionnaire booklets for this EA. If the average number of errors per questionnaire is 8 or greater in any questionnaire booklet, all of the questionnaires in the booklet should be reviewed to determine which households need to be revisited to get the missing information. Have the supervisor visit the households to get the missing information unless this is the last supervisor to turn in his/her enumeration materials.

- b. Check the supervisor's calculation of the difference between the number of persons enumerated and the number listed by the fieldmapper. Recheck the calculated percent.

If the supervisor did made mistakes in calculating the subtraction or the percent and the percent was not previously less than -2% or greater than 5% but is when calculated properly, call the DCO and tell him/her the correct calculated percent. Have the supervisor follow the procedures described by the DCO unless this is the supervisor to turn in their enumeration materials.

6. When you have checked all EAs and accepted all the questionnaire booklets for an EA and the calculations are acceptable or the EAs have been revisited as appropriate, collect the EA booklets from the supervisor. Sign on the Supervisor's Quality Control Form for each EA booklet you accept. In the presence of the supervisor, check in each booklet by entering the totals for each questionnaire booklet on your copies of the "Summary Totals by Area." Make sure you receive every questionnaire booklet from that supervisor. Once you have checked in the questionnaire booklets for every EA, you are responsible for every questionnaire booklet. If while you are checking in the questionnaire booklets, any are missing you must determine that at the time of your meeting with the supervisor. There can be no dispute about who was responsible for a missing questionnaire booklet.

If there is a missing questionnaire booklet, recheck all the booklets to see if it was skipped or out of order. If one questionnaire booklet was really missing, write Questionnaire Booklet Number ___ in EA ___ was not turned into the Senior Supervisor (name) by Supervisor (name) with the data filled. Sign the form and have the supervisor sign the form. If more than one booklet is missing, list all of the questionnaire booklet on the same form. Tell the supervisor he/she has 1 day to get back these questionnaire booklets. Call the DCO and tell him/her about the situation. The DCO may want to talk to the supervisor while you are with him.

If any questionnaire booklets are lost everything possible must be done to get them back. If a questionnaire booklet was destroyed, the households enumerated in that questionnaire booklet must be reinterviewed. If it is necessary to reinterview households the

households to be reinterviewed can be determined by comparing the map spots on the enumerator's map with the number of the households on the questionnaires in the other questionnaire booklets for the EA. Then using the enumerator map, you can have the supervisor use the map spots to locate the households that must be reinterviewed and reinterview them.

7. Calculate the totals on your Summary Totals by Area for each EA and each ward in your area.
8. When the supervisor turns in the completed materials for his/her area, you must be sure that you have the following materials in addition to the questionnaire booklets for all of the EAs:
 - a. For each EA:
 - (1) Enumerator's EA map. Enter a check mark next to the EA number on your "Summary of Totals by Area" form.
 - (2) Callback record form completed by the enumerator.
 - (3) List of contacts for the enumerator.
 - (4) List of collective households in the EA.
 - (5) Supervisor's Quality Control Form
 - (6) Fieldmapper's List of Households
 - b. For each Supervisor's Area:
 - (1) Supervisor's Map
 - (2) Supervisor's Preliminary EA Totals

(A paragraph needs to be put here if you want them to collect any blank forms.)

9. Turn in your completed enumeration materials to the DCO. In addition to the above materials you must turn in:
 - a. Senior Supervisor's Quality Control Form
 - b. Senior supervisor's map
 - c. Senior supervisor's completed Summary Totals by Area.

Duties of the District Census Officer

A. Before Enumeration

1. Attend the training for the District Census Officer (DCO). Once you have been trained, carry your identification on you at all times whether you are in the office, meeting with groups of people or supervising the enumeration.
2. Familiarize yourself with the district in which you are responsible for the enumeration.
3. Schedule meetings with each Ward Development Committee (WADCO) in your area. After you have met with all of the WADCOs, schedule meetings with each Village Development Committee (VIDCO) in your area.
4. Before you go to an area, organize your materials that you will need to take with you. At all meetings you should take along a notebook to take notes and write down the names, addresses, and method of contacting any further referrals that may be able to help get the local people to cooperate during enumeration.
 - a. If you are meeting with WADCOs, take along the following materials (be sure you take along enough materials for all the meetings if you will not be returning in between meetings):

(Put a list of the materials the DCO should take with him here.)
 - b. If you are meeting with VIDCOs and other groups in an area, take along the following materials:

(Put a list of the materials the DCO should take with him/her here. Remember when the DCO is in an area he/she will meet with the VIDCOs, the clergy, heads of schools, any other appropriate groups. Distinguish between what materials are to be left with what groups.)
5. Meet with each WADCO within your district:
 - a. Introduce yourself as the District Census Officer and tell them you represent the Department of the Census and Statistics which is under the Ministry of Finance, Economic Planning and Development. Show them your identification.
 - b. Tell them the census is provided for by the Census and Statistics Act (Chapter 79, 1971) and all data are strictly confidential. No one who is not a sworn census employee is

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allowed to see any information collected on the census forms. The data are not available to any other government employees or the public except in tabulated statistical format where data about any individual can not be recognized.

c. Explain the importance of the census to them.

(1) The data from the census is used by the government for:

- (a) Identifying important demographic, social, and economic characteristics of the population at the national, district, ward, and village level.
- (b) Planning social and economic programmes at the various geographic levels, and monitoring and evaluating these programmes.
- (c) Determining the growth rate and migration patterns of the population so estimates can be made of the future size and geographic distribution of the population to be used by decision-makers.

(2) The data are used by private industry to:

- (a) Determine where pockets of unemployment of persons with the skills needed by a company are located geographically so that the company will know where to build new factories.
- (b) Determine geographically where consumer demand would be high for the types of products the enterprise or company is selling and consequently, where to build new stores or distribute their goods.
- (c) By private individuals who are self-employed and want to locate their business where the demand for their services will be greatest.
- (d) By local, national, and international charitable organizations to determine where their assistance is most needed.

d. Explain to them that much of the census data will be useful to them for planning, monitoring, and evaluating many of the local programmes in which they are interested. The data will be published at the ward and village level and will be available to them in published tables as soon as possible after the census is over. Hopefully, this will be less than

one to one and a half years after the enumeration is over. Tell them how they can obtain a copy of the census publication once it is printed.

- e. Discuss the enumeration procedures with them.
 - f. Ask them if there are any areas in their wards where it will be difficult to enumerate people. Make note of this so you can discuss these areas with the senior supervisor.
 - g. Ask them if they know of any places where the homeless are staying and if so, how you can find the homeless to be sure they are included in the census. Be sure to add these places to the list of collective households for the correct EA.
 - h. Ask them to please assist you in gaining the cooperation of the people living in their ward to be enumerated in the census.
 - i. Inform them that nearer to the census you will be recruiting people to work on the census as enumerators and supervisors. (A paragraph should be included here if the CSO wants the WADCO to help find people to work on the census.)
 - j. In addition, ask them to arrange a meeting where you can meet with all the clergy in the ward.
 - k. Ask the WADCO if there are any other important organizations in their ward besides the schools and clergy that you should meet with to gain their cooperation on the census. There may be some large farm cooperatives, ladies groups, etc.
 - l. Pass out any materials you have to distribute to them.
 - m. At this meeting and meetings with any other groups of people, thank them for meeting with you, tell them that you look forward to their cooperation on the census in the future and how they can get in contact with you in the future. Be sure not to alienate any persons in these meetings and if you have some disagreement be sure to smooth it over and leave the meeting with everyone still friendly. You will need all the cooperation you can get on the census.
6. Arrange to meet with all of the VIDCOs in each WADCO at one time. Do this for each ward in your district. Follow the same procedures as given in A5 a through h above. Pass out any materials you have to distribute to them.
 7. Through the Ministry of Education, arrange a meeting with all the Heads of Schools in each ward.

- a. Explain the importance of the census to them.
 - b. Discuss how the census data are used.
 - c. Ask them to consider including something in their civic or history classes about the census and stressing the importance of the census. Suggest the possibility of having some classes have a mock census of the children in school.
 - d. Distribute the census materials you have for the schools.
 - e. Ask them to put at least one poster about the census in a location where all the students can see it. (Make sure the poster can be understood by the level of the students at that school.)
8. Meet with the clergy in each of the wards.
- a. Explain the importance of the census to them.
 - b. Discuss how the data are used.
 - c. Explain about the confidentiality of the census.
 - d. If anyone asks how the census will benefit them, answer their questions.
 - e. Ask them to help you to gain the cooperation of their congregations in being enumerated in the census.
 - f. Ask them to place a census poster in a prominent place in their place of worship so that the congregation will be able to see it.
 - g. Distribute any other census materials you have for them.
9. Meet with other groups and discuss the census with them, as appropriate.
10. After your training, the PCO will give you a list of all special EAs in your district and a list of the collective households located in each EA. There should be a separate list of collective households for each EA. Be certain not to lose these lists because they contain census information which is confidential. A copy of these lists must be given to the supervisor to give to his/her enumerator.

When you are in an area to meet with other groups, go to each collective household in each EA and each special EA located nearby. Ask to speak with the manager:

- a. Make sure the manager's name on the list of collective households is correct. The person(s) who goes there to enumerate the place may need to know who you contacted.
- b. Determine the type of collective quarters:
 - (1) Prison
 - (2) Chief of Police (Temporary lockups)
 - (3) Short term Hospitals and Wards
 - (4) Long term Hospitals and Wards
 - (5) Hotels/Residential/Clubs/Hostels/etc
 - (6) Boarding Homes
 - (7) Orphanages
 - (8) Homeless
 - (9) Refugees

Categories 2 and 3 should be visited the morning after census night to enumerate all persons that were there on census night and will not be released that morning to return to their homes.

Categories 5 and 8 should be enumerated on census night.

- c. Explain the enumeration procedures to the manager and gain their cooperation in completing the enumeration of all living quarters at the place
- d. Tell the manager when the place will be enumerated.
- e. Determine if the place is to be self-enumerating. If the place is to be self-enumerating,

If the place is to be self-enumerating, the manager must appoint a staff member to do the enumeration. Find out if the staff member who is to be the enumerator will be able to attend the enumerator training. Try to limit the self-enumerating places where the person will not be able to attend enumerator training because the staff member will not be as well trained as a regular enumerator. If the staff member can not attend the training, the supervisor will visit the place the day before census eve to train the staff member and administer the oath of secrecy.

- f. If the place is not self-enumerating, find out who the enumerator should contact when he/she comes there to do the enumeration.
- g. On the line for each collective household record:
 - (1) If it is self-enumerating and whether the staff member is to attend the enumerator training.
 - (2) If it must be enumerated on census night.
 - (3) The person to contact.
 - (4) If the place is located in a dangerous area and/or will be difficult to enumerate.

Note: Details on how to enumerate collective households are described in the supervisor's manual. Be sure to read that section before you talk to the managers at the collective households or the special EAs. (You can put the instructions in this manual as well if you will not have the supervisor's manual finished in time for the DCO to use it.)

After you have contacted all collective households, be sure to contact the PCO and tell him/her how many staff member at collective households will be attending the enumerator training and the supervisor's area where the place is located. The PCO will have to provide additional enumerator training supplies for each staff member along with the training supplies for those supervisor's.

- 11. Once you have visited all of the collective households, sort the lists of collective households and special EAs into supervisor assignment areas. Put a piece of paper identifying the supervisor's area on top of each stack. Put a clip on each stack of the lists. Then sort the stacks of lists into senior supervisor assignment areas. Put a sheet of paper in front of each stack identifying the senior supervisor. Clip the entire stack for one senior supervisor together.

Be sure you have a copy of every one of the lists of the collective households in an EA and special EAs. If any list is lost, another list must be sent to the enumerator to use.

- 12. For each EA in your district, compile a list of important persons the enumerator must meet with before he/she starts to enumerate the households in his/her EA. This list should not be all the persons you met with but a short list of the essential people he/she needs to inform that he/she will be enumerating the households in the EA.

Sort these lists of contact persons into supervisor assignment areas, attach a piece of paper with the identification of the supervisor's area and clip the lists together for one supervisor assignment area. Then sort the clipped lists into senior supervisor areas, attach a piece of paper identifying which senior supervisor's area, and clip the lists together into senior supervisor's areas.

Be sure you have a copy of everyone of the lists of the contacts in an EA. If any list is lost, another list must be sent to the enumerator to use.

13. Sort the fieldmapper's lists into supervisor and senior supervisor stacks as you did with the contacts lists. Again, be sure you have a copy of the list in case any sent to the supervisor for their use get lost.
14. Go to the bus stations, carriers, and railways to determine the routes of travel. If one of your supervisors or senior supervisors needs additional materials during enumeration, you may need to send some materials to a senior supervisor or supervisor using these means of transportation. Be sure you know the schedules and the routes that will be used during the time of the enumeration.
15. Recruit a senior supervisor for each senior supervisor area in your district if the PCO has not already done this. (A paragraph needs to be put here about how to do this and when to start doing this as well as how long the senior supervisor's job will last and how and when the senior supervisor will be paid, what expenses are allowed (any lodging, per diem if he stays overnight, telephone calls, etc.) and what kind of transportation will be furnished, if any. If transportation will not be furnished, how the senior supervisor will be reimbursed for transportation expenses.)
16. Recruit a supervisor for each supervisor area in your district if the PCO has not already done this. (A paragraph needs to be put here about how to do this and when to start doing this as well as how long the supervisor's job will last and how and when the supervisor will be paid, what expenses are allowed (any lodging, per diem if he stays overnight, telephone calls, etc.) and what kind of transportation will be furnished, if any. If transportation will not be furnished, how the supervisor will be reimbursed for transportation expenses.)
17. Recruit an enumerator for each EA in your district. (A paragraph needs to be put here so they will know how and when to start doing this and how much and when an enumerator will be paid.)
18. Locate a training site for you to train the senior supervisors if your PCO has not already done this. (A paragraph should be put here on how to find a place to train the senior supervisors, what

kind of facility is needed, that tables and chairs are needed for the trainees, light conditions, a place which is easily accessible by public transportation, will it be necessary to have living accommodations nearby for those senior supervisors who can not go home every night, etc. Also, how to make arrangements for the site, can they pay for it or must it be free.)

19. Locate training sites for the senior supervisors to train the supervisors if your PCO has not already done this. (A paragraph should be put here stating if it will be necessary to have living accommodations nearby for those supervisors who can not go home every night.)
20. Locate training sites for the supervisors to use to train their enumerators.
21. Obtain the materials for training the senior supervisors from the PCO. Be sure to put the lists of collective households and special EAs and the lists of contacts for each senior supervisor with the materials you are going to use during training.
22. Prepare for the senior supervisor's training by studying the Guide for Training Senior Supervisors. You are responsible for training the supervisors who work in your district. Also, read the senior supervisor's manual, the supervisor's manual and the enumerator's manual. You must know what each of them are supposed to do in order to effectively supervise the enumeration in your district. In addition, read the Guide for Training Supervisors and the Guide for Training Enumerators once so you will know what is contained in the guides and how the senior supervisor trains the supervisors and how the supervisor is expected to train the enumerators. Remember, whenever the senior supervisor or the supervisor does not know what to do or how to resolve a problem, he/she will phone you for help.
23. Train the senior supervisors.
24. Correct the tests given to the senior supervisors at the end of their training. This will help you to identify which are the weakest senior supervisors. You may even want to review the important points of the senior supervisor's job with those who got the lowest scores on the test.
25. Discuss with each senior supervisor the area for which he/she is responsible during the enumeration. Show him/her the boundaries of his/her area and the boundaries of each supervisor assigned to him/her and each EA on the map. If there are any special category EAs that are located in the senior supervisor's area point these out to the him/her. Also discuss the difficult to enumerate areas and any places where the homeless live.

26. Give the senior supervisor the stack of the lists of collective households in each EA. There should be a separate stack for each supervisor's area and a list for each EA. Be sure the senior supervisor knows which collective households must be visited by enumerators on census night.
27. Inform the senior supervisor of the training site where he/she will train his/her supervisors. If you have been unable to find an appropriate site, you must tell him/her how to find a site.
28. Provide the senior supervisor with the list of the names of the supervisors and the supervisor's area in which each of his/her supervisors will be working. If you or the PCO have recruited all the supervisors in the senior supervisor's area, complete the information on the top of the Senior Supervisor's Quality Control for each supervisor's area. If you or the PCO have not been able to recruit a supervisor for each supervisor's area, tell the senior supervisor which are the areas where you have been unable to recruit supervisors and how he/she should proceed to recruit supervisors. Give the senior supervisor the list of the names of the supervisors identified with the area they are to supervise.
29. Provide the senior supervisor with the list of the names of the enumerators and the EA in which each of the enumerators will be working. If there is only one enumerator to be trained for each EA complete the information on the top of the Supervisor's Quality Control for each EA. If you have not been able to recruit an enumerator for each EA, tell the senior supervisor the EAs where you have been unable to recruit enumerators and how he/she should proceed to recruit enumerators.
30. Give each senior supervisor the copies of the fieldmapper's list of the households for each of his/her supervisor's area. Tell him/her to emphasize to the supervisor that under no circumstances can the supervisor let the enumerator have this list. This list is to be used only by the supervisor as a check on the quality of the enumerator's thoroughness in locating all households.
31. Give each senior supervisor a copy of the Supervisor's Preliminary EA Totals form for each of his/her supervisors. Be sure you have entered your name and the senior supervisor's name and, if you know it, the supervisor's name in the space provided at the top. The total number of persons found by the fieldmapper's in each EA for the supervisor's area should be entered on this form. Tell the senior supervisor that the supervisors must not let the enumerators have this form. This form is a check on the total number of persons enumerated in each EA.
32. Distribute the Guide for Training Supervisors to the supervisors at the end of the training session. Make arrangements to meet with each senior supervisor to give him/her the training materials he/she will need for training his/her supervisors.

33. Obtain the enumeration and any training materials for the supervisor's training from the PCO. Be sure the Guides for Training Enumerators are included in this material. The supervisors will need to start preparing for the enumerators training as soon as they are finished with their training.
34. Deliver the training materials other than the Guide for Training Supervisors (which you have already given to the supervisor) to the senior supervisor's home or training site, whichever is most convenient for the supervisor. However, if the materials are delivered to the training site, you must be sure they are put in a secure area where they can not be stolen.

When you deliver these materials ask the senior supervisor if he/she has any questions about the training or his/her job during enumeration. If possible, answer the questions by finding the information in either the senior supervisor's manual supervisor's manual, the enumerator's manual, the Guide for Training Supervisors, or the Guide for Training Enumerators. This will encourage the senior supervisor to use his/her reference materials. Do not guess at the answer, if you do not know it. Tell the senior supervisor you will ask the PCO and get back to him as soon as you know the answer. Be sure to find the correct answer and inform the senior supervisor. If there is a possibility that you might forget, keep a list of the questions asked you and who asked the question. Then when you contact the PCO, you can ask him/her all the questions at one time and won't forget any. You will also know who to contact to give the answer. In some cases, you may find out important information that you may want to pass on to all of your senior supervisors.

35. Tell the senior supervisor to come to the district office when the training for the supervisors is finished. Give each supervisor a different time to come so that you will not be busy when he/she comes.
36. While the senior supervisor is training, prepare the training and enumeration materials needed for each supervisor's area.
37. When the senior supervisor comes to collect the materials for the supervisor's training and the enumeration, discuss how the training went. Ask the supervisor if he/she had any problems. Ask them if they understand what their duties are. Tell the senior supervisors to call you if they have any questions or problems that they can not resolve during enumeration.

You will have approximately 8 senior supervisors working for you. You should be in contact with them every other day. Assign 4 to start contacting you on the day after census night. If 2 have difficult areas or populations to enumerate on census night, ask them to call you early the first day of enumeration (provide them with a designated time and try to keep the phone free so that you

can talk to them for half an hour to solve any problems they may have). Ask 2 others to call you that evening at designated times. (You may want to give these senior supervisors who are to call you in the evenings your home phone number.) Ask another 2 to call you the next morning and the last 2 to call you the next evening.

Give the senior supervisors the materials they must distribute to the supervisors for training the enumerators as well as the enumeration materials.

Also give the senior supervisors the additional supplies they will need during enumeration. Give extra copies of the following:

<u>Description</u>	<u>Quantity</u>
1. Enumerator's Manual	6
2. Supervisor's Manual	4
3. Questionnaire Booklets	30
4. Supervisor's Quality Control Form	20
7. Self Adhesive Labels	1500
8. Call back cards	250
9. Clipboards	5
10. Carrying Bag	5
11. Black/Blue pens	200

B. Duties During Enumeration

1. (Place a paragraph here about the administrative duties the DCO has during the census. Is he/she responsible for paying the enumerators, supervisors or senior supervisors? Does he/she have to keep any records on or submit accident reports? Suppose it is necessary to replace an enumerator or supervisor during the census because the person quits, is sick or is performing poorly. Does the DCO have to fill out any reports on these individuals when they are released? What if the DCO has to appoint another person to replace someone, what kind of reports have to be submitted?)
2. On census night you must be at the district census office in case any of the senior supervisors or supervisors and/or their enumerators encounter problems and need assistance. Stay in your office until 0100 hours (1 a.m.).

3. Try to be in your office as much as possible during enumeration. If anyone has a question, they will contact you. You must answer their question as quickly as possible. Be sure that the person understands what you have told them and feels comfortable in asking you their questions, but do not discuss things unrelated to the census. If the phone is unnecessarily busy, your staff will not be able to contact you when important things come up.

If you do not know the answer ask the person how and when you can get in contact with them. Be sure to allow enough time for you to get the answer. Call the PCO and find out the correct answer.

4. Also, if the supervisor or senior supervisor run out of supplies they will call your office for more. Check to see if they are far away. If they are nearby and it is possible for them to come to the district office without losing much time, ask them to come by to get the supplies. Be sure the supplies will be ready for them when they arrive so they will lose as little time as possible in coming to get them.

If they are quite a distance away, decide if there is a bus going there or another means of transport that you could use to send the materials to them. If there is, and the means of transport will not be able to arrive until the next day, find out where they would be the next day. You must make these decisions quickly so you can tell the person where and when to pick up the materials you are shipping them. Remember that you will have to package the materials and have the driver drive them to the transport.

If there is no transport anywhere near where the person is located, send the driver to deliver the materials. If the driver is already gone, either you or someone from the PCOs office will have to deliver the materials. Call the PCOs office and see if they have anyone available to deliver the materials. If possible try to stay at the district office so that you can take care of any other emergencies that may arise.

Keep a close inventory of the supplies you have at the district office. If it looks like you will run out before the enumeration is over, call the PCO and ask him/her to send some more of the needed materials to your office. Try to give the PCO an idea of how quickly you will need the materials; that is, that day, the next day, or a day later.

5. If any senior supervisor or supervisor thinks that someone who is working for them needs to be replaced, they will contact you. Discuss the situation with the caller. Find out what the problem is.

Is it that the worker can not or is not performing their job correctly? Do you have a person to replace the worker who is performing poorly? If not, can this poor performer be given

additional instructions so that his/her work would be acceptable. What impact will the person's poor performance have on the quality of the census data? What are the ramifications of releasing this person? Will releasing the person have any impact on the cooperation of the community in completing the census? Are there any political ramifications if you release this person? Be sure you find out if it is a personality conflict? If it is a personality conflict, try to discover what the real problem is. Try to resolve the situation without releasing the person in question. Also, try not to make the caller angry because you need them to do the best job possible. They are a senior supervisor or supervisor and you need them to check the work of others and you want them to do a good job.

6. Someone must be replaced because of illness. If the person is a senior supervisor, promote one of your supervisors to that position and an enumerator to the position of supervisor. Then you must train the supervisor on the senior supervisors duties. You might have to take at least a half-day but try not to take any more time than that. Condense the training to the essential differences between the senior supervisor's duties and the supervisor's duties. Give the new senior supervisor a copy of the senior supervisor's manual. Tell him/her to read it as soon as possible and to contact you if he/she has any more questions after he/she reads it.

Have the senior supervisor train the supervisor and the supervisor train a new enumerator. As you can see this takes time away from all of their work. In order to save time have the person who is becoming a supervisor start training the new enumerator while you are training the new senior supervisor.

If an employee quits near the end of enumeration and you have another employee of the same level who has already completed his job and did a good job, assign the work to that employee.

7. If someone quits while working on the census or just does not turn in their materials at the end of the census, their supervisor must find that person and get back the census materials. If their supervisor is unable to do it, you must do it. Remember, any data collected by a census employee is confidential, this includes the list of collective households in an EA, the list of contacts, the fieldmapper's lists, the callback lists, as well as all census questionnaire booklets.
8. When an enumerator has enumerated all the households in his/her EA and the supervisor has accepted all of the questionnaire booklets completed by the enumerator, the supervisor will check the total population enumerated in the EA against the number of persons found by the fieldmapper. If the calculated percent is less than -2% or greater than 5%, the supervisor will call you for

instructions on how to proceed. Follow the instructions given below:

- a. The calculated percent is less than -2%.

In this case, some households were probably not enumerated.

- (1) First, have the supervisor compare the enumerator's list of callbacks against the households enumerated to see if all the households on the callback list were enumerated. If some households on the callback list were not enumerated, the supervisor must determine the number of these households.
- (2) If the enumerator and the fieldmapper followed approximately the same route of travel and it is relatively easy to compare the households enumerated by the enumerator with the fieldmapper's list, have the supervisor make the comparison and determine how many households were on the fieldmapper's list that were not enumerated by the enumerator.
- (3) If the number of households found in steps 8a(1) and (2) are 1 or 2 and the calculated percent is not more than -3%, have the supervisor, if he/she has finished with the rest of his/her work go back to these households. Otherwise, the supervisor should send the enumerator back to these households to get the information.
- (4) If the number of households found in steps 8a(1) and (2) is 0 or greater than 3 or the fieldmapper's list could not be compared, or the number of households found was 1 or 2 but the percent was greater than -3%, the EA must be recanvassed. If the supervisor has accepted the work for all the rest of the EAs in his/her area and this is the last EA he/she is checking, the supervisor can recanvass the EA to see if there were any households missed because the enumerator did not travel down every street, road, or path where people live or could live. Otherwise, another enumerator (one who has completed his/her work and did a good job) must be assigned to recanvass the EA. The person who recanvasses the EA must be very careful to look for missed housing units. If any housing units are found, the person should enumerate the households on a questionnaire in the last questionnaire booklet for this EA that has blank questionnaires. (Be sure this person looks through all the questionnaire booklets because if the household was a callback, the questionnaire for the household number may not be in the regular sequence.)

Once the recanvass has been completed, the totals on the front of the questionnaire booklets must be corrected as appropriate. If corrections are made to the totals on the questionnaire booklets, the totals for this EA should be corrected on the Supervisor' Preliminary EA Totals form.

b. The calculated percent is greater than 5.

In this case, the enumerator may have crossed the EA boundary and enumerated households that belong in another EA. These persons may have been enumerated twice, by the enumerator who worked in this EA and the enumerator who was responsible for the EA in which the households are actually located. It could also be that the enumerator made up the data for some of the households.

If the supervisor has accepted the work for all the rest of the EAs in his/her area and this is the last EA he/she is checking, the supervisor can go to each household enumerated in the questionnaire booklets that are along the border of the EA to be sure that the households belong in this EA. Otherwise, have the supervisor assign an enumerator who has completed the enumeration in his/her EA and did a good job, to do this work. The person doing this check should take a blank book of questionnaires, a notebook, the questionnaire booklets completed by the previous enumerator, and the enumerator map with the map spots so this person can tell where the border of the EA is and check the map spots very near or on the border.

This person should:

- (1) Verify the name of the head of the households and the number of the persons who were at the households on census night. If this is not the same as on the questionnaire, the person should complete a questionnaire for the household in the questionnaire booklet that was blank.
- (2) Verify the location of each of the households, that is, determine whether the households near or on the border were actually inside the boundaries of the EA or were in an adjacent EA. If the households belong in another EA, the person must list the household number and the EA in which that household belongs in the notebook.

If the person checking the border found that some of the households belonged to an adjacent EA, the supervisor should delete the questionnaires for these households by drawing a big "X" across them and writing in the top right margin

"Household enumerated in the wrong EA, the correct EA is EA (correct EA number) ."

If both EAs are in the supervisor's area, the supervisor should check to see that a questionnaire was completed for the households in the correct EA. If not, the questionnaires deleted should be copied to the last questionnaire booklet for the correct EA. If the adjacent EAs are in two different supervisor's areas, have the supervisor call you back and tell you. You must make arrangements for the two supervisors to meet and make sure the completed questionnaires for the households are in the correct EA. Remember, the data for the census is going to be published at the village level and in many cases this may be one EA.

If during the border check, the enumerator finds a discrepancy in the names of the heads of households and the number of persons who are at more than three households, the original enumerator probably made up some of the households. All the questionnaires for the EA that were not checked by this enumerator or reinterviewed by the supervisor must be rechecked by having the enumerator go to each household in the EA and compare the names of the heads of the households and the number of persons that stayed there on census night or returned the next morning. At each household where there is a difference the enumerator must fill another questionnaire. All questionnaires that are wrong must be deleted by the supervisor by placing a big "X" across the questionnaire and writing "Information made up by the enumerator" in the upper right hand margin. If more than 4 questionnaire booklets must be used for this EA, the supervisor must write booklet __ of __ on each questionnaire booklet and number the questionnaire booklets consecutively.

You must tell the senior supervisor the EA number so he/she will know how many questionnaire booklets to expect. On your copy of the "Summary Totals by Area," in the second column next to the this EA, number enter the number of questionnaire booklets you expect to receive for this EA.

9. When all EAs have been checked and the supervisor has accepted all the questionnaire booklets for an EA, the supervisor will turn the EA booklets into his/her senior supervisor. The senior supervisor will turn in the questionnaire booklets for his/her entire area at one time. While the senior supervisor is there, check in each booklet by entering the totals for each questionnaire booklet on your copies of the "Summary Totals by Area." Make sure you receive every questionnaire booklet from that senior supervisor. Once you have checked in the questionnaire booklets for every EA, you are responsible for every questionnaire booklet. If while you are checking-in the questionnaire booklets, any are missing, you

must determine that at the time of senior supervisor's visit and there can be no dispute about who was responsible for a missing questionnaire booklet.

If there is a missing questionnaire booklet, recheck all the booklets to see if it was skipped or out of order. If one questionnaire booklet was really missing, write Questionnaire Booklet Number ___ in EA ___ was not turned into the District Census Officer (name) by Senior Supervisor (name) with the data filled. Sign the form and have the senior supervisor sign the form. If more than one booklet is missing, list all of the questionnaire booklets on the same form. Tell the senior supervisor he/she has 1 day to get back these questionnaire booklets. Call the PCO and tell him/her about the situation. The PCO may want to talk to the senior supervisor before the senior supervisor leaves your office.

If any questionnaire booklets are lost, everything possible must be done to get them back. If a questionnaire booklet was destroyed, the households enumerated in that questionnaire booklet must be reinterviewed. If it is necessary to reinterview households, the households to be reinterviewed can be determined by comparing the map spots on the enumerator's map with the number of the households on the questionnaires in the other questionnaire booklets for the EA. Then using the enumerator map, you can use the map spots to locate the households that must be reinterviewed.

10. When the senior supervisor turns in the completed materials for his/her area, you must be sure that you have the following materials in addition to the questionnaire booklets for all of the EAs:
 - a. For each EA:
 - (1) Enumerator's EA map. Enter a check mark next to the EA number on the "Summary of Totals by Area" form.
 - (2) Callback record form completed by the enumerator.
 - (3) List of contacts for the enumerator.
 - (4) List of collective households in the EA.
 - (5) Supervisor's Quality Control Form
 - (6) Fieldmapper's List of Households
 - b. For each Supervisor's Area:

- (1) Supervisor's Map
- (2) Supervisor's Preliminary EA Totals
- (3) Senior Supervisor's Quality Control Form

c. For each Senior Supervisor's Area:

- (1) Senior Supervisor's map.
- (2) Senior Supervisor's completed Summary Totals by Area

(If you want all blank forms returned to the DCO, you must be sure to either add them to this list in the appropriate place or put a statement here.)

11. (If you want the DCO to help with a "Were You Counted Campaign," you need to put a paragraph here telling him/her what his/her duties are, how to complete a questionnaire for a person who contacts him/her, how to keep track of these questionnaires, does he/she adjust the counts for his/her district as a result of the were you counted campaign, does he/she have to check the questionnaires for the EAs in the village where the person said they were not counted, etc.)
12. Turn all of the completed questionnaire booklets, the materials listed in B10, the district office map, and any administrative records into the PCO. (If there are a lot administrative forms to be sent in make this paragraph a list. Also, be sure to mention what the DCO does with blank forms, pens, pencils, scissors, staplers, paper clips, and other small items of equipment.)
13. (A paragraph must be put here about what the DCO is supposed to do to close the district office. How does he/she dispose of blank forms if he/she does not forward them to the PCO, what about the furniture, any typewriter, etc. Does the DCO have to do anything about contacting any utility companies?)
14. (You might want to put a paragraph here stating that the DCO must provide a list of all the persons and/or groups he/she contacted so the Ministry can send a thank you letter to them for cooperating with the census and getting the most complete enumeration possible.)

Form Date.....

Logo

Summary Total By Area
Population Census August 1992
Republic of Zimbabwe

1 Area

[] Province Name..... []

[] District Name..... [] []

[] Senior Supervisor No. [] []

2 Name of Person in charge of Area.....

3 Name of Person's Supervisor.....

Ward Number	EA Number	Total Population by Questionnaire Booklet				Total Population	
		1	2	3	4	EA	Ward

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Proposal for Evaluating Field Quality Assurance During the Pilot

Introduction

Quality control is the term used to check the quality of a person's work, especially in factories where a sample of completed materials would be drawn and checked to determine the estimate of the error. In the census, a similar procedure is being done but the majority of the effort is being directed at making sure the enumerators, supervisors, and other workers know how to do their work properly and are performing it properly from the beginning. If you can get the worker to do the work properly before he/she has had the opportunity to start doing the job wrong, the worker is more likely to continue doing the job correctly. Thus, the information collected on the census will be of higher quality if the worker begins his job correctly than if you first let the worker make mistakes and then catch the mistakes. For this reason the procedures developed for the census are called quality assurance because the purpose of the procedures are to assure that the data collected throughout the census are the highest quality possible.

Procedures were documented for the supervisor, the senior supervisor, and the District Census Officer (DCO). However, it will not be possible to evaluate the quality assurance activities assigned to the DCO during the pilot unless these duties are assumed by the Province Census Officer (PCO) as recommended on page 7 under Duties to be Assumed by the PCO during the pilot census. The positions of the DCO and the senior supervisor will not be filled for the pilot census. It is planned to select two small areas in each of the provinces and use the pilot to help train the Province Officers on their duties and especially the duties of the enumerators and supervisors.

There are two alternatives that could be used for checking the quality assurance procedures for the supervisor during the pilot census. The first would be to divide the supervisors into four groups for control purposes and then make comparisons between the groups. This procedure is described in paragraph 1 under Discussion of Methods for Evaluating the Quality Assurance of the Supervisors.

The second method would be to rely on the data filled in on the Supervisor's Quality Control Form and review a portion of the questionnaires completed by the enumerator. This procedure is described in paragraph 2 under the Discussion of Methods.

Discussion of Methods for Evaluating the Quality Assurance of Supervisors

1. Evaluation Using Control Groups

- a. A brief description of the duties of the supervisor are:

(1) First Meeting with the Enumerators

Select the worst enumerators and observe them interviewing households before they start working by themselves. The rest of the enumerators will be allowed to begin interviewing the households before being observed.

Observe the enumerator interviewing 2 households, record the mistakes he/she makes and discuss the errors with him/her so he/she will understand how to interview and complete the questionnaires properly. If he/she does not do this well, observe 2 more households.

If the enumerator was allowed to begin work without the supervisor, review 5 completed questionnaires to be sure they are completed properly and instruct the enumerator where corrections should be made if necessary. This is in addition to observing the interviews at 2 households.

(2) Second Meeting with the Enumerators

Reinterview 2 households selected at random. The households have 9 households between them.

Compare the household enumerated between the 2 reinterviewed households with the fieldmapper's listing of the same household to see if the enumerator missed any households.

Review 3 questionnaires completed by the enumerator for completeness.

(3) Subsequent Meetings with the Enumerators

Review 10 completed questionnaires for completeness.

If the enumerator missed 1 or more households at the time of the second meeting, compare another 9 enumerated households with the fieldmapper's listing to be sure the enumerator is not skipping any households.

(4) When the Enumerator Completes A Questionnaire Booklet

Whenever, the enumerator completes a questionnaire booklet, he/she will give it to the supervisor. Review the questionnaires for completeness for 5 households interviewed since the last meeting.

(5) When all Booklets have been Returned

When all of the Questionnaire Booklets have been returned, the total number of persons enumerated is compared against the number of persons recorded by the fieldmapper. If the

number is less than -2% or more than 5%, the difference is reported to the DCO who will tell the supervisor what action to take.

b. Form Four Control Groups

Four control groups would be formed by assigning the supervisors to the groups in clusters. However the clusters should be distributed throughout the country and if possible, the supervisors matched in the various clusters by ability. In addition, the difficulty of enumeration in the areas should be taken into account as well, if this can be done. That is, there would be at least two clusters for each group but the clusters would not be in the same part of the country. The duties of each group would be as follows:

(1) Group 1

This group would only review the questionnaires for completeness.

(2) Group 2

This group would observe interviewing and review the questionnaires for completeness.

(3) Group 3

This group would observe the enumerator interviewing at the beginning, review the questionnaires for completeness and compare the enumerated households and counts with the fieldmapper's lists and total population counts.

(4) Group 4

This group would do all of the duties listed in 1.a above.

Note: The three groups of supervisors would have to be trained separately and there can be no cross-fertilization caused by supervisors from different groups talking to each other or PCOs telling their supervisors to do additional work. Also, it is important that in the enumerator training for each of the groups, the enumerators are aware of how, but not when or how often the supervisor will be checking their work. This sometimes promotes honesty and efficiency as much as anything. If an enumerator is told during training that a certain check is going to be made on his/her work, this check must be made or the enumerator will not believe what was told them.

c. Comparison of Performance of the Groups

(1) Sample of Questionnaires Compared

A sample of questionnaires should be reviewed from each group. If there were at least 2 supervisors, preferably 4, in each group; probably a 5% random sample of questionnaires would be sufficient to review for completeness. Each enumerator assignment is approximately 100 households and there are about 5 enumerators assigned to each supervisor. That would mean that questionnaires for approximately 50 households would be reviewed for completeness for each supervisor. The number of errors found would be counted for each group.

If the observation of the enumerators interviewing 2 households has a significant impact it can be checked by computing the variance and the standard deviation of the number of errors made in each of the supervisors areas. Then, test to see if the number of errors for the first group is significant at maybe 1 standard deviation since we are discussing the quality of the data. If a tighter control is desired, just do a comparison of the numbers; if the number of errors for group 1 are always greater than those for the other groups you would want to keep this activity.

(2) Comparison of Data Made Up by Enumerators

A sample of 5 households excluding the first 20 households for each enumerator (most of these households where the supervisor observed the enumerator will occur in the first 20 households enumerated) will be reinterviewed by a quality control enumerator immediately after the enumeration for the pilot is finished.

The number of households for which it appears the data was made up will be determined for each of the supervisors. Then, if you invert the number, then multiply the inverted number by 10, and use this number to calculate the variance and standard deviation you can once again test to see if there is any significant difference at the 1 standard deviation or just the numbers can be compared. For the calculation, suppose you have 2 households made up for a supervisor, then the inverted number is $1/2$, $1/2 = .5$, and $.5$ multiplied by 10 would be 5. If another supervisor had 7 households where the data were made up, the number of errors would be $1/7$ multiplied by 10 which equals 1.42.

As before, if you do not want to do all the calculations you could just examine the numbers by groups and the number of errors for group 4 should be the lowest. In this case, we

would expect the supervisors in group 4 who are the only supervisor's who performed the reinterview to have a significant difference in the number of households for which data was made up.

(3) Comparison of Missed Households

As the quality control enumerator reinterviews the 5 households for each enumerator, he/she would list the households in two segments between the households reinterviewed. (All of the households between the first and second households would be referred to as segment 1, the households between the second and third households to be reinterviewed would be referred to as segment 2, etc. with 4 segments in all for each enumerator.) A random number would be selected without replacement to determine which 2 segments should be listed for each enumerator. Then the list of households enumerated by the enumerator would be compared to the list of households made by the quality control enumerator and the differences resolved to determine who was correct by using the fieldmapper's list or if this is not possible returning to the EA to make the determination, if this is not too costly. Once again, the variance and standard deviation can be calculated and the comparisons made as discussed in (2) above. There should be a difference in the number of households missed between groups 1 and 2 and groups 3 and 4 since in the latter 2 groups, the supervisors compared the original lists against the households listed by the fieldmappers.

2. Rely on Supervisor's Quality Control Form and a Review of Completeness of Questionnaires

This method depends entirely on the supervisor's honesty in recording the errors of their enumerators. It is imperative (absolutely necessary) that the supervisor record all the mistakes he/she finds for each of his/her enumerators.

Note: If during the pilot there are some areas where there are no supervisor's then the PCO will have to perform the duties of the supervisor and complete the Supervisor's Quality Control Form. For this method the following analysis should be made:

a. Examine each of the Supervisor's Quality Control Forms

Determine how many times the supervisor found the enumerator made an error by each of the types of checks the supervisor performed:

- (1) Review of Questionnaires
- (2) Observation of Enumerators Interviewing Households

- (3) Reinterview of Households
- (4) Matching of Lists of Households
- (5) Comparison of Total Population

Look at the number of errors the supervisor found in each category. If the supervisor did not find any errors, then either the supervisor was inadequately trained or you do not need to keep this check as a part of the quality assurance procedures. It will be difficult to determine and judgement must be exercised whether to retain the procedure. It should be noted that without the threat of the check, the enumerators may be more apt to make these types of errors. Also, in the case of missed households, you should not expect the supervisor to find a lot of these. But the impact of missing a household means you miss all of the population in the household. Thus, if the number of persons in an EA is approximately 500 and one household of about 6 persons was missed, slightly more than 1% of the persons will not be enumerated in the EA.

b. Review Questionnaires for Completeness

- (1) For each enumerator in the pilot pull a sample of 5 questionnaires that were reviewed by the supervisor. The first questionnaire should be one when the supervisor observed the enumerator interviewing the household. The second questionnaire should be one which the supervisor reviewed during the second visit. The third questionnaire should be one which the supervisor reviewed when he/she accepted the first booklet. The fourth questionnaire should be one that the supervisor reviewed in the second booklet. The fifth questionnaire should be one that the supervisor reviewed in the fifth booklet.

Review the questionnaires for completeness to determine how many errors there are. Keep track of the number of errors found by the office by the number of the questionnaire and the total. Then subtract the number of errors found by the supervisor for the same questionnaire and the totals.

Compare the number of errors found by the office with the number of errors found by the supervisor. If the number of errors found is much greater than the number found by the supervisor, there are 2 possible reasons. The first that the supervisor was not adequately trained. The second that the supervisor had too much work to efficiently do his/her job. It is difficult to determine which of these possibilities is the case. However, if you find a lot more errors in the questionnaires reviewed by the supervisor during the 3rd and 4th meetings with the enumerator or the questionnaires reviewed when the booklets were handed in as

complete, this would probably indicate that the supervisor had too much work and hurried through his/her reviews at this time. If a lot more errors are found on all of the questionnaires than the supervisor found, this is probably due to inadequate training.

(3) Verify that the Supervisor Reinterviewed Different Household Numbers for Each Enumerator

Compare the household numbers the supervisor reinterviewed for each of his enumerators. Record the number of times he reinterviewed the same household number. This should happen very rarely, if ever. If you find that he/she always reinterviewed the same households, this is an indication that either the supervisor was not adequately trained to use the random number table and select the households to be reinterviewed or the procedure is too complicated for the supervisor to understand. It is not possible to determine which is the case.

Discussion of Method for Evaluating Quality Assurance Procedures of Other Staff Members

1. Duties Assumed by the PCO During the Pilot Census

During the pilot census the PCO should:

- a. Recruit the enumerators and supervisors to work during the pilot census.
- b. Locate a training site to train the supervisor and a site for the supervisors to train the enumerators.
- c. Make a list of the contacts the enumerator should make before he/she begins enumeration.
- d. Contact the collective households in each EA and special EA. Determine if the collective households should be enumerated by a staff member of the collective households and if so, make arrangements for this. If not, to explain the enumeration procedures and prepare the collective households for the enumerator's visit.
- e. Train the supervisors.
- f. Show the supervisor the area he/she is responsible for during enumeration and the boundaries of each EA on the maps. Point out any special category EAs to the supervisor.
- g. Give the supervisor the lists of collective households and be sure the supervisors know which collective households in each EA have

to be enumerated on census night as well as those that will be self-enumerating in the supervisor's area.

- h. Provide the supervisor with the materials the senior supervisor would provide at the time of training.
 - i. Deliver the training and enumeration materials to the supervisor's to train the enumerators.
 - j. Observe the worst supervisor for at least two days while he/she trains his/her enumerators.
 - k. Observe the worst supervisor meeting with one of his/her enumerators on the first day of enumeration to evaluate the supervisor's performance.
 - l. Observe the second supervisor meeting with one of his/her enumerators on the third day of enumeration to evaluate the supervisor's performance.
 - m. Inform the supervisor what to do if the percent calculation is less than -2% or greater than 5%.
 - n. Collect and evaluate the completed questionnaire booklets when the supervisor is finished with the enumeration.
 - o. Collect all of the other census materials.
- B. Evaluating the Quality Assurance Procedures Performed by the PCO during the Pilot Census

Determine:

- 1. The number of errors and/or mistakes the PCOs found that each supervisor was making as recorded on the Senior Supervisor's Quality Control Form.
- 2. The impact of the percent calculation check, that is:
 - a. The number of EAs that were recanvassed.
 - b. The number of missed households found during recanvass.
 - c. The number of EAs checked for boundary errors.
 - d. The number of households found to be in the wrong EA.
 - e. The number of households where the enumerator made up the questionnaires.

Recommendations

If the evaluation is going to be of benefit, the enumerators used in the pilot census must be recruited for the pilot as they would be for the census and have the same backgrounds as the enumerators that will be working on the census. If they have higher education levels, are experienced statistical officers or enumerator staff or are given the incentive that they will be rehired during the census, this evaluation will not work. Those type of employees will not be the same as the persons recruited as enumerators for the census. This is not to say that persons who do a good job during the pilot can not be offered jobs to work on the census. It's just that the job must be offered after the pilot is over so there will be contamination to the evaluation of the pilot as a result of the offer.

It is recommended to have the PCO assume most of the duties of the DCO and the Senior Supervisor during the pilot. Then some of the quality assurance procedures can be evaluated during the pilot. It also will help the PCO to learn more of the details of the census.

The second method is recommended to evaluate the quality assurance procedures developed for the supervisor because:

1. The first method is too complicated.
2. The first method would require preparing manuals and training guides for the quality control enumerator. This would be difficult if not impossible for the Census Staff to do before the pilot scheduled only two months away. The staff must still decide on the procedures for collective households as well as write training for both the enumerator and the supervisor, draft and finalize the supervisor's manual, finalize the enumerator's manual, and finalize the questionnaire.
3. The first method although more thorough costs a lot more than the second and there is not an over abundance of funds for taking the census.
4. The second method is considered adequate to determine if the supervisor's duties are having an impact on preventing enumerator mistakes and raising the quality of the data collected.
5. The second method is also considered to be better because in this method all of the supervisors will have the same training and one of the purposes of the pilot is to train the PCO on how to take the census. If the supervisors in different areas had different duties, not all the PCOs would know the duties of the supervisor. Then during the census some of the PCOs might be confused about the duties of the supervisor. It is better not to chance this.

Valuable information about the proposed procedures can be learned from the pilot. The procedures were designed to be tight and it may be that the amount of work required from the supervisor may be too much. This will have to be watched closely during the pilot. If it is too much work, careful thought will have to be given as to which procedures to

eliminate or decrease. First consideration should be to not review questionnaires for completion during the third and fourth visits. Instead, the supervisor would review only the 5 questionnaires from the completed questionnaire booklets handed in by the enumerator.

Evaluation of the Census Results

There are two major ways of evaluating the census results. The first is by conducting a post enumeration survey (PES) immediately after the census is completed. The second is to use data available from birth and death registration data, migration statistics, and administrative records along with the results of the last census or surveys conducted during the intercensal period to determine underenumeration in the census. If the birth and death registration data are incomplete, then indirect techniques such as children ever born, children surviving, orphanhood, survivorship ratios, and model life tables can be used to estimate the fertility and mortality during the intercensal period.

Discussion of Various Techniques

Post Enumeration Survey

1. Description

The benefits of a PES are that it can be designed to measure both content and coverage errors. In addition, it measures the gross error in the census. That is, it measures the omissions, the duplications, and the erroneous inclusions.

For the PES a sample of households must be selected to be reinterviewed as soon as the census is over. A brief but shorter questionnaire must be designed. Enumerator's and supervisor's manuals and training must be written. Matching procedures for comparing the survey questionnaire with the census questionnaire must be determined in detail. Then followup procedures must be determined to resolve any discrepancies. The PES can be used to determine under or over enumeration as well as compare the accuracy of the answers reported for some items. The PES must be conducted immediately after the census enumeration is completed so that the recall of the respondents will not be a factor in the comparison of the information collected in the census and the survey.

The staff who plan and prepare for the PES can not be the same staff that are working on the census or one must be concerned about the cross-fertilization of knowledge. Thus, an added effort could be made to improve the quality of the census data collected in the areas where the PES is being conducted. The procedures for the PES should be tested at the time of the pilot census so that any difficulties in the procedures can be corrected before the census. The matching procedures are sometimes difficult and have to be revised. It is important that these procedures do not have to undergo major revision during the census or they can delay the followup work which could affect the recall of the respondents at the followup interview. This would have an impact on the results of the PES.

2. Difficulties in Zimbabwe and a Suggested Replacement for a PES

The Central Census Office (CCO) staff is very small, only 7 persons are responsible for planning and implementing the enumeration (see Attachment A). It would be impossible for a census staff of that size to plan and implement a PES in addition to the census procedures.

There also are limited funds available for conducting the census. It would be better to improve the quality of the census by using the quality assurance procedures described in the supervisor's, senior supervisor's, and DCO's duties.

The CCO has begun the process of making maps for the census. The procedure for doing this consists of listing the heads of households, the address or physical location of the housing unit, and an estimate of the number of persons in the household. The EAs are being structured at approximately 500 persons which is approximately 100 households. The first team of fieldmappers started listing the households in March of 91. All teams are expected to finish their listing in April/May of 92. That means the fieldmapper's lists were on average completed about 8 months before the census. This gives a very good estimate of the number of persons that should be enumerated in each EA during the census.

One of the procedures described in the DCO's duties and supervisor's duties (see Appendices 5 and 3) is to check the total number of persons enumerated with the number of persons in the household when the list of households were made by the fieldmapper. The senior supervisor will even check the supervisor's calculations (see Appendix 4). The DCO will have the supervisor recanvass the EA or appoint another experienced enumerator to do the work if there is less than -2% difference between the number enumerated and the total number of persons listed by the field mapper. This is designed to find missed housing units and consequently, the population in the households occupying the missed housing units. This is a check for omissions but the households would really not be omitted because the households are found before the census enumeration is completed.

If the difference is greater than 5%, the DCO will have the households located on the boundaries of the EA checked for crossing over the boundaries of the EA or making up of questionnaires. This will be a check for erroneous inclusions and possible duplications.

Both of these are extremely tight checks that usually are not done in developing countries. These checks should be considered as a possible replacement for a PES since the checks will:

- a. reduce the underenumeration in each EA.
- b. reduce the possibility of having some households counted in more than one EA.

- c. eliminate made up data. (The matching by the supervisor of the field mapper's list of households with the enumerated households should help to eliminate this as well (see Appendix 3).)
- d. provide better census data for the villages since EAs will not cross village boundaries and the dependent check on the boundary will put the households in the correct EA. The majority of villages in the rural areas will only be one EA or at most two EAs. (A PES can not usually improve the data at the village level or estimate the census error at that level because the sample is not usually designed to measure the census error at the level lower than the province. The size of the sample would be too big and the PES would be too costly if it were designed to measure the error at the village level.)

In addition, the Central Statistical Office is planning to take a survey in January, 1993. The total population for the country and the provinces can be checked against the results of the first round of this survey. The sample for this survey may be drawn from the preliminary census results and a listing made of each of the households in the EA to be included in the survey. Less than 5 months will have elapsed since the census enumeration was completed. This comparison will not allow checks at the village or ward level since the sample would be too small. Also, a comparison of the household members could not be made because the census is de facto and there is a holiday at the time of the census enumeration when some women will travel with their children from the rural areas to visit their husbands who are working in the urban areas.

This method will not allow for a content check or the actual comparison of persons in the households. However, it will certainly improve the overall statistics at all levels.

Comparisons with Other Census and Survey Results Through the Use of Administrative Records or Indirect Methods

Birth and death registration data are incomplete in Zimbabwe so indirect methods would have to be used to estimate the fertility and mortality. Questions on children ever born alive and children surviving as well as live births during the last year by sex are being asked on the questionnaire. This will provide good data for estimating age specific fertility rates as well as estimates of infant mortality. Mr. P. P. Namfua (UN consultant) and staff of the Central Statistical Office completed some fertility analysis of the 1982 census and the demographic and health surveys using indirect methods in May 1991. These results will be useful in analyzing the data from the census.

Questions are being asked on orphanhood and deaths during the last year. This data is not usually reliable when collected in a census. However, a life table can be determined by calculating the survivorship ratios between the 1982 and 1992 censuses and then using indirect techniques to select a model life table. The same can be done based on the survivorship ratios between the results of the 1987 Demographic Survey and the 1992 census.

The 1992 census should be examined for age misreporting and adjusted as appropriate taking in to consideration recent conflicts. Then, using

the 1982 census and the 1987 Demographic Survey results and the estimates of fertility and mortality, projections by age and sex can be made to determine estimates of the undercount by age and sex. However, it must be remembered that any underenumeration in the 1982 census will not be taken into consideration in these estimates unless the 1982 census is adjusted for underenumeration and age misreporting.

As cited above, the results from the survey taken in January 1993 can be used to check the age and sex distribution at the province and national level.

It will also be possible to check the number of children attending school and highest grade completed with enrollment statistics provided by the Ministry of Education.

Techniques for estimating fertility and mortality using indirect methods are described in a number of books. Some of these are:

1. Manual X: Indirect Techniques of Demographic Estimation, New York: United Nations, 1983
2. The Methods and Materials of Demography, Washington D.C.: U.S. Bureau of the Census, 1975
3. Evaluating Censuses of Population and Housing, Washington, D.C.: U.S. Bureau of the Census, 1985

For a more extensive list of publications see pages 118 and 119 in Evaluating Censuses of Population and Housing. 1985

Some software available for use on microcomputers for this analysis are:

1. Computer Programs for Demographic Analysis - originally developed at the U.S. Bureau of the Census and adapted for use on the microcomputer by Westinghouse.
2. MORTPAK - developed by the United Nations
3. Demographic Analysis Software - developed by the U.S. Bureau of the Census
4. EasWesPop:Fertility Estimate Programs - Developed by the East-West Population Center in Hawaii
5. EasWesPop:Consistent Correction - Developed by the East-West Population Center in Hawaii

Attachment A

Current Full Time Staff Assigned to Plan
and
Implement the Field Operations

Headquarters Staff

Mr. C. N. Parirenyatwa, Census Manager
Mr. M. Sidindi, Deputy Census Manager (Field Operations and Data Processing)*
Mr. J. Mapingire, Deputy Census Manager (Statistical Planning and Publicity)
Mr. F. Goodwin, Head of Cartography
Mr. J. Chitaka, Statistician
Mr. S. Ndlovu, Statistician
Mr. C. T. Ndoro, Assistant Head of Cartography

Provincial Staff (10 Provinces)

1 Provincial Census Officer
1 Provincial Team Leader**
2 Draughtspersons**
5 Fieldmappers**
1 Filing Clerk/typist**
1 Driver**

*Field Operations include both cartography and field enumeration

**Staff will increase to three times the current number when the survey staff join the census staff as soon as they finish survey work.

Terms of Reference

Short-term mission on evaluation and quality control matters, 1992 Population and Housing Census of Zimbabwe

Background

The quality in the census results is of course very important. Since resources-as always-for quality and evaluation matters are small, the allocation of these resources is of outmost importance.

There is a need for a short-term consultancy to assist in the discussions of a evaluation and quality control programmes for the census.

Objectives of the Mission

- to assist in preparing a quality control programme for the different census operations.
- to assist in formulating procedures for the evaluation of the census results.
- to assist in preparing a strategy of testing the quality control and evaluation procedures in the pilot census.
- to assist in any other issues related to the planning of the pilot census.

Composition of the Mission

The mission will be carried out by Miss Patricia Anderson, who is Senior Statistician at U.S. Bureau of the Census, International Statistical Programs Center. The duration will be four weeks starting from July 6, 1991.

The counterparts will be Mr. Parirenyatwa, Mr. Sidindi, and Mr. Mapingire.